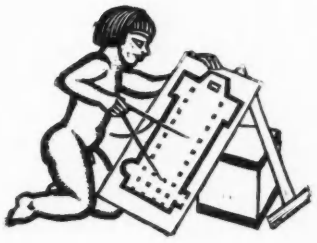

L E E D S
L E A D S

THE City of Leeds has just decided to separate its housing from its engineering department, and to appoint an architect* as its Housing Director. The decision was fought with a good deal of feeling ; but the Socialists, who carried the motion, were adamant in their view that housing, properly considered, can never form merely a part of an engineering department ; or that under this arrangement, however hallowed by a century of usage, could the human element, with which housing is so closely bound up, be given the importance it merits.

For so long as the Local Government's connection with housing lay with the administration of acts and bye-laws for the mitigation of abuses against health and proper sanitation, the engineer was as fitting a person as any to look after the administration by delegation to lesser beings. But as the last century progressed, the tendency towards separating public health, education, and so on, grew. This century brought us town planning as a new department of local government activity; and the aftermath of war brought housing, and in the form of a direct and active responsibility, accepted both by Whitehall and the local council.

There is no good in jibbing at this clearly evident growth of responsibility in the public body. It has been said more than once, and with truth, that a city's borrowings, looking so like a debt, represent but the capital of a private enterprise. There is no good reason on earth why a city should not take over what is too often badly done by private enterprise ; and now that Parliament has evolved a sort of machinery for town-planning, and has allowed towns to gather together good architectural staffs, why other cities should not follow the excellent example of Liverpool. There, with the energetic and far-seeing Mr. Keay as their Housing Director, they are using Town Planning and the Housing Acts in an avowed policy of re-generating the city's old, decrepit quarters at the same time as they rehouse their poorer citizens.

There is a great deal behind this movement towards appointing architects to look after housing ; a great deal that is hopeful and reassuring. If the major evil of slum clearance resulted from the too rapid accretion of unplanned housing by private enterprise in the last century, then only re-planning and good building by centralized authorities capable of carrying out enough work to justify them in the broad outlook and the long view, can hope to prevent a recurrence of slum conditions. Even though guided by a measure of town planning control the speculative builder's suburban messes hint faintly of future slums, and we *cannot afford more slums* outside our cities ; it is death to make more inside them.

The difference between administering a set of bye-laws and directing an active and constructive housing policy is enough to justify the separating out of another department, with its responsible chief. Far from being a new extravagance it is a matter of common-sense economy to safeguard the spending of large sums of money in so vital and human a matter as housing, by giving it a very clear direction and the tangible responsibility of a director.

In any case housing is not merely a subsidiary branch of engineering. It is more nearly allied to sociology and public health, and we would like to see associated with these departments a property management advisor, preferably a woman, in order that the human element, the job of living in the new homes created, should be present from the beginning to the end.

That the acceptance of the full responsibility for town planning and housing by the two great cities of Liverpool and Leeds, and by different political parties moreover, shows a better spirit than this Government's attitude, and is but another condemnation of the weakness of the present Minister of Health when faced with an opportunity that might have made a saint of him.

*Mr. R. A. Livett, A.R.I.B.A. See news paragraph on page 6.

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NOTES & TOPICS

THE INDUSTRIAL ART EXHIBITION

IT is with relief I learn that Mr. Maxwell Fry has been invited to be architect to the Glass Section of the Royal Academy Exhibition of Industrial Art, for Mr. Fry is young, and, by his works, a modern architect.

*

Mr. de la Valette, in his speech at the Design and Industries Association's annual dinner made a point of saying how much the Academy welcomed the collaboration of young men ; and this, perhaps, is the first earnest of a policy which I hope may have further announcements to make in the near future.

*

It would be a fine thing if the collaboration could be made a *real thing* throughout the Exhibition, for well I know how anxious are the many young men of my acquaintance to do something for British Industrial Art.

*

Also, how capable many of these men are of providing the contemporary note—a note that is, and must be, in some sense prophetic—which, everything granted, is somewhat lacking among the majority of Academicians.

PUBLIC RELATIONS

Apropos my remarks last week on this subject, I have received several letters accusing me of being not only thankless but illogical.

*

My correspondents take me to task for " disapproving " of the Public Relations Committee, and I can only assume that what I wrote was ambiguous.

*

Let me hasten to correct any misapprehensions which may have arisen. So far from " disapproving " of this Committee, I regard its formation as one of the brightest and most intelligent moves which the R.I.B.A. has made in all its history—a move which has been advocated not only unofficially by myself, but officially in other columns of this JOURNAL.

What I was criticizing was the great size of the Committee, and its evident eagerness to dabble in matters of detail. Clearly there must be a committee to decide on general policy ; as clearly, when they *have* decided, they should retire and let the single expert " do his stuff. " And this expert should not be unduly pestered by individual factions to put across matters of localized interest.

CUNARDER NO. 534

I have been shown a letter* from a lady (not an architect) who has read last week's leading article in this JOURNAL, regarding the new Cunarder.

*

She states unequivocally that Mr. John de la Valette is quite wrong in his diagnosis of feminine taste in the decoration of ships.

*

Women do *not*, she says, want ingle nooks and all that goes with them, but yearn for intelligence in decoration.

*

Thus inspired I rang up the Cunard people at Liverpool to find out exactly what the position is regarding the decoration of 534. " We are busy discussing the matter now " I was told, " but nothing has yet been settled."

*

The Government can now be said to be " Industrial Design-Conscious," having appointed a committee to look after it. It is also subsidizing the new Cunarder. May we look for some connection between these two points ?

*

When No. 534 puts to sea we shall be near to the opening of the 1935 Industrial Design Exhibition at the Royal Academy ; can we not prove that Industrial Design in England is live and real and not just a museum piece ?

*

Incidentally, there is a rumour (I fervently hope it will prove to be more than that) to the effect that a certain shipping company (not the Cunard) which has a new passenger ship on the stocks, is going to employ a young architect to " do " the interior.

*

I hope it is true, because I know this man's work. He

* See page 13.

OUR NEW YEAR ISSUE

The New Year Special Issue of THE ARCHITECTS' JOURNAL *will be published on Thursday next, January 11. It will contain, in addition to photographs and plans of several new buildings, the following illustrated articles : "Contemporary Trends," by P. Morton Shand ; " The Year's Work at Home," by Professor C. H. Reilly ; " The Year's Work Abroad," by F. R. S. Yorke, and " Architects' Xmas Cards," by Geoffrey Boumphrey. Also, various other special features, including three colour plates.*

Arthur J. Penberthy, A.R.I.B.A., *author of the first and third premiated designs in the competition for the lay-out of a building estate, Cardiff. The designs are illustrated elsewhere in this issue.*

is to be included under the heading "Intelligent Contemporary Outlook." I believe that he might give us our first *ship* of the century.

SIR FRANK BAINES

The late Sir Frank Baines had personality. I often met him in his room at the Office of Works overlooking St. James's Park, where he always seemed to me to be feeling like a bird with clipped wings.

*

For a Civil Servant his exuberant energies were restricted. I well remember him telling me about the personal architectural offices which he ran elsewhere, so as to carry on his private practice in the evening, and find an outlet for his enterprise. This dual life was bound to come to an end. He told me one day the inner history of the conflict between his duties in Whitehall, and his acceptance of the invitation to be the architect of Imperial Chemical House.

*

As soon as he was free from official shackles I saw him in his office at Dean's Yard. By then the spirit was too strong for the tired body. He used to talk to me lying down on a sofa on which, indeed, he made many of his original drawings.

*

He and the late Lord Melchett, who believed in him as a shrewd architect, had much in common—an appreciation of old furniture, an uncanny foresight, and an eye to the main chance. If he had been born in the United States he probably would have died a dollar billionaire. As it is he has left a mark on Millbank, but I believe that he would be most proud of the work for which he was so much responsible—the repair of Westminster Hall and many of our ancient abbeys and other historic buildings.

ACCOMMODATION AND THE SOCIAL CONSCIENCE

That eminent political humorist who enlivens the world with his views under the initials of A. A. B. was discussing in *The Evening Standard* last week "the bitterness of class hatred between servants and their employers." He said he did not know who was to blame for "this calamitous state of things."

*

With endearing innocence he wrote: "It is said that the upper classes have brought this upon themselves by the way they used to treat their servants. But this is not true, save in very exceptional cases; the upper classes have treated their servants very well, although, perhaps, *inconsiderately in the way of board and sleeping accommodation.*"

*

I have put into italics the only words that are significant in this limp apologia. If servants as a class are now exacting their pound of flesh from employers it is only because employers were so inhumanly stingy with their cubic feet of space a few years ago. We have to thank the age that thought servants should live in dark basements and cramped attics for our slums.

*

Even today, when we are reaping the whirlwind for this barbarism, there are people who oppose slum clearance on the ground that the working classes don't know how to use decent houses. That old, old tag is ceremoniously waved at us: "They'll only put coal in the bathroom."

*

I wonder if A. A. B. has ever said that. No, I think possibly it is now only said by old gentlewomen because they know (to borrow the advertising phrase of *The Morning Post*) "the tradition of a thousand years can't be wrong!"

THE CONTEMPORARY CHURCHES

After a spate of cathedrals in the traditional post and pre-traditional manners, how I enjoyed reading Mr. P. Morton Shand's ice-breaking article in *The Listener*.

*

Listen to this: "What is fundamentally wrong about this 'Near Gothic' is that it ignores the plain fact that you cannot create a new style simply by stripping away the characteristic decoration of an old one. What too often emerges as a result is structural engineering of *a primitive and entirely superseded order* (italics mine). Elimination may be a point of departure. It cannot be the road itself."

*

"Structurally speaking, church building today has no new problems to solve: . . . it has not been called upon to meet any new needs . . . there have been no revolutions . . . and the only problem presented by new construction is an economic one: how to build churches cheaper. . . . than they have ever been before. In other words, we have nothing new to *will* in the form of our churches."

*

I would like to wrap this article inside a C.P.R.E. pamphlet for universal distribution, high church and low.

ASTRAGAL

NEWS

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THE ARCHITECTS' DIARY

Thursday, January 4

Institution of Electrical Engineers. At the Institution, Savoy Place, Victoria Embankment, W.C.2. "The Influence of Certain Transmission-Line Associated Apparatus on Travelling Waves." By J. L. Miller, PH.D., B. ENG. "The Design and Operation of a High-Speed Cathode-Ray Oscillograph." By J. L. Miller, PH.D., B.ENG. and J. E. L. Robinson, M.SC. **6 p.m.**

Then and Now, No. 2. At Lanthorne House, 89 to 91, Newman Street, W.1. Exhibition of old and modern lamps, and examples of lamps from all parts of the world from the collection of Paul Faraday. **Until January 15.**

Monday, January 8

R.I.B.A. At 9, Conduit Street, W.1. Award of Prizes and Studentships. Criticism by G. Grey Wornum, F.R.I.B.A. **8 p.m.**

Institution of Electrical Engineers. (North Eastern Centre.) At Armstrong College, Newcastle-on-Tyne. "Electromagnetic Phenomena in High-Voltage Testing Equipment." By B. L. Goodlet. **7 p.m.**

Tuesday, January 9

Institution of Electrical Engineers. (North Midland Centre.) At the Hotel Metropole, King Street, Leeds. "The Bypath Automatic Telephone System." By J. H. E. Baker, B.SC. (Eng.), and E. P. G. Wright. (North-Western Centre.) **7 p.m.**
At the Engineers' Club, 17, Albert Square, Manchester. "Some Aspects of the Electrical Transmission of Power by means of Super-Tension Direct Current." By H. Rissik, B.SC. (Eng.) **7 p.m.**

Illuminating Engineering Society. At 32, Victoria Street, S.W.1. "Portable Lamps and their Applications." By A. Cunnington. **7 p.m.**

Wednesday, January 10

Institution of Welding Engineers. At the Institution of Mechanical Engineers, Storey's Gate, S.W.1. "The Development of Welding as applied to Boiler Drums and Steam Receivers." By C. H. Davy. **7.45 p.m.**

Manchester Society of Architects. At the Society's Rooms, Manchester. "Landscape Plans for the Parish of Broadway, Worcs., Past, Present and Proposed." By G. A. Jellicoe, A.R.I.B.A., A.I.C.A. **6.30 p.m.**

L.C.C. Central School of Arts and Crafts. At Southampton Row, W.C.1. "English Mediæval Architecture. A. The Pre-Mediæval Periods." By Sir Banister Fletcher, F.S.A., PP.R.B.I.A. **6 p.m.**

HOUSING DIRECTOR FOR LEEDS

The Leeds Corporation Housing Committee have appointed Mr. Richard A. H. Livett, A.R.I.B.A., as the first Housing Director of Leeds, at a commencing salary of £750 a year.

Mr. Livett, whose appointment is subject to formal approval by the City Council, has been Deputy Housing Director of Manchester for two and a half years. He is thirty-five years of age.

NEW OFFICES IN WHITEHALL

The new Government building in Whitehall is to be a steel-framed structure, faced with Portland stone.

NATIONAL LIBRARY OF WALES

A start is to be made in the near future with the work of completing the National Library of Wales, Aberystwyth, at an estimated cost of £50,000.

THE PLANNING OF A CITY

Mr. Neville Chamberlain and his colleagues on a committee, which reported in 1921 on the principles to be followed in dealing with unhealthy areas, were unanimous in recommending that whenever clearance and reconstruction on any large scale is undertaken, it should be in accordance with a carefully prepared plan, dealing not only with the reconstructed area, but with the whole town and its surrounding districts. The City of Liverpool has recently given a lead on this matter to the whole country. The Corporation has decided that the improvements and developments which are about to take place in the clearance of slum areas provide the opportunity to lay the "foundations of a second city far better than the first."

Already about 75 per cent. of Liverpool is subject to orderly controlled development under town planning schemes, and special attention is now being given to linking up the planning of areas already built over with the proposals for the clearance of slums.

According to the City Engineer, attention in the first place is to be given to improved means of transport and methods of construction. For "if rehousing proceeds without regard to the provisions of open spaces, wider roads and general improvement in amenities, the slum conditions will only be repeated, except that the houses will not be unhealthy."

The policy favoured is decentralization. This will be assisted owing to the extension of Queen's Drive, a ring road 3½ miles from the centre, and the new East Lancashire Road designed to afford rapid road communication between the manufacturing districts of East Lancashire and Yorkshire and Liverpool, especially the north docks.

One of the objects of the plan will be to develop industrial and business areas in suitable positions in the outer parts of the city, so as to obviate long journeys between residential, business, factory and shopping areas.

The Corporation also feel that next to the insanitary, crowded and dreary housing which has now to be dealt with at such great expense, the worst legacy of past years is probably the lack of open spaces. They believe that by rebuilding large blocks of property, and the more scientific and efficient methods of housing today, combined with the re-planning of large areas, it should be possible to add very considerably and economically to the open spaces available.

There will also be "zoning," and the consequent stopping of the indiscriminate mixture of factories and houses.

The new town plan for Liverpool, which will be prepared by the City Engineer, will seek to rectify these anomalies by the allocation of definite areas for industries, heavy and light, business and shopping areas and residential zones of varying character.

THE DUCHY OF CORNWALL ESTATE

The Prince of Wales, on his own initiative, has sold 14½ acres of his Duchy of Cornwall estate in Kennington to help a scheme for slum clearance. The land has been purchased by the L.C.C.

PAISLEY MUSEUM EXTENSION

The committee of Paisley Free Library and Museum have agreed unanimously to recommend the Town Council to proceed with the erection of a new wing on the west side of the existing building in High Street as an addition to the museum. The estimated cost is £30,000.

GANDHI REMOVED

A plaque of Gandhi, one of a series in a ceiling at Finchley Parish Church, which, following a controversy, was taken down by the Rector and the churchwardens, has been replaced by one of a Flanders Poppy. The poppy has been designed by Sir Charles Nicholson, F.R.I.B.A.

ANNOUNCEMENTS

Mr. F. C. Moscrop-Young, F.R.I.B.A., Chartered Architect and Surveyor, has removed his offices to 7 Vigo Street, Regent Street, W.1. Telephone No.: Regent 4297.

Mr. James Miller, F.R.I.B.A., will be pleased to receive catalogues and literature

from manufacturers, particularly those dealing with heating and ventilating and modern building products. They should be addressed to Mr. F. Marshall at 88, Hanover Street, Edinburgh, 2.

DANCE HALL FOR WORTHING

In place of the destroyed pavilion on the municipal pier at Worthing, a dance hall and sun parlour with a flat roof are to be built.

R. I. B. A.

THE NEXT MEETING

On Monday next, January 8, 1934, at 8 p.m., the Council's Award of the R.I.B.A. prizes and studentships for the past year will be announced and Mr. G. Grey Wornum, F.R.I.B.A., will deliver his criticism of the work submitted for the prizes and studentships.

The Council's nomination for the Royal Gold Medal for 1934 will also be announced.

The Prize Drawings will be on Exhibition in the R.I.B.A. Galleries from January 9 to 27, during the hours of 10 a.m. and 8 p.m. (Saturdays, 10 a.m. to 5 p.m.)

COUNCIL MEETING

Following are some notes from a recent meeting of the Council of the Institute :—

R.I.B.A. Final Examination—Thesis : On the recommendation of the Board it was decided that candidates be required to precede their thesis with a table of contents showing the main subdivisions of the thesis.

Scholarships : The Board further reported that the scholarships of the following scholars had been renewed for a second and final year, i.e. 1933-1934 :—(1) Mr. A. W. Varcoe, School of Architecture, Edinburgh College of Art, who was awarded an R.I.B.A. (Archibald Dawnay) Scholarship of £75 for the year 1932-1933. (2) Mr. M. G. Gilling, Liverpool School of Architecture, University of Liverpool, who was awarded an R.I.B.A. (Archibald Dawnay) Scholarship of £50 for the year 1932-1933.

The Board also reported that they had approved the payment of the last instalment of his second year scholarship money to Mr. D. L. Couves, Armstrong College School of Architecture, University of Durham.

The Board reported that the scholarships of the following candidates had been renewed for the Session 1933-1934 :—Mr. E. F. Ward (Architectural Association School of Architecture, London), £100. Mr. A. M. Irvine (School of Architecture, Robert Gordon's Colleges, Aberdeen) (4th and 5th Year Maintenance Scholarship), £100.

The new Duca d'Aosta Hotel at Sestrières, in the Italian Alps, designed by Vittorio Bonadé-Bottino. The spiral ramp serving all bedrooms, seen at its beginning at ground floor level. The well is illuminated from the fitting seen on the left. A view looking up the well is given as this week's frontispiece.

The Board also reported that on their recommendation the Artists' General Benevolent Institution had renewed for the session 1933-1934 the scholarship of £100 awarded to Mr. M. G. Gilling (Liverpool School of Architecture, University of Liverpool) ; and that they had granted Mr. Ralph Dickinson (Birmingham School of Architecture) a special extension for one year of the Scholarship of £100 awarded to him in 1930.

COMPETITION NEWS

STOCKHOLM REPLANNING COMPETITION

The premiated designs and a review of the competition for the lay-out of Lower Norrmalm, Stockholm, the result of which was announced in our last issue, appear on pages 8 to 12.

LAY-OUT OF BUILDING ESTATE, CARDIFF

Mr. Percy E. Thomas, F.R.I.B.A., the assessor in the competition for the lay-out of land at Pen-y-lan, Cardiff, has made his award as follows :

Design placed first (£100) : Arthur J. Penberthy, A.R.I.B.A., of Midland Bank Chambers, 10, Queen's Square, Wolverhampton.

Design placed second (£50) : Trevor J. S. Blake, A.R.I.B.A., of 12, Hall Lane, Chingford, E.4.

Design placed third (£25) : Arthur J. Penberthy (alternative scheme).

The premiated designs are illustrated on pages 14 to 16 of this issue. Over eighty designs were submitted in the competition, all of which are now on exhibition at Cardiff until to-morrow, January 5.

NEW HEADQUARTERS FOR ITALIAN FASCISM

The conditions governing the competition for the building upon the Via dell'Impero, Rome, which shall house both the headquarters of the Fascist Party and the Exhibition of the Revolution, were published last week (states *The Times*).

The competition, for which 90,000 lire is offered in prizes, is confined to such Italian architects at home or abroad as are members of the Fascist Party and are not in arrears with their dues to the Fascist Syndicate of Artists.

INTERNATIONAL ALUMINIUM FURNITURE COMPETITION

The following awards have been made in the International Aluminium Furniture Competition, organized by the International Aluminium Bureau and assessed by five representatives of the furniture industry and six representatives of the aluminium companies :

First Section (for a finished section of one or more types of seating furniture). First prize (3,000 Swiss Frs.) : M. Marcel Breuer, of Talstrasse 11, Zurich, Switzerland. Second prize (2,000 Swiss Frs.) to be equally divided between MM. Th. Breulin & Co., of Sissach, Switzerland, and M.

Beckerich, of 148, Avenue de Neuilly, Neuilly, France.

Second Section (Drawings and specimens of seating furniture). First prize (500 Swiss Frs.) to be divided equally between Tomatake Nishikawa, of Kogei Shidosho, Sendai, Japan, and M. Beucher, 103, Avenue Parmentier, Paris, France. Second prize (250 Swiss Frs.): MM. Jeanmonod and Quelloz, of 24, Chemin de la Dranse, Lausanne, Switzerland, and M. E. Stolzer, c/o W. Beuttel, Paulsbornerstr. 83, Berlin-Halensee.

A special prize of 1,000 Frs. was presented by the International Congress for Modern Architecture. Messrs. Le Corbusier (France), Giedon (Switzerland) and Gropius (Germany) acted as assessors on behalf of the Congress, and allocated the prize money as follows:

First prize (500 Swiss Frs.): M. Marcel Breuer, of Talstrasse 11, Zurich, Switzerland. Second prize (300 Swiss Frs.): M. Bossu, of 322, Rue St. Martin, Paris, France; and M. Streb, of 44, Rue d'Assas, Paris, France. Third prize (200 Swiss Frs.): M. Beckerich, of 148, Avenue de Neuilly, Neuilly, France.

Competitions Open

January 13.—Sending-in Day. Proposed Public Elementary School, to be erected on a site in Han Lane, Coventry, for the City of Coventry Local Education Committee. Open to architects whose offices are situate within the City of Coventry on November 1, 1933. Assessor: C. E. Bunch, F.R.I.B.A. Premiums: £100, £50 and £30. Last day for questions was November 18. Designs are to be submitted to Frank H. Harrod, Director of Education, The Council House, Coventry, by January 13.

January 15.—Designs of electrical kitchens suitable for (1) a house (or flat) valued at £300-£400 (net building cost without land), and (2) a house (or flat) valued at £800-£900 (net building cost without land), for the British Electrical Development Association. Assessors: R. S. Downe, M.I.E.E., Francis Lorne, F.R.I.B.A., Lionel G. Pearson, F.R.I.B.A., A. C. Cramb, M.I.E.E., M.I.M.E., and Miss Maughan, M.SC. Premiums: £50 and £25, for each section. Designs are to be sent to the Association at 2 Savoy Hill, W.C.2, not later than January 15. Conditions, etc. (Price 1s.), are now obtainable.

Competitions Pending

Proposed New Council Offices to be erected at Salt Hill for the Slough U.D.C. Assessor: H. S. Goodhart-Rendel, F.R.I.B.A. Premiums: £150, £100 and £50. Conditions have not yet been drawn up.

Proposed Extensions to the Town Hall, Swindon. Assessor: Professor A. B. Knapp-Fisher, F.R.I.B.A. Conditions have not yet been drawn up.

Proposed Municipal Sanatorium and Craymount Children's Hospital, Belfast. Premiums: 500 guineas, 300 guineas, and 100 guineas. Limited to architects practising in Northern Ireland. Assessor: R. S. Wilshere, A.R.I.B.A.

Proposed Mental Colony (to accommodate 500 patients) for the Stoke-on-Trent City Council. Premium £300. The conditions of the competition are not in accordance with the Regulations of the R.I.B.A. The Competitions Committee are in negotiation with the promotors in the hope of securing an amendment. In the meantime Members of the Institute should not take part in the competition.

THE STOCKHOLM COMPETITION

The result of the competition for the re-planning of the Lower Norrmalm portion of the City of Stockholm was announced in our last issue. We publish on this and the following pages a review of the competition, describing the nature of the problem before the competitors, and the various solutions which were offered, together with a sketch plan of the area concerned as now existing and photographs of the six premiated plans.

The assessors' award was as follows:

The prize money (45,000 Kronor = £2,300) to be divided between three projects:

Number 145 (by engineer Åke Virgin and architect Thure Bergentz, of Stockholm), number 271 (by Messrs. B. Hume and Raymond Erith of London) and number 295 (by Messrs. C. H. Platt, W. Platt, G. Platt and J. M. Cates of New York.)

Three other projects, number 23 (by Messrs. H. Lubke, Edi Reissner, W. I. Wagener, and W. I. Schöne of Berlin and Halle of Saale), number 196 (by M. Reissinger of Dusseldorf) and number 233 (by Messrs. Wolf Richter of Dresden and Brolin of Stockholm) to be purchased for the sum of 5,000 Kronor = £256.

THREE hundred and fifty competitors submitted schemes for re-planning the centre of the city, and, as some presented alternative solutions, the jury were faced with a somewhat formidable task in making their selection. The jury comprised nine persons, of whom seven were Swedes, including Dr. Albert Lilienberg, the Director of Town Planning for the City of Stockholm, and such well-known architects as Professor Ostberg, designer of the Stockholm Town Hall, Professor Asplund, architect of the municipal library, and Professor Bergsten, architect of the new theatre at Gothenburg. Professor Jansen, Berlin, and G. L. Pepler, London, were the two foreign jurors.

The subject of the competition was planning the rebuilding of Lower Norrmalm, a part of the centre of the city, about one-third of a mile square, which was pulled down in 1640 and rebuilt in ten years on a gridiron plan. This plan paid little attention to contours and provided streets adequate at the time, but not of sufficient width to cope with modern motor traffic. The total area covered by the competition was a square measuring nearly a mile in each direction, and extending southward into the small island on which the King's Castle stands, and on which the first city was built. A second town plan was prepared in 1866, just after the advent of the railway, but its projects were not completed. In 1928, Dr. Lilienberg prepared a third plan carrying on the plan of 1866 adapted to the requirements of today.

The area which formed the subject of the present competition comprises the principal business and shopping centre of the city, and covers the tail of a moraine which finishes at the sea front. The subsoil consists of solid ballast, and the shape lends itself to the provision of fly-over road crossings in the manner already applied with success, higher up the moraine.

Owing to repeated re-buildings, the faces of the present erections show few traces of 1640, and in three hundred years the buildings have grown to cover too much of the area. Those in authority have shown great wisdom in refusing further intensification of use, except in accordance with a properly balanced re-planning scheme. Much of the area had already been acquired by the Corporation and the number of buildings considered worthy of preservation did not exceed a dozen. The King's Castle and the new Town Hall are outside the area, but the former adjoins it and is a historic and architectural feature that could not be disregarded. Some competitors disregarded the point that it is futile to preserve buildings if you completely remove their background and leave them forlorn, entirely unrelated to their surroundings.

In essence, the problem before the competitors was the re-planning of the main business centre, on adequate lines fitting in with the general town plan of the city prepared by Dr. Lilienberg and in process of realization.

A somewhat important factor, overlooked by some of the competitors, was that, in Sweden, traffic keeps to the left-hand side of the road, as in England, and not to the right, as in most other countries. At present all traffic between the northern and southern halves of the city must pass through the small island of the original city, just south of the competition area. A bridge (Vasterbron) now in course of construction, about 1¼ miles to the west, will divert a good deal of this traffic; and further relief to the three road bridges, which now connect Lower Norrmalm with the small island, will be afforded when an additional tunnel or bridge is constructed on the east, between Skeppsbron (north-east water front of King's Castle) and Blasieholmen. A competition relating to this proposed connection was held in 1930, but the issue of bridge versus tunnel has not yet been settled. Although the cost of a tunnel would be four times that of a bridge, one is encouraged to believe that the City Fathers will face up to this expenditure. A bridge would not only seriously reduce the effective water front, which is such an asset to the city but, also, the King's Castle is a building of such out-

standing architectural merit that one would hesitate to introduce any new structure which would deliver more traffic to disperse itself on another of its fronts, and which might intrude a discordant note in what at present forms an extraordinarily fine composition.

These two promised reliefs to road traffic suggest that a main object of the competition is not to make new southward ways for traffic. The prime object is, rather, to prepare a plan for reconstructing the area in its own interest, with a secondary object of facilitating traffic movement to the east or west so that it may take advantage of the promised north-south ways. It is in no sense a slum clearance scheme—most of the property comprises valuable business buildings, and the object is to bring this important area right up to date.

The Town Plan of 1866 created the wide boulevard Svea Vagen and continued it southward to the water front. This continuation was not carried out and Svea Vagen stops at the north boundary of the competition area. A reason for not providing for the continuation of this fine road exactly in accordance with its original design is that its southern terminal would neither be axial to the beautiful north-western façade of the King's Castle, nor make a symmetrical entrance into Gustaf Adolfs Torg.

The Competition Plans

It must be said at once that no single plan presented an entirely satisfactory solution of the problem and the selection of the jury, therefore, appears to have been directed, in the main, by the intention to reward certain meritorious ideas.

The decision arrived at was to divide the prize money (45,000 K.) equally between three projects :—

145 (by engineer Åke Virgin and architect Thure Bergentz of Stockholm), 271 (B. Hume and Raymond Erith of London), and 295 (C. H. Platt, W. Platt, G. Platt and J. M. Cates of New York), and for the city to purchase projects 23 (H. Lubke, Edi Reissinger, W. I. Wagener, W. I. Schöne of Berlin and Halle of Saale), 196 (M. Reissinger of Dusseldorf), and 233 (Wolf Richter of Dresden and Brolin of Stockholm).

Plans 145, 271 and 295 are of three distinct types :—145 may be said to represent the practical ; 271 contains the bold idea of a fine central place which forms a meeting point for a continuation of Svea Vagen, and an improved Hamn Gatan, balanced by a proposed new diagonal street leading south-west ; 295 boldly extends Gustaf Adolfs Torg inland up the hill to the fine Telegraph Administration Block, thus carrying the water front motif further into the heart of the city.

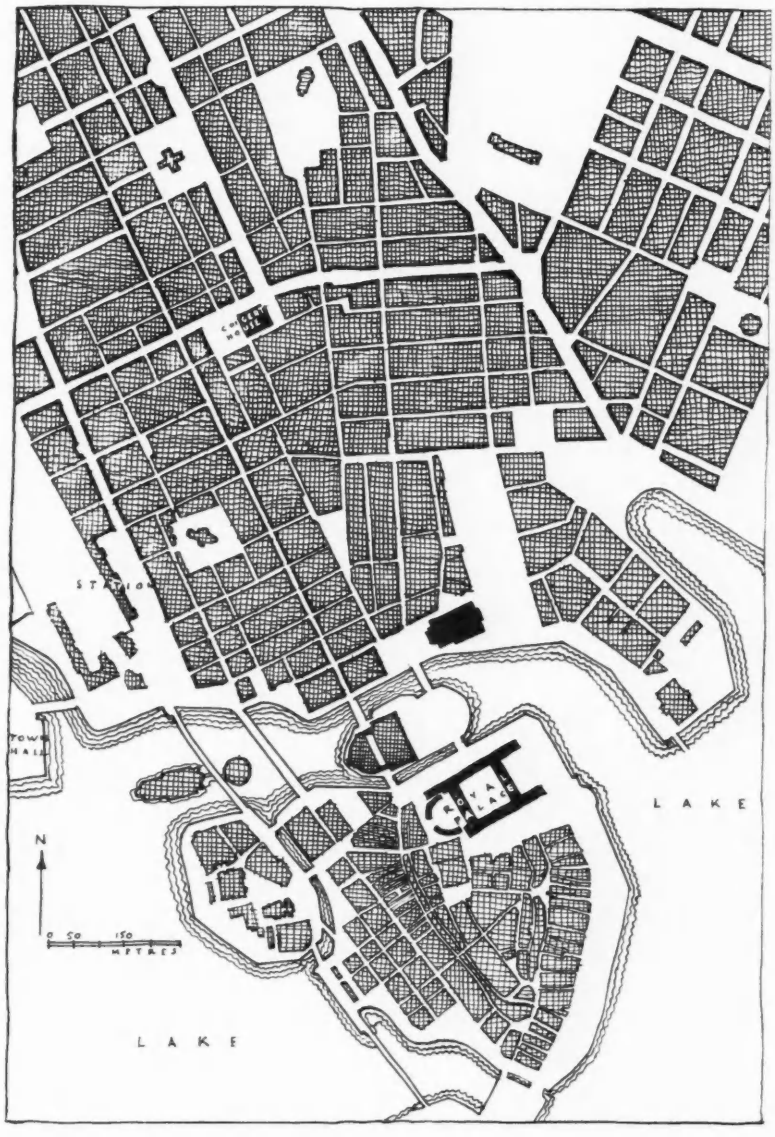
The following is a more detailed description of the six selected projects :—

Plan 145

Continues Svea Vagen southward, under Mäster Samuel Gatan and through two proposed squares, the first providing for circulation of traffic at the crossing of a proposed improved east-west route to be carried over the railway on the west, the second acting as a traffic distributor further south and providing for connection with Gustaf Adolfs Torg in a balanced manner. The western approach to the southern square is carried under Malmtorgs Gatan.

The proposed bridge, east of the Opera House at an oblique angle to the King's Castle, is not a desirable feature of the plan ; but it is not an essential part and really relates to the 1930 competition rather than to this one.

Two additional bridges are projected over the railway and the water channel on the west, which at present constitute rather formidable barriers to east-west traffic. By bridging, this traffic can be carried clear of the south-north traffic, which is considerable. The plan provides for lowering the road along the water front to pass under Norrbro which connects Gustaf Adolfs Torg with the island of the old city.



Sketch plan of the lower Norrmalm area of Stockholm, as at present existing.

The plan is straightforward, would provide a convenient and dignified business centre, and is within the bounds of financial practicability. It also has the advantage that it lends itself to realization in successive stages.

Plan 271

This plan looks well on paper and the proposed central place at the junction of the east-west diagonals and the southward continuation of Svea Vagen is well designed and sited. Also, the proposed wide boulevard extending southward from the central place would not carry much through traffic and therefore would make a fine business street. On the other hand, this boulevard would rather disturb the balance of Gustaf Adolfs Torg.

The authors of this design propose drastic re-arrangement of the railway station and

[*Continued on p.* 12

THE STOCKHOLM COMPETITION

RE-PLANNING OF LOWER NORRMALM

Prize plan number 145, by Ake Virgin and Thure Bergentz, of Stockholm.

Prize plan number 271, by Messrs. B. Hume and Raymond Erith, of London.

Prize plan number 295, by Messrs. C. H. Platt, W. Platt, G. Platt and J. M. Cates, of New York.

Purchased plan number 233, by Messrs. Wolf Richter, of Dresden, and Brolin, of Stockholm.

THE STOCKHOLM COMPETITION

unnecessarily suggests building on the open space between the water front and the station, and also on the north end of Kungs Tradgarden, the beautiful park east of the Opera House and extending back from the harbour.

Plan 295

The traffic problem does not appear to be particularly well handled in this plan, but it contains the fine conception of making two great openings into the heart of the city, from the water front. The northward continuation of Gustaf Adolfs Torg would terminate nobly at the Telegraph Administration Block, and the east-west avenue would look out to the water and Ostberg's superb Town Hall which stands beside it.

Plan 233

This project takes Svea Vagen down to the centre of Gustaf Adolfs Torg, destroying the Telegraph Building *en route*, by a stagger at a central traffic place under which east-west traffic is taken in a tunnel. An ingenious connection between east, west and north traffic is made by a roundabout joining Regerings Gatan and a tunnelled eastward extension of Herkules Gatan, which extension makes a new crossing of the park in substitution for the existing crossing further south, which would be closed.

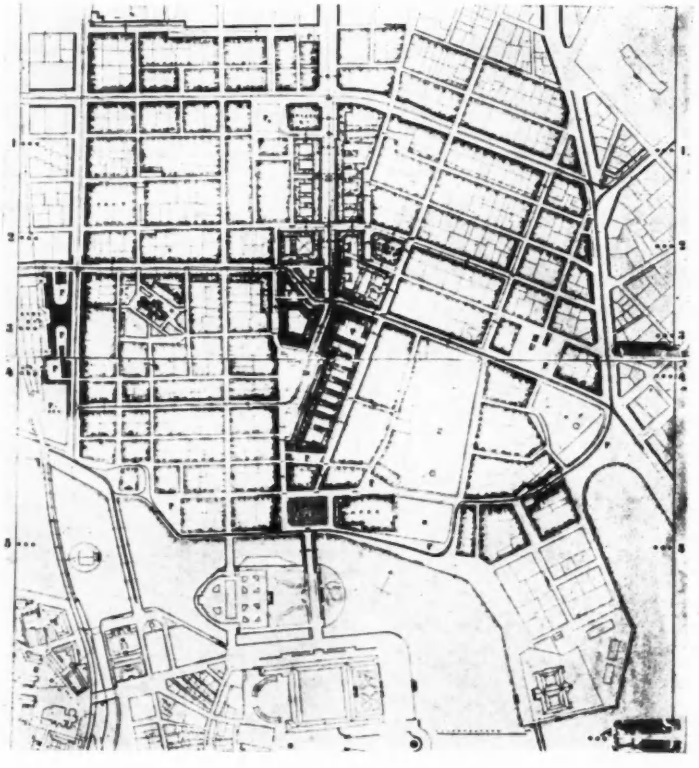
Plan 23

In contrast to 295, this project appears to be primarily concerned with the distribution of traffic, which it provides for carrying through the area but clear of the lower portion. The plan strikes one as more ingenious than practical, and somewhat foreign to Stockholm.

Plan 196

This plan provides a central traffic place which is well sited but badly arranged. A novel feature is the widening of the rather attractive triangular place below the Telegraph Building. The shape is not altered but an improved connection is carried down to the west side of Gustaf Adolfs Torg, thus affording direct, but not straight, connection between Svea Vagen and the water front.

1



2

1.—*Purchased plan number 23, by H. Lubke, Edi Reissner, W. I. Wagener and W. I. Schöne of Berlin, and Halle of Saale.*

2.—*Purchased plan number 196, by Reissinger of Dusseldorf.*

LETTERS FROM READERS

The New Cunarder

E. M.

SIR,—I am sure that Mr. John de la Valette has already brought a storm about his head, in stating that women so much appreciate cosy Elizabethan decoration on a ship. But, in case he is not yet fully enlightened, I would like to tell him that if it ever pleased the ladies (and I doubt it), it certainly will no longer.

I have travelled in those nauseating arks (within), and especially going East are they quite ridiculous.

We change our minds often and frequently, and thank God for the privilege, but a good fashion remains—only trifles alter, and only crazes rush beyond endurance.

In housing there has been a ghastly period of shoddiness, hence the past ideal to seek the solidness and comfort of the old, exceeding itself now in the outbreak of king-posts, ingle-nooks and wrought iron on sea-going ships.

If I am ever lucky enough to make a voyage in the first class, on a new liner, I hope the passage money will ensure a ship-shape cabin. It should have a floor of scrubbed teak, whiter than snow (of course), gleaming portholes, a glorious amount of chromium-plated plumbing, and practical decoration of whitest cotton rope for bunk sides and racks.

To be pleasing within she should be be decorated with white paint, the more super the quality of the paint the better, with the plainest of fabrics (but beautiful in texture), and with discreet crests and flags—in fact, modern. And what a glorious ship she might be. A huge liner in perfect taste. I'd love to live to see it. E. M.

Professional Conduct

WORRIED

SIR,—I have received an anonymous half-dozen of port. Having no personal friends who usually express their affection in this manner, I conclude it is one of those embarrassing presents that one sometimes receives from contractors.

Please what would you advise?

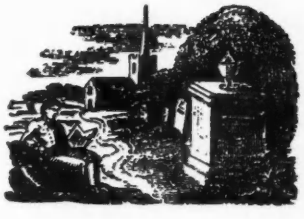
Do I drink it without finding out where it comes from, and risk professional impropriety, or do I wait to find out who sent it and risk not being able to drink it?

I may say it is a good vintage.

WORRIED

[*The fact that the gift our correspondent has received is anonymous makes it difficult to recommend a course of action.*

We ourselves would be inclined to treat the port as a gift of God. If it turns out later to have been the gift of a contractor (for a contractor with bribery and corruption in mind is sure to emerge from anonymity when he judges the bait to have been swallowed) we can remind our correspondent that the authority on all matters of this sort is Karshish, who describes in "The Honeywood File" a very similar occurrence. Concerning this the author relates: "A distinguished architect tells me that when any gift is sent to him he accepts it with a grateful letter of appreciation and thanks, and an expression of his very deep regret that his doing so will make it impossible for him to place any orders with the giver in future."—ED., *A.J.*]



The Hundred Houses Society

An interesting example of private enterprise supporting public authority is being shown at Cambridge. The Hundred Houses Society, Ltd., many of whose committee of management are members of the Town Council, are co-operating with the Council in a new housing scheme on a 10-acre site.

The Council is leasing the site, laying out roads, drainage, etc., and lending nine tenths of the cost. The remaining tenth is being raised by the society which is building the houses. It is proposed to accommodate tenants who are at present ineligible for municipal houses, as they have only one child or none, but who badly need houses and are willing to pay a reasonable weekly rent and the response is already more than adequate.

A feature of particular interest is that when the R.I.B.A. reduced scale of fees was pointed out to the committee they decided not to repeat municipal house-plans, but to appoint an architect and to consult the chairman of the local Chapter of Architects. On his advice a limited competition was held, and Mr. Craske, of Tunwells Court, Trumpington Street, Cambridge, was appointed to prepare plans. It need hardly be said that Cambridge possesses a very active local chapter of architects and a very active Preservation Society—which together exercise a beneficent influence.

The main feature of the lay-out is a semi-ring road, having at its centre the site of a mediæval moated farm, an old landmark which is thus emphasized. It will be used as a children's playground. Children will go to school by a footpath, and will not need to enter a main road. There are plenty of trees, shrubs, and grass verges to preserve the natural beauty of the site, and each house has its garden. The colour scheme of the buildings will be the grey and cream of the local brick.

Bid to Reduce Seasonal Unemployment

The objects of the new Paint Marketing Council, which was formed last week, are to bring about (1) a wider appreciation of the hygienic and psychological influence of paint in the home and of its value as a preservative of property, and (2) a reduction of the high rate of seasonal unemployment in the paint manufacturing and decorating trades, by securing the co-operation of the public in spreading painting and decorating operations over the whole year instead of confining them to the spring.

The formation of this Council follows the recent suggestion of the Chancellor of the Exchequer that unemployment might be reduced if work were shared out among a greater number of people over longer periods of the year.

Mr. S. Romilly Hall, of Bristol, has been appointed Chairman. The offices of the Council are at Tavistock House, Tavistock Square, London, W.C.1.

Organized Effort in the Building Industry

Just over a year ago the Building Industry, badly hit by the "economy campaign," decided to set up a central organization for educational propaganda and publicity. As a result the Special Committee for Public Relations was formed under the Building Industries National Council.

The report of the Chairman on the first year's work of this Committee, on which all sides of the building industry are represented, was issued this week. It gives striking evidence of the success of this effort of organized industry. The expenditure of the committee was only £3,070, yet during the year building plans approved in 146 provincial towns rose in value by over £20,000,000, or 33 per cent. At the same time the number of unemployed in the building trades fell by 77,400.

An appeal to the industry to establish this successful enterprise on a permanent basis will shortly be made.

C

COMPETITION FOR THE LAY-OUT OF BUILDING

Design Placed First: By Arthur J. Penberthy

On this and the two pages following are illustrated the three premiated designs in the competition for the lay-out of land at Pen-y-lan, Cardiff. The full result is printed under Competition News on page 8.

Following are some extracts from the assessor's report:

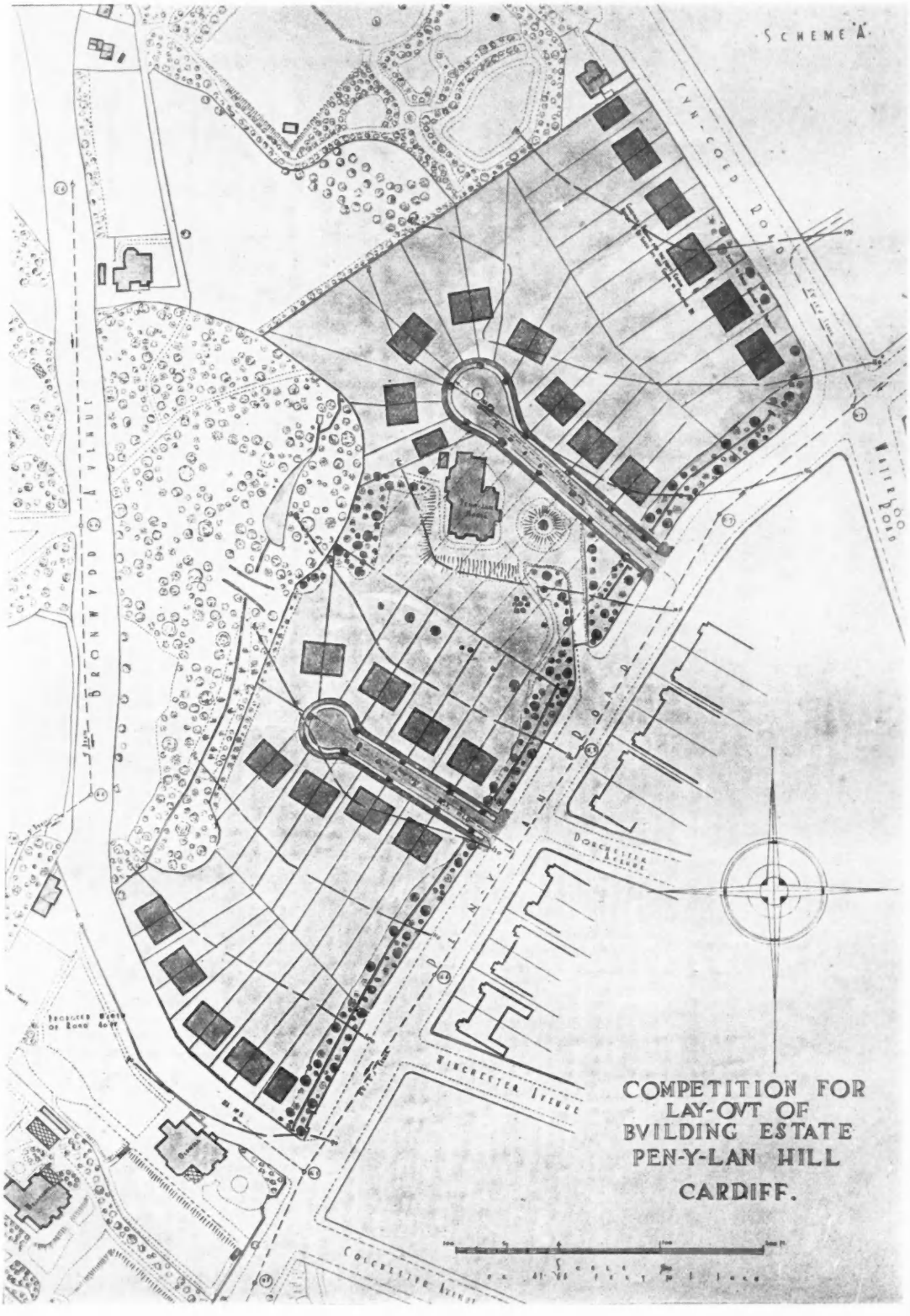
The winning design is marked by great simplicity and economy. At the same time a good architectural treatment is possible, and the problem of the retention of Pen-y-lan House has been very cleverly managed. The author, in common with the majority of competitors, has retained the wooded gulley separating the site from Pen-y-lan Road, together with a number of the other trees which exist on the site. He provides an ultimate accommodation of 49 houses, 43 of which can be built if Pen-y-lan House is retained. The average size of the plots is 140 ft. by 36 ft., and the majority are of good shape. The only road making involved is about 107 yards of type "C" and 53 yards of type "D," with turning places at the end.

Pen-y-lan House, if retained, will have about 1 acre of land, the greater part of which is to the south, and there will be no new houses near to destroy the privacy of its garden, a point which was overlooked by many competitors.

The design placed second is in general lay-out, on exactly similar lines to the design placed first. In this design 51 plots are provided, and 58 if Pen-y-lan House is demolished. The plots, however, in some cases are too long and narrow for houses of the class proposed.

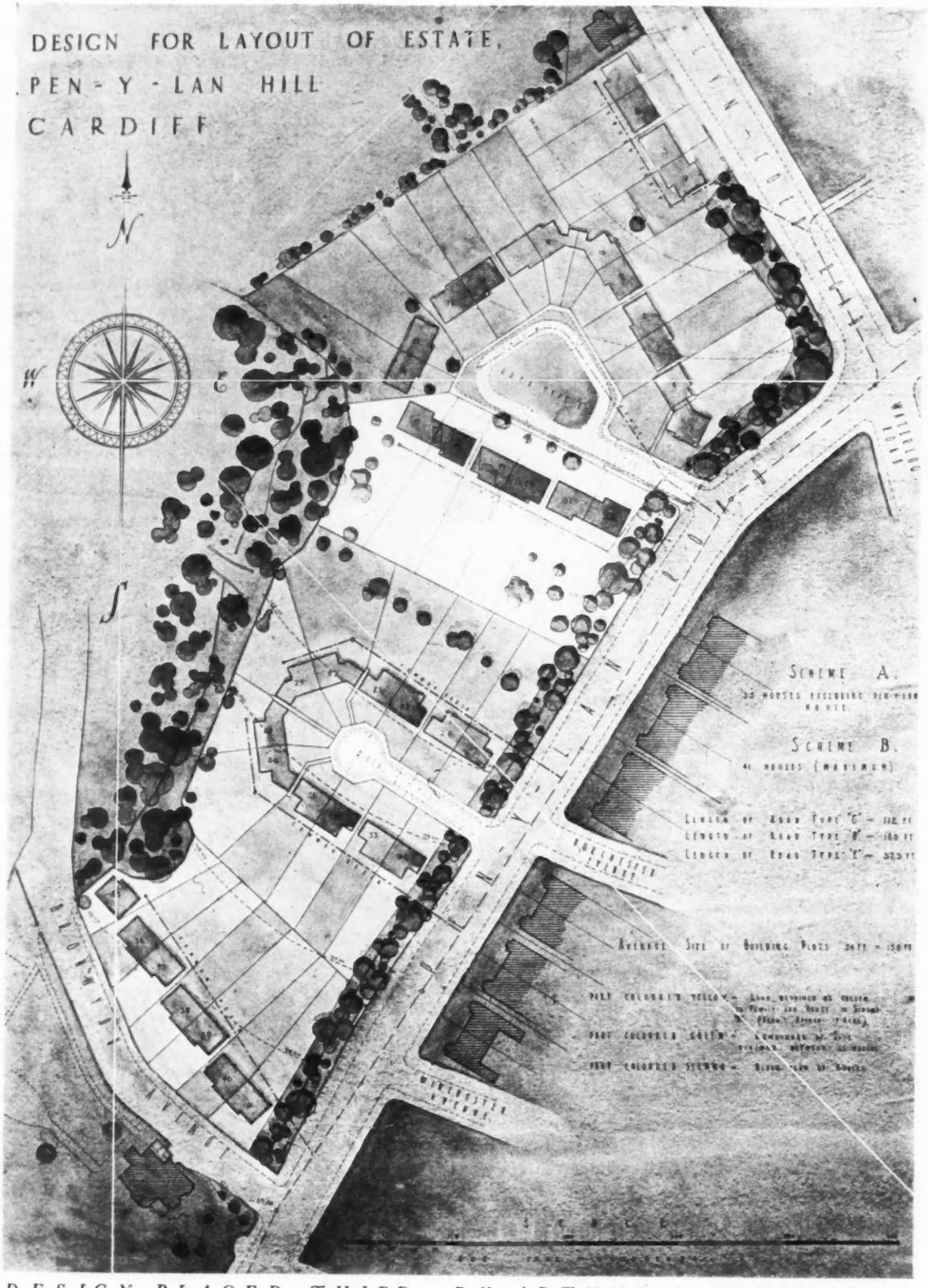
The third premiated design differs from the first two in that the wooded gulley is retained round Cyn Coed Road, and the upper close developed in the form of a triangle. This has resulted in a reduction of the number of houses to a minimum of 41, but good-shaped plots are provided and the scheme has many attractive features.

ESTATE, CARDIFF: PREMIATED DESIGNS



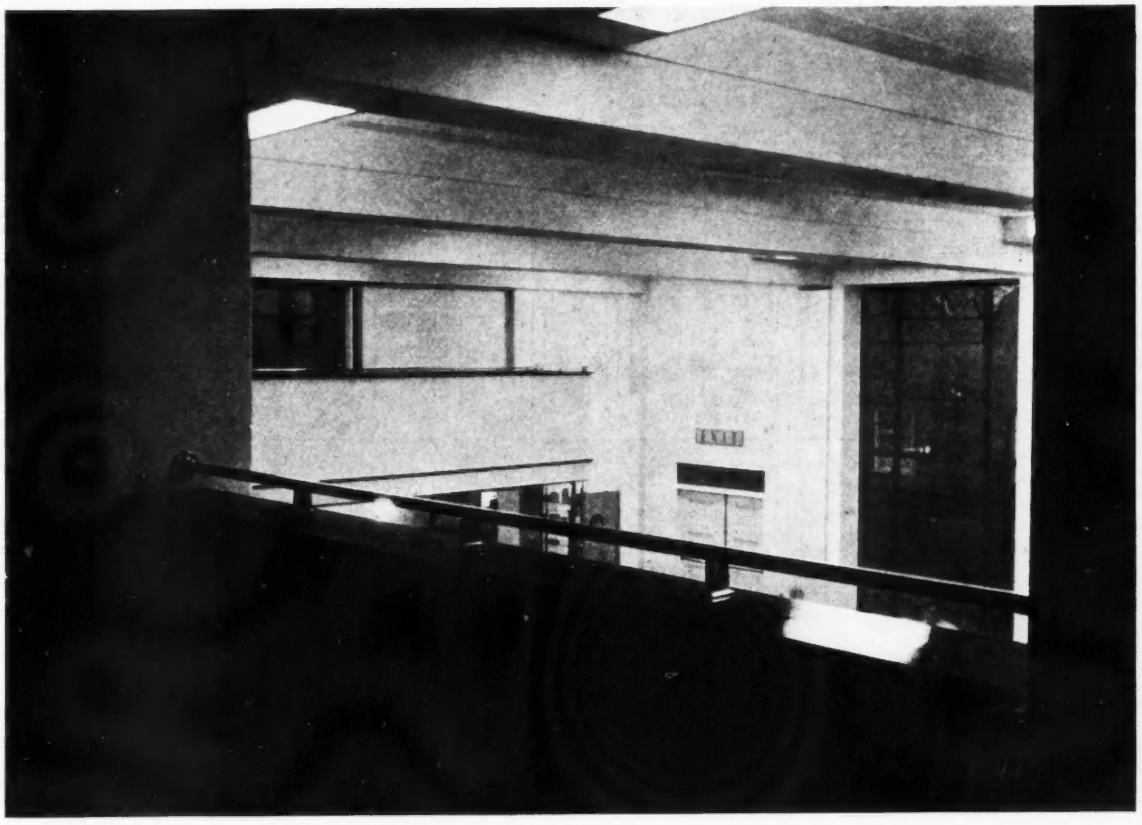
Design Placed Second: By Trevor J. S. Blake.

COMPETITION FOR BUILDING ESTATE, CARDIFF



DESIGN PLACED THIRD: BY ARTHUR J. PENBERTHY

MEDICAL SCHOOL, KING'S COLLEGE HOSPITAL, S.E.

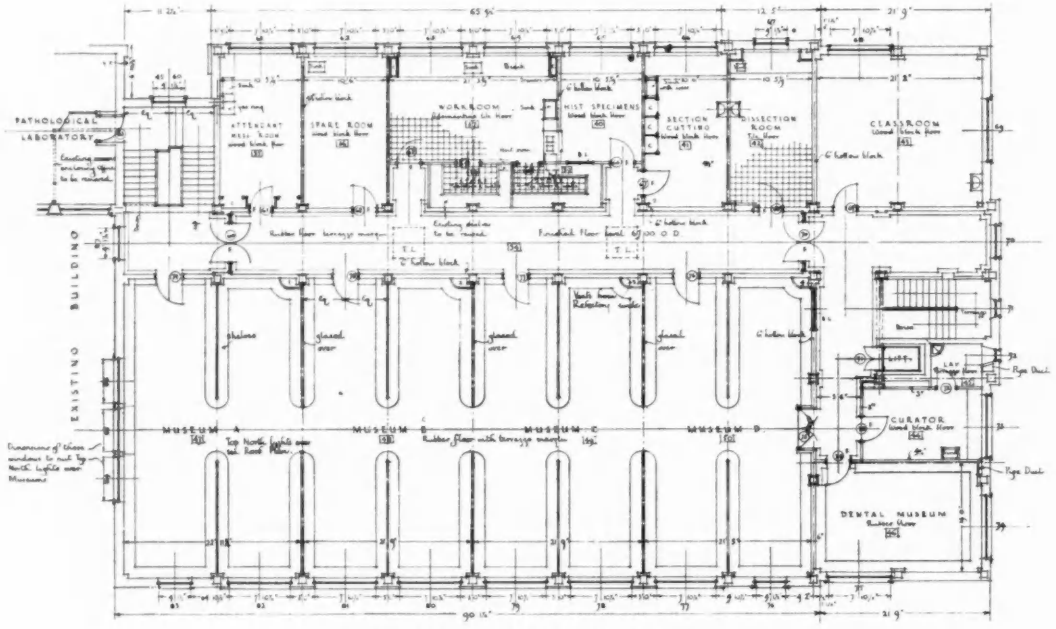


EXTENSION DESIGNED BY PITE, SON AND FAIRWEATHER

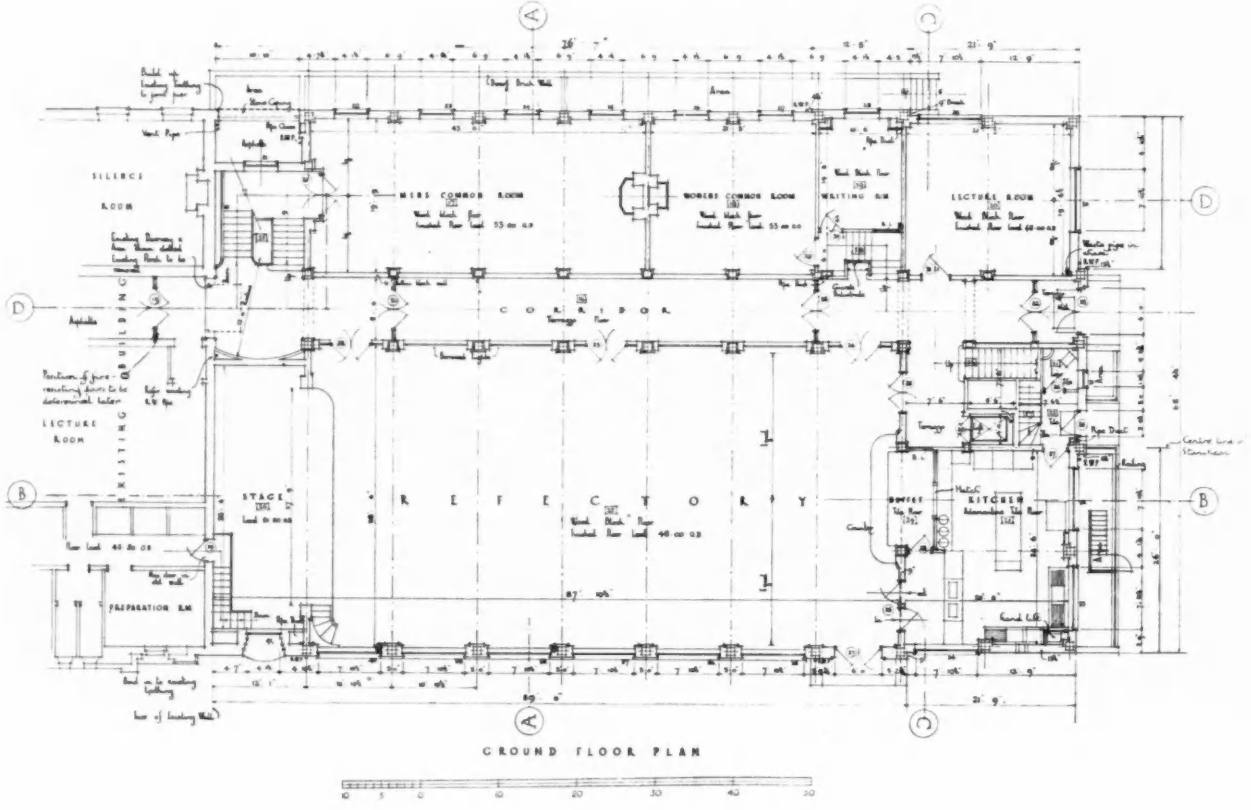
The extension of the Medical School, which was opened recently by H.R.H. Prince George, comprises a new refectory, with a platform at one end in order that the room can be used for meetings, and buffet, service room and kitchen at the other; men's and women's common rooms; a writing room and (on the upper floor) a large museum.

The photographs show: above, a view looking into the refectory from the gallery that surrounds it on two sides; right, the exterior of the new wing.

EXTENSION TO MEDICAL SCHOOL,

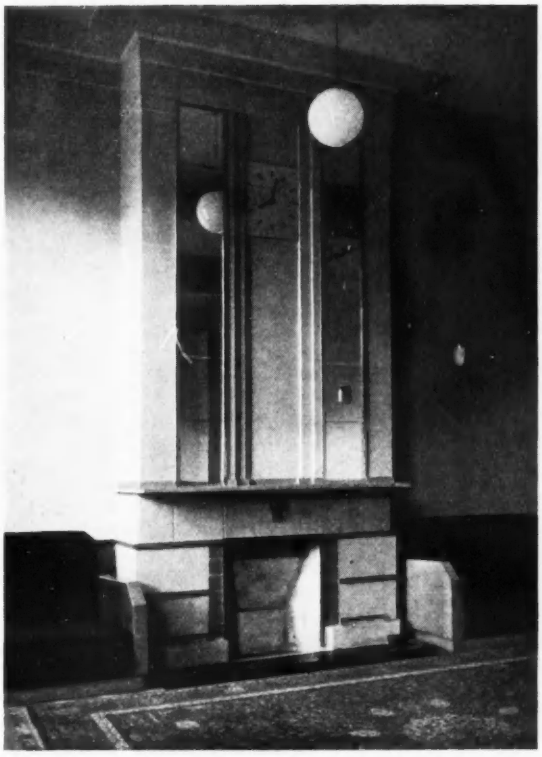


FIRST FLOOR PLAN



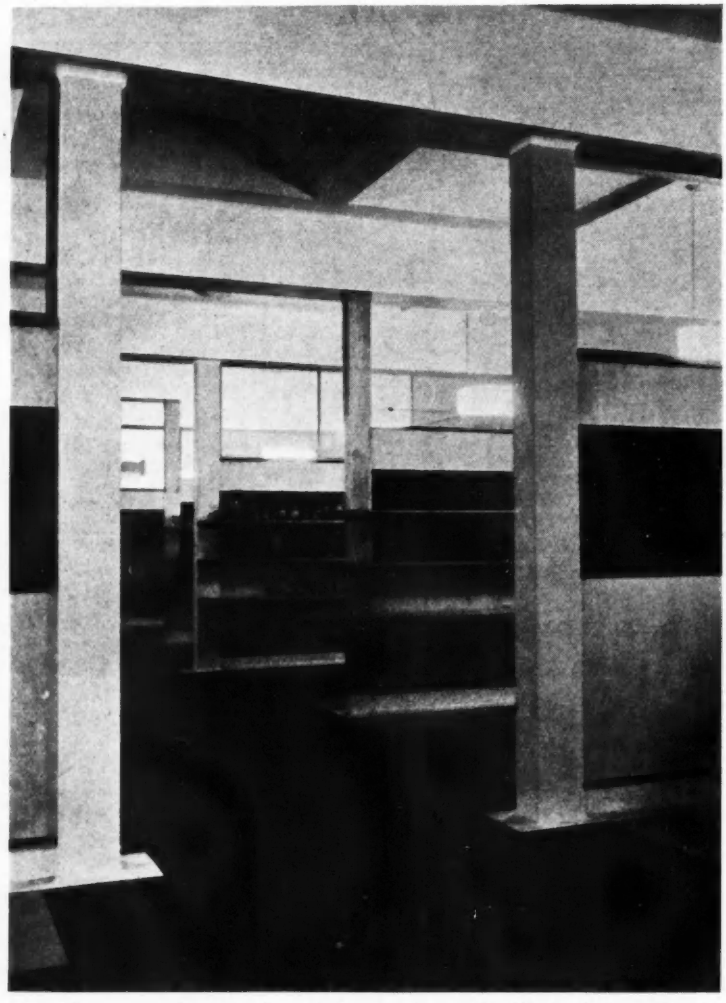
GROUND FLOOR PLAN

KING'S COLLEGE HOSPITAL, S.E.



Above : the refectory, looking towards the buffet and kitchens. Left : the fireplace in the men's common room. Right : a detail of the staircase. The heating and electric supplies throughout the extension are from the central station in the hospital.

MEDICAL SCHOOL



The Museum, on the upper floor of the extension to the King's College Hospital Medical School, which consists of eight double bays side and top-lighted, with studio lights on the north side.

BY PITE, SON AND FAIRWEATHER

OBITUARY

SIR FRANK BAINES

It is with deep regret we record the sudden death of Sir Frank Baines, C.B.E., K.C.V.O., F.R.I.B.A., former director of works of the Office of Works, which took place at his home at St. Keverne, Cornwall, on Christmas Day. He was fifty-six years of age.

Sir Frank, as Director of Works, was responsible for all Government buildings and constructional work, including the maintenance of the royal palaces, Houses of Parliament, and a large number of historic public buildings; notably the restoration of the roof of Westminster Hall, Henry VIII Hall at Hampton Court Palace and Eltham Palace.

During the war he was responsible for constructional work of all kinds to the total value of £80,000,000, and received the Government's formal thanks for the excellence of that work. At the close of the war he undertook the decorations and designs for the peace celebrations.

Sir Frank, at the termination of his official career, in 1927, was appointed permanent architectural and constructional consultant to Imperial Chemical Industries, Ltd., at the invitation of Lord Melchett. He had already been engaged for some months on the designing of Imperial Chemical House, their new head offices at Millbank. Later, he erected Thames House, which, together with Imperial Chemical House, forms the dominating feature of the northern end of Lambeth Bridge.

Sir Frank Baines received his knighthood in 1918, and was made a C.B.E. the same year. He became a member of the Victorian Order in 1923, and K.C.V.O. five years later.

F. W. CHAPMAN

We regret to record the death, in his sixty-fifth year, of Mr. Frank William Chapman, L.R.I.B.A., a partner in the firm of Chapman and Jenkinson, of Sheffield.

Mr. Chapman was articled to Mr. Charles Brown, of Wells, and commenced practice in Sheffield in 1903.

In conjunction with Mr. Jenkinson, he was responsible for the design of the Handsworth (Yorks.) Council School; mission hall at Gloucester, Cliff College (Lay Workers' Training College) and Cliff College Chapel, Derbyshire; and several congregational churches, schools, business premises, and houses in Sheffield and district.

His competition successes included the Bamford Institute; Dore and Totley Union Church; Ellesmere Road (Sheffield) Wesleyan Schools; gold and bronze medals, Sheffield Cottage Exhibition; and bronze medal, Wolverhampton Cottage Exhibition.

●

Royal Sanitary Institute

Mr. Percy Morris, L.R.I.B.A., is to open a discussion on "Town and Country Planning" at a meeting of the Royal Sanitary Institute, to be held at the Town Hall, Wakefield, on Friday, January 19, at 5 p.m.

Prior to the meeting there will be visits to a housing estate, an isolation hospital, a council school, a milk pasteurization depot and to the Pathological Laboratory of the West Riding County Council.

Dissolution of Partnership

We have received the following announcement from Mr. Frank Scarlett:

"The partnership between Mr. Frank Scarlett, B.A., A.R.I.B.A., and Mr. H. Ingham Ashworth, B.A., A.R.I.B.A., practising under the style of Scarlett and Ashworth at 5 Raymond Buildings, Gray's Inn, London, W.C.1, was dissolved by mutual consent as from May 31, 1933. Mr. Scarlett is carrying on the practice at the same address, and Mr. Ashworth is practising at No. 6 Raymond Buildings, Gray's Inn, London, W.C.1."

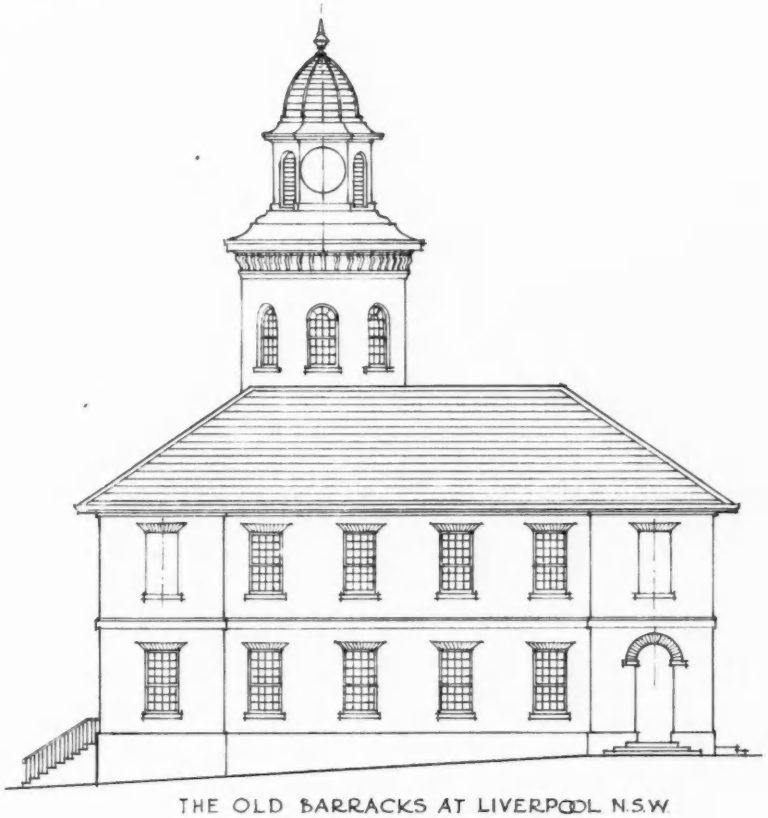
Change of Address

Mr. A. J. Lamb, A.I.A.A., Incorporated Architect and Estate Surveyor, has removed his offices to 16 Dean Street, Newcastle-on-Tyne, 1.

AUSTRALIAN COLONIAL ARCHITECTURE

A SERIES OF MEASURED DRAWINGS

1: Liverpool Barracks, N.S.W.



THE OLD BARRACKS AT LIVERPOOL N.S.W.
THE NORTH ELEVATION

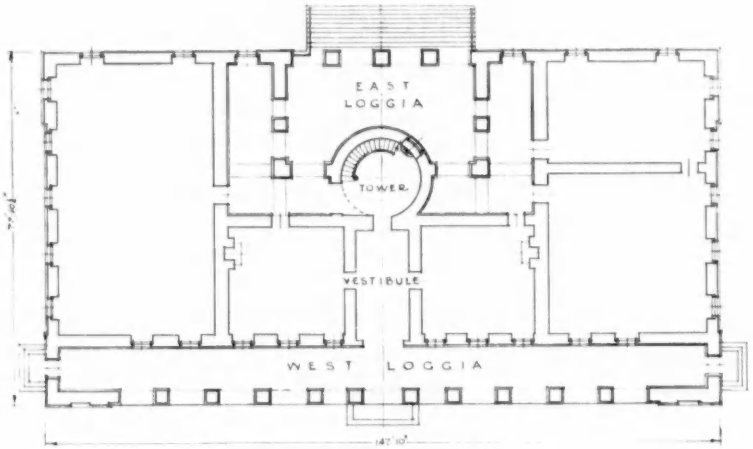
THE early Colonial architecture of Australia appears to be very little known; certainly much less known than the architecture of a corresponding nature in South Africa and the United States of America. Nevertheless Australia has many buildings of the early years of the nineteenth century which show an interesting local application of the style current in England at that time.

A series of measured drawings of a number of these buildings has been made. The first of the series, showing the Old Barracks at Liverpool, New South Wales, is reproduced on this and the following pages. It is intended to give further examples within the next few weeks.

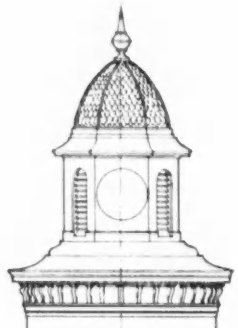
The Old Barracks, now used as a hospital, were designed in 1825 by the State Architect's Department. The building is distinguished by two fine loggias and a tower ninety feet high. The design of the west loggia is worthy of note and shows a rather unusual grouping of arches. The "buttress" effect given to the arcade by the two flanking portions of the façade is interesting. The north elevation shows the typical use of strings, breaks, and false window recesses. The tower (of which the present belfry stage was originally designed for a clock) houses the only staircase that serves the upper floor. The stair is of stone lintels built into the walls and is only 2 ft. 5 ins. wide.

The main doors and the tablet on the west side provide the only ornament on a façade which otherwise owes its success to good proportions and sympathetic use of materials. The door, simple and graceful, shows the favourite Colonial device of the segmental arch. The voussoirs and sash bars are not normal to the curve of the arch, but radiate from a point at the springing.

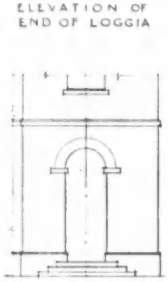
The walls throughout are of a very delightful brick about 9 ins. by 2¾ ins. The voussoirs are bright red and form a strong note against the general orange-red tone of the main brickwork. Trimmings, including the cornice of the tower, are of sandstone. The shaft of the latter is of brick, but has been rendered over at some time, with not unhappy effect. The loggias are floored with sawn stone flags. The main roof is covered with slates, and the bell-shaped dome to the tower with copper on wood framing. All the joinery, like almost all early woodwork in this neighbourhood, is of New South Wales red cedar, a wood of good appearance that is entirely free from tendency to warp. The tablet over the entrance bears an interesting conventionalization of the Royal Crown and is, of course, the mark of a State building.



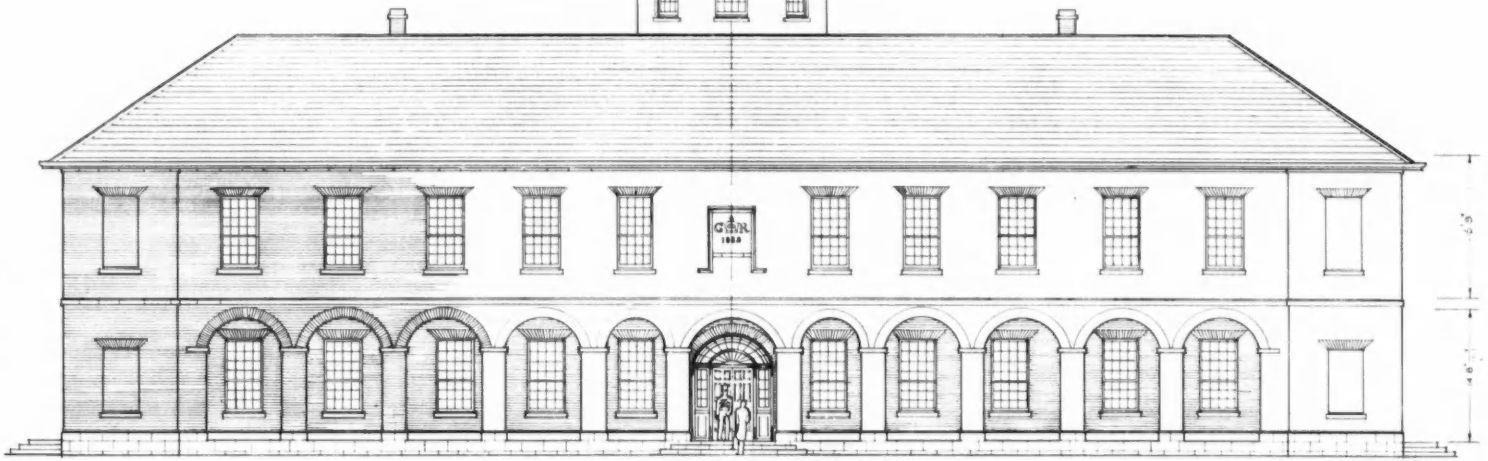
PLAN OF GROUND FLOOR



SECTION ON CENTRE LINE

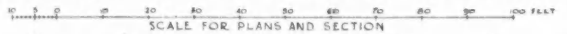


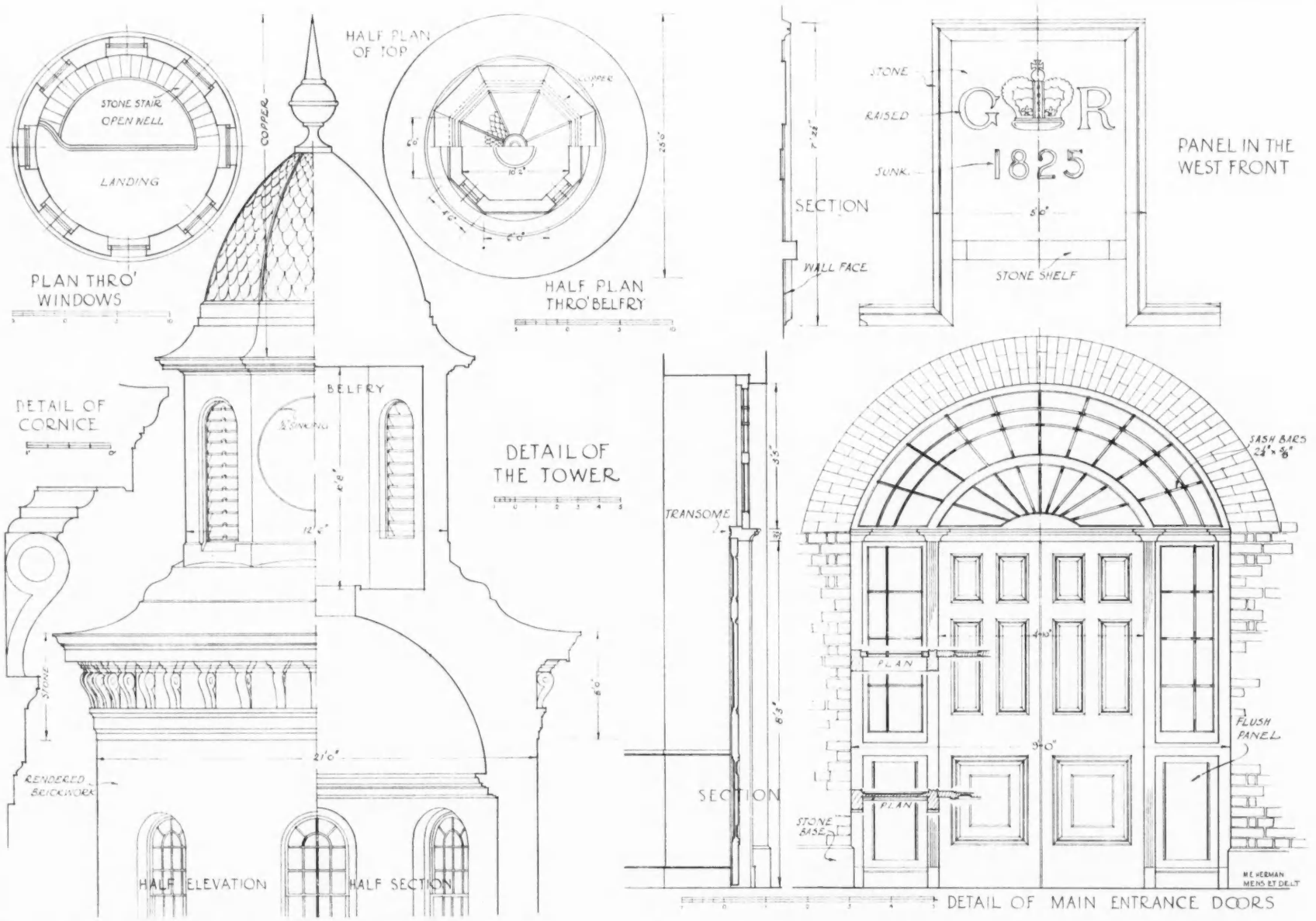
ELEVATION OF END OF LOGGIA



WESTERN ELEVATION

THE OLD BARRACKS AT LIVERPOOL NEW SOUTH WALES

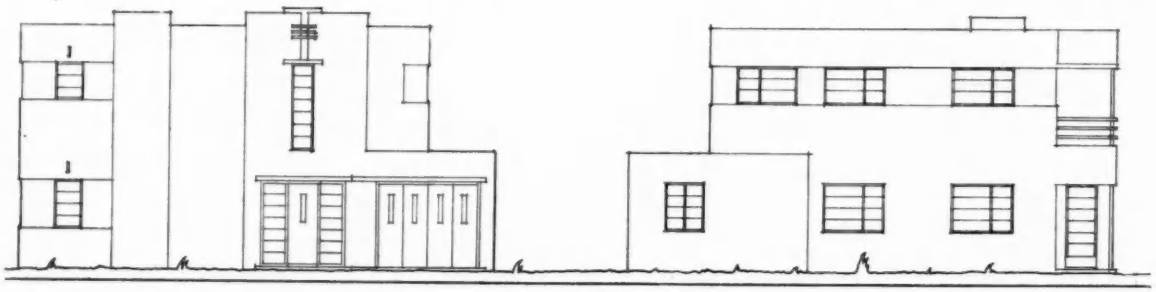




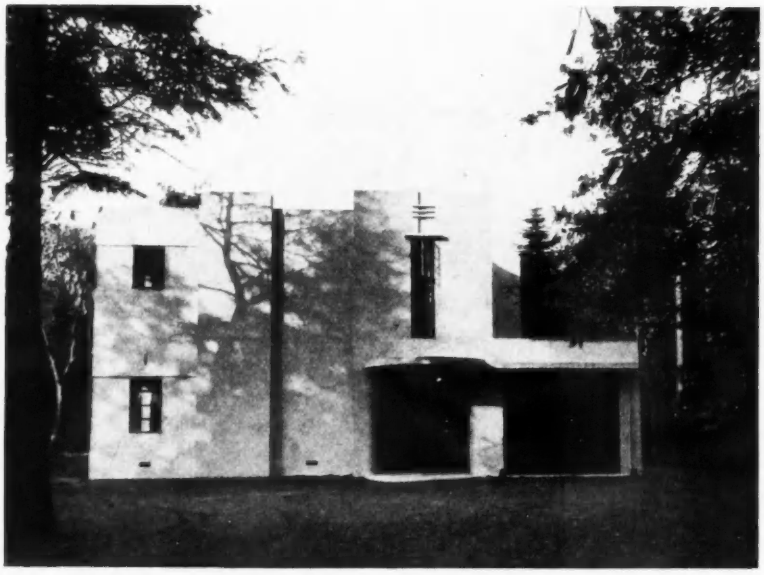
THE OLD BARRACKS, LIVERPOOL, NEW SOUTH WALES

Measured and drawn by M. E. Herman.

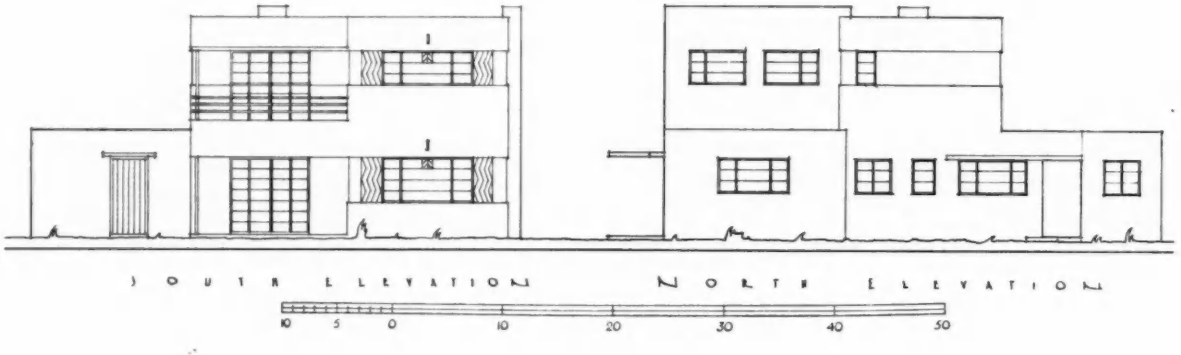
HOUSE AT AYLMERTON, NORFOLK:



EAST ELEVATION WEST ELEVATION



This house is set in a belt of silver fir trees on one of the highest points in Norfolk. The walls are of 11 in. hollow brick, cement rendered. The semicircular hood over the entrance door is constructed of reinforced concrete on a cantilevered steel frame, the hood over the balcony on the south front also being in reinforced concrete, supported at one end by a 2½ in. steel column. Steel windows are used throughout, and the flat roof is covered with asphalt. The photograph above is of the east elevation.

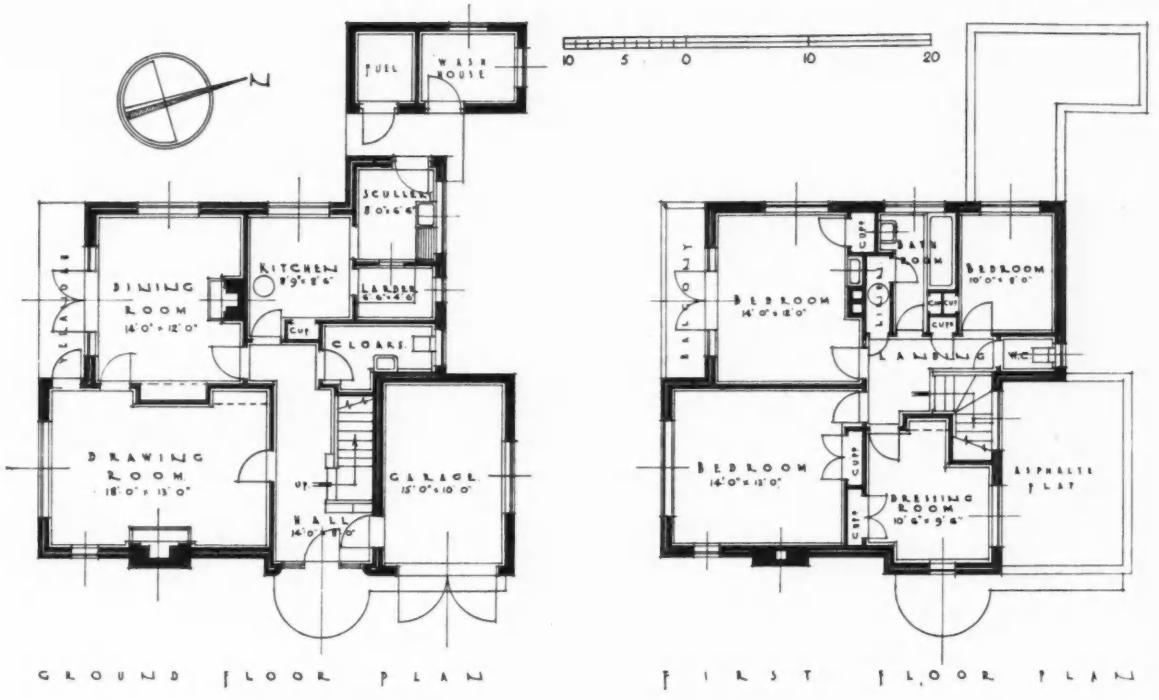


SOUTH ELEVATION NORTH ELEVATION

DESIGNED BY W. F. TUTHILL

The exterior walls are tinted cream, the doors and windows being painted in orange and picked out in warm ivory. Additional interest is given to the verandah and balcony by the bright red columns and railing of cerulean blue. The shutters on the south front are in wood, painted in orange and ivory.

The general colour scheme of orange and ivory is carried out internally, all fittings being in chromium.



LAW REPORT

EASEMENT OR RIGHT OF WAY

Rider and Another v. Spencer and Others.—Chancery Division. Before Mr. Justice Clauson.

THIS was an action by Mr. Sidney Charles Rider and M. Rider, Ltd., of 11 High Street, West Wickham, ladies' outfitters, against Mr. Geo. Ernest Spencer, who bought the Wickham House Estate, and Mr. Howard W. Killick and Mr. Froud W. Knight, estate agents, of 9 High Street, West Wickham, claiming in respect of a passage between the premises, a declaration that their premises were not subject to any easement or right of way or access of light to the adjacent premises of the auctioneers, Knight and Killick.

The defendants' return window was to the left of the intervening passage, and the glass island window and other windows of the plaintiffs', on the other side. The passage way was a cul-de-sac ending at a house door and certain windows in the estate agents' offices.

A board which the plaintiffs had erected to test the question of their right to the passage, had been taken down by the defendants, and an injunction was now also sought to restrain the defendants from trespass and interference.

The fight in the case was over a counter-claim by the estate agents for rectification of the plantiffs' documents to provide for a reservation in favour of the vendor of the rights for which the estate agents were contending. Defendants said that owing to a common mistake and inadvertence, these reservations were not embodied in the conveyance.

Mr. Vaisey, K.C., and Mr. Danckoerts appeared for the plaintiffs, and Mr. Roxburgh, K.C., and Mr. J. L. Stone for the defendants, Spencer and the estate agents.

The case for Spencer and the estate agents was that the Riders purchased subject to an express or implied reservation of the right of way and easement of the occupiers of No. 9 of the passage way in question.

For the Riders it was contended that they bought for £2,200 and that no such reservations as now claimed were ever mentioned. On the contrary, they said that the matter was pointed out to Spencer and that he repeatedly promised to put matters right.

Mrs. Rider gave evidence that she repeatedly complained to Mr. Spencer in regard to the front of the shop and the passage and Mr. Spencer always promised to put matters right.

Mr. Sidney Charles Rider, who said he was in business in the city as a jeweller, stated that no mention was ever made about the alleged right of way in the passage or easement till after the signing of the contract.

Other evidence was called in support of the Riders' case.

His Lordship said in his opinion the Riders were entitled to the declaration and injunction they asked. So far as the claim for damages for encroachment was concerned, that would be dismissed. The counter-claim by Spencer and Killick and Knight would be dismissed, and the costs would be paid by them. In the action he would order the defendants to pay the Riders' costs, less 20 guineas.

His Lordship said it was quite clear that at the time of the conveyance the vendor was not reserving this right and on the question of mutual mistake, the purchasers could not be said to have made a mistake.

SCHOOL PRINCIPALS

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W. S. PURCHON

THE WELSH SCHOOL OF ARCHITECTURE

MR. W. S. PURCHON, M.A., A.R.I.B.A., was appointed Head of the new Department of Architecture and Civic Design at the Technical College, Cardiff, in 1920, after being in charge of the Department of Architecture at Sheffield University since its inception in 1907. During his time at Sheffield the School was granted exemption from the intermediate examination of the R.I.B.A.

The School at Cardiff, now known as the Welsh School of Architecture, has developed under his headship and has at present about forty full time day students taking the complete five years' course and qualifying for exemption from the R.I.B.A. Final examination.

Mr. Purchon has contributed numerous articles on architectural subjects to both technical and non-technical papers and has lectured to most of the allied societies in the country, as well as to many non-architectural bodies and to schools. He is vice-president of the South Wales Institute of Architects, and Hon. Secretary to its Central Branch. He has also taken an active part in the formation of the new Cardiff Civic Society and has recently been elected its first Hon. Secretary.

Since 1913 Mr. Purchon has been a member of the R.I.B.A. Board of Architectural Education, acting as Vice-Chairman during the years 1931-33, when he was also chairman of the Prizes and Scholarships Committee. He is a member of the R.I.B.A. Visiting Board and an examiner for the Intermediate and Final examinations, and on various occasions he has been a member of the juries for R.I.B.A. Prizes, etc., and in connection with the Architects' Registration Act he is a member of the Board of Architectural Education, of the General Purposes Committee and of the Examination Sub-committee.

IN PARLIAMENT

[BY OUR SPECIAL REPRESENTATIVE]

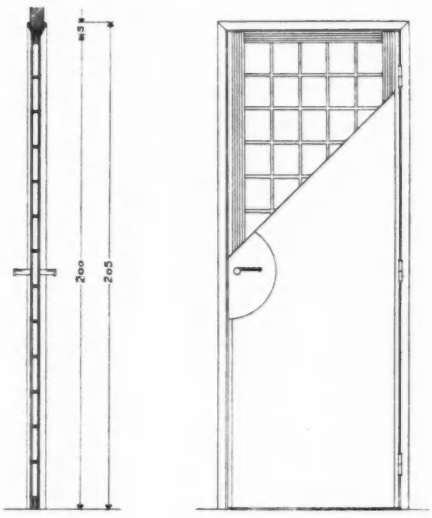
Slum

BEFORE the House of Commons rose for the Christmas adjournment, Mr. Wilmot asked the Minister of Health how many housing authorities in England and Wales had submitted schemes for slum clearance.

Sir Hilton Young said that the number of authorities was 1,717, of whom 1,512 had made returns. The remaining 205 had informed him why they had not yet submitted returns. These cases as well as *nil* returns and the programmes, the adequacy of which was in doubt, were under consideration.

In reply to Mr. D. G. Somerville, Sir Hilton Young said that 655 orders submitted by 153 local authorities in respect of clearance areas had been confirmed. The actual evacuation of houses and the provision of new houses were ordinarily so timed as to make it unnecessary to provide temporary accommodation.

In reply to Mr. Doran, Sir Hilton Young said that he had received a programme from the Hastings Corporation providing for the demolition of 192 slum houses.



TRADE NOTES

[*BY F. R. S. YORKE, A. R. I. B. A.*]

Metal Trim

IN new blocks of flats near Paris, designed by Beaudouin and Lods, the internal partitions are formed from pumice concrete slabs, faced on both sides with veneered plywood sheets. They are pre-fabricated and are supplied finished, so that work on the site amounts only to fitting the panels together, and arranging them around openings.

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It was considered desirable that door frames should be made of a material ensuring accuracy of dimensions, good appearance and great strength in order to withstand wear and knocks; not so much during building operations, since building parts are almost entirely pre-fabricated and transport in barrows eliminated, but later, when the houses are inhabited.

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Consequently, frames pressed from cold sheet steel were selected (see diagram), and in order to ensure perfect fitting, a single firm was engaged to supply doors, frames and hardware. The frame closes like a spring over the extremities of the partition. There is no need for cover in the form of fillets, linings, architraves or other trimmings, and "making good" is eliminated. The partition panel is forced into the frame which clamps it, and the work is completed.

Surface treatment for Aluminium

Notes on the M.B.V. Process for the surface treatment of aluminium and its alloys, which constituted one of the prize-winning essays in the International Aluminium competition, are contained in a brochure issued by the British Aluminium Company.

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The process described is, I believe, a new one so far as this country is concerned, but its simplicity of application and apparent effectiveness as a protective coating, seem to justify its adoption where a durable surface treatment for aluminium is required. Although pure aluminium is highly resistant to chemical action, certain of its alloys are liable to corrosion, and it seems that if the new process can provide substantially increased resistance to attack, its use should extend the possible applications of aluminium, besides prolonging the life of existing work in the material.

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It is well known that aluminium possesses a high chemical resistance, which has resulted in its application in the manufacture of domestic ware, in roofing, and facing work, subjected to unusual atmospheric or humid conditions. For many years engineers have been endeavouring to improve the corrosion resistance of the metal to an even greater extent, either by means of a protective coating, or by alloying it with other metals known to possess greater corrosion resistance than pure aluminium. In particular, the low corrosion resistance of aluminium in contact with salt solutions has retarded the development of light alloys.

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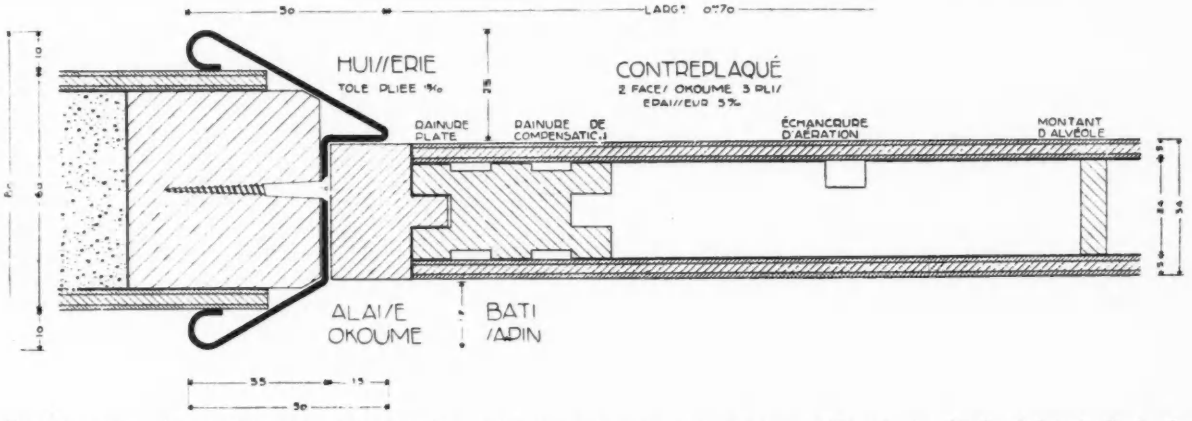
Three years ago Dr. Gustav Eckert, studying the Bauer-Vogel coating process—based upon the treatment of the part concerned, for two to four hours, in a hot solution of potassium carbonate, sodium bi-carbonate, and potassium bi-carbonate—found he was able to modify it to such an extent that sheets, castings and so on, could be given a protective coating, in three to five minutes, that rendered them inert to action by salt water and other chemical agents. By means of a further impregnation, the protective coating could be reinforced. Finally, since the use of a hot solution is sometimes impracticable, a paste having the same composition as the solution was developed, and by this means a coating was obtained, at low temperature,



Pressed steel door frame, designed to spring over plywood-faced pumice-concrete partition, used throughout a block of flats in Paris, by Beaudouin and Lods. The system of construction employed for the doors is shown in detail here and in the headpiece to these notes. The dimensions are in centimetres.

as effective as the hot bath treatment. The process was patented in such a way that its practical applications would not be limited. A number of companies, operating in various fields, both in Germany and abroad, now use this method, which is known generally as the M.B.V. Process.

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The bath is composed of an aqueous solution of anhydrous sodium carbonate and anhydrous sodium chromate, at a temperature of 90/100° C. The aluminium parts to be protected are placed in a solution, which is maintained at boiling point for a period of three to five minutes, and are then washed in water and dried.

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The standard solution has a long life; tests have shown that 38 sq. yds. of surface can be protected with 10 litres (2·2 gallons) of solution. On this basis the cost of material for the treatment of one sq. yd. of surface is approximately 3d.

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Treatment tanks should be of wood, welded sheet iron or enamelled material; but zinc, galvanized or tinned iron cannot be employed. Copper tanks can be used if necessary, but corrosion would be caused after evaporation of part of the water, by the deposition of a soda-containing film; no restrictions govern the method of heating used to maintain the plant at the correct temperature. No preliminary treatment of the articles to be protected is necessary, for, if the surface is oily or greasy, the soda contained in the bath will remove this grease. If however, the parts are very dirty, it is preferable to clean them before oxidation* to avoid too quick a removal of the soda from the bath.

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Where it is not possible to operate the plant at a temperature of 90/100° C. an effective protective coating can be obtained by operating at 30/40° C. for half an hour, at the same time adding 2½ ozs. of caustic soda to each kg. of M.B.V. salts required for standard strength solution. In certain cases a paste is more convenient. This paste is made up from :—

Sodium chromate	10 parts
Anhydrous sodium carbonate	4 „
Caustic soda	4 „
Water	10-15 „

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It is applied by brush, and after 10-15 minutes of application the part concerned may be rinsed in water. This treatment is recommended for the coating of portions of apparatus susceptible to corrosion, or inaccessible parts such as roofing, guttering, etc., or for the treatment of welds. If, for instance, it were not desired to use the large quantity of solution necessary for oxidizing a large welded tank, the component sheets could be oxidized separately in a small treatment tank, and after welding the welds could be treated with paste.

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Mechanical resistance of the film is not exceptionally high, but it will resist the action of ordinary bristle brushes. A secondary treatment, which consists in maintaining the part concerned for fifteen minutes in a 3-5 per cent. solution of sodium silicate at 90° C. followed by rinsing in water, increases the hardness of the coating appreciably and also increases its resistance to corrosive action.

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The film is elastic and cannot be detached by folding, rolling or by pressure. Tests have shown that an M.B.V. protected sheet can be bent at sharp angles, and also submitted to rolling without decreasing the protective action of the film.

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The secondary treatment, giving increased resistance to corrosion is not yet perfected, but the inventor has recently succeeded in increasing the chemical and mechanical resistance of the oxide film by annealing after impregnation with sodium silicate. Whilst the initial coating was attacked by very dilute hydro-sulphurous acid, there was no attack on the annealed sample.

* The term " oxidation " has been adopted, but in reality the action involved is much more complex.

Brighton's Racing Track

The Week-end Review, in a recent issue, condemned the decision of Brighton Town Council to proceed with their scheme of establishing a motor-racing track on the South Downs from the wider viewpoint of planning.

The author of the article pointed out that " Brighton Town Council's decision by a large majority to proceed with the scheme of establishing a motor-racing track on the Downs brings into prominence the failure to devise any adequate machinery for preventing national interests in amenities from being sacrificed to temporary local advantage. Evidently there is a case for equipping this country with one or more first-rate motor-racing tracks. The right way to do this would be to commission some authoritative body to report on how many are really desirable, in the limits of cost, on the requirements in land and other respects, and possibly even to survey half a dozen or a dozen of the most suitable sites. The matter should then come before a national land planning commission, responsible for the permanent co-ordination of all local town and country plans, which would report from the agricultural, industrial, amenity, traffic and population standpoints which of the proposed sites was most suitable. Public opinion and the executive authorities would then have all the cards on the table, and it is safe to say that a decision thus taken would be worth a great deal more than the petty competitive orgies of the Greater Brighton, Greater Skegness, Greater Blackpool and other parochial interests which are now free to lay down redundant motor tracks as fast as redundant greyhound tracks were made a few years ago."

Manufacturers' Items

The India Rubber, Gutta Percha and Telegraph Works Co., Ltd., have just issued a new brochure dealing with their Silvertown rubber floors.

In the foreword it is pointed out that " the increasing popularity of rubber as a floor covering in modern architecture has been created by the demand for a material that can be designed in keeping with the artistic expression of its surroundings, yet providing a floor covering that is hygienic, silent to the tread, and permanent." The firm claim that " Silvertown rubber flooring stands up to the hardest wear, is economical, non-slipping, hygienic, and possesses a silent tread."

The frontispiece to the brochure is a photograph of the rubber floor in the Birbeck Bank (now the Westminster Bank), 329, High Holborn, London, W.C. This floor was laid thirty-six years ago, and is still subjected to heavy banking traffic. Other buildings illustrated, in which Silvertown rubber flooring has been used, include the following: Aldwych House, London, W.C. (Gunton and Gunton, architects); Phœnix Assurance Co., Ltd., King William Street, London, W.C. (Campbell, Jones and Smithers, architects); Lloyds Bank, Sunderland (C. S. Errington, architect); Bradford Corporation Electricity Department, Valley Road Power Station, Bradford (Thomas Roles, engineer); Alliance and Dublin Consumers Gas Co., Dublin (Robinson and Keepe, architects); Maison du Café, Paris (Métrage, architect).

Copies of the brochure are obtainable from the firm at Aldwych House, W.C.2.

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The directors of Callender's Cable and Construction Co., Ltd., have appointed Mr. Harold Fortescue-Flannery, M.B.E., M.I.N.A., an advisory director of the company.

The directors of Callender's Share and Investment Trust, Ltd., have given notice of the redemption of the debenture stock of that Trust on May 31, 1934.

THE BUILDINGS ILLUSTRATED

Following are the names of the general contractors and some of the sub-contractors for the buildings illustrated in this issue :—

King's College Hospital, Medical School Extension (pages 17-20). General contractors, Foster and Dicksee, Ltd., who were also responsible for the hardwood panelling. Sub-contractors: Tees Side Bridge and Engineering Works Ltd., steelwork; Caxton Floors, Ltd., concrete floors and roofs; Henry Hope and Sons, Ltd., metal windows; James Slater & Co. (Engineers) Ltd., heating, hot water, gas and kitchen fittings and ventilation; Dent and Hellyer, Ltd., sanitary fittings, plumbing, drainage, hydrants, cold water service; Tyler and Freeman, Ltd., electrical work; J. P. White and Sons Ltd., flush doors; Etchells, Congdon and Muir, Ltd., lift installation; Best and Lloyd Ltd., and Artifex, Ltd., electric light fittings; James Gibbons, Ltd., ironmongery, chromium plated handrails, brackets and grilles, etc.; Leyland and Birmingham Rubber Co., Ltd., rubber flooring; Stevens and Adams, Ltd., wood flooring; Diespeker & Co., Ltd., terrazzo work; Stoner and Saunders, rain water heads; May Acoustics, Ltd., acoustic plaster; Thomas and Wilson, fibrous plaster, etc.; Haskins, rolling shutters, and glass and metal fittings; Joseph Avery & Co., Ltd., sun blinds; Bratt Colbran & Co., " Heaped " fires; J. W. Gray and Son, Ltd., lighting conductors.

House at Aylmerton (pages 24-25). Sub-contractors: Permanite Asphalte Co., asphalt; Archibald Dawnay and Son, steelwork; Tentest Fibre Board Co., Ltd., ceilings; C. T. Baker Ltd., hot water; Crittall Manufacturing Co., steel windows.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILE RADIUS)

COULSDON. *Houses.* Plans passed by U.D.C. : Six houses, Glen Avenue, for Mr. T. Kirkman ; four houses, Stoats Nest Road, for Messrs. G. Dales, Ltd. : two houses, Melrose Road, for Mr. Victor Hughes ; two houses, St. Andrews Road, for Mr. L. White ; shop and two houses, Stoats Nest Road, for Messrs. Stanford & Co. ; eight houses, St. Andrews Road, for Messrs. Johns and Freeland.

LEWISHAM. *School.* The L.C.C. Education Committee is to erect an elementary school for 1,000 on the Honor Oak housing estate.

MARYLEBONE. *Flats.* Plans passed by the B.C. : Block of flats, Albert Road, for Messrs. Wills and Kaula ; block of flats, Wellington Road and Circus Road, for Messrs. Ward, Hoare and Wheeler ; building, 35-51 Hallam Street, for Mr. R. W. Barton.

SANDERSTEAD. *Houses.* Plans passed : Four houses, Briton Hill Road, for Messrs. Morgan Baines and Clark ; 10 houses, Dulverton Road, for Mr. H. R. Fenn ; 10 houses, The Windings, for Mr. F. C. Woodruff ; two houses, Rectory Park, for Mr. H. P. Hawkes ; 16 houses, The Woodfields, for Mr. F. Sutton Smith ; two houses, Gordon Avenue, for Mr. J. P. Warren : Congregational Church, Sanderstead Hill, for Messrs. Smee and Houchin.

WOODFORD. *Houses.* Plans passed by the U.D.C. : Five houses, Prospect Road ; five shops, Chigwell Road ; four houses, King's Avenue ; 25 houses, Nightingale Farm estate.

SOUTHERN COUNTIES

BOURNEMOUTH. *School.* The Education Committee has approved revised plans of the proposed junior and infants' elementary school at Kinson, and is to seek sanction to borrow £11,200 for the erection of the building.

BOURNEMOUTH. *Houses and Flats.* Plans passed by the Corporation : Four blocks of flats, Gervis Road, for Mr. D. A. Wood ; two houses, Durdells Avenue, for Mr. A. Keniston ; two houses, Christchurch Road, for Mr. H. V. G. Wallis ; six flats, Florence Road, for Mr. C. Hardacre ; 11 houses, Ashford Road, for Mr. J. N. Hardy ; two houses, Linwood Road, for Mr. H. Clark ; two houses, Harewood Avenue, for Mr. A. Laughton ; two houses, Winston Road, for Mr. W. J. Clapcott ; two houses, Howard Road, for Mr. C. B. Philpott ; seven houses, Headswell Crescent, for Mr. Clapcott ; three houses and shops, Coombe Avenue, for Mr. S. G. Ward ; four flats, The Avenue and Arden Roads, for Mr. H. Masters.

BOURNEMOUTH. *Café.* The Corporation has approved revised plans for re-building the East Beach Café, at an estimated cost of £15,000. The accommodation in the proposed new building will be for approximately 500 as against 172 in the existing building, and provision will also be made for the service of refreshments on the roof.

COWES. *Harbour Improvements.* The Cowes (I.O.W.) Harbour Commissioners have prepared a scheme for harbour improvements, at cost of £22,500.

KENLEY. *Houses.* Plans passed : 45 houses, Oaks Road, for Mr. W. J. Burstow.

WORTHING. *Houses, Flats and Shops.* Plans passed by the Corporation : 12 houses, Hayes Road, and 11 houses, Dominion Road, for Messrs. S. W. Phillips & Co. : six houses, Mulberry Lane, for Jeffrey Houses, Ltd. ; two houses, Broomfield Avenue, for Mr. F. Russell Seller : sports pavilion, Warren Road, for Mr. G. B. Bennett ; 33 houses, Bramley Road, and nine elsewhere, for Mr. H. M. Potter ; four houses, George V. Avenue, 14 houses, Broomfield Avenue, and four elsewhere, for Mr. J. E. Lund ; 38 houses, Findon Road, three elsewhere, and five shops and flats, Goring Road, for Mr. M. R. Fletcher ; four houses, Upper Brighton Road, for Mr. F. K. Warren ; two houses, Selsden Way, for T. R. Hyde ; six lock-up shops and nine flats, Rowlands Road, for Mr. H. Weston ; four houses, Malvern Close, for Mr. R. Hasler ; three houses, Salvington Gardens, for Mr. F. Beach ; two houses, Offington Drive, for Mr. L. Daynes Wood : six houses, Sea Place, for Mr. J. A. Lauchlan ; two houses, Wykeham Road, for Mr. W. J. Webb ; three houses, Lime Tree Avenue, for Messrs. Chown and Goudman.

WORTHING. *Development.* The Downlands Estates, Ltd., are to develop 18 acres between Salvington Road and Arundel Road.

WORTHING. *Houses and Shops.* Messrs. Payne and Linfield propose to develop land at Angola Road and Dominion Road, by the erection of 34 houses and seven shops.

MIDLAND COUNTIES

STOKE-ON-TRENT. *Houses.* Plans passed by the Corporation : Two houses, Shelton New Road, for Mr. Jones ; Sunday school, High Street, Hanford, for the trustees of Hanford Methodist Church ; two houses, Levita Road, Oakhill, for Messrs. P. Bailey & Co. ; six houses, Burnhays Road, Burslem, for Mr. W. Barlow ; factory, Brownhills, Tunstall, for Richards Tiles, Ltd. ; two houses, Greasley Road, Abbey Hulton, for Mr. W. Withington ; six houses, Birches Head Lane, for Mr. J. Plant ; shop, Abbots Road, for Burslem and District Co-operative Society, Ltd. ; office block, Whitfield Colliery, for Chatterley-Whitfield Colliery, Ltd. ; two houses, Blurton Road, for Mr. A. Milward ; eight houses, Stuart Avenue, Trentham, for Mr. A. Perry ; six houses, Chatterley Street, Burslem, for Mr. F. Barlow ; four houses, Warrington Road, Bucknall, for Mr. E. Harris ; eight houses, Leek New Road, for Messrs. Leese and Peers ; six houses, Birches Head Lane, for Mr. J. Plant ; two houses and shops, Victoria Square, Fenton, for Col. H. Clive ; two houses, Longton Lane, Blurton, for Mr. F. Muston.

The Corporation Housing Committee is to invite tenders for the erection of 120 houses on the Shelton estate, Stoke.

STOKE-ON-TRENT. *Development.* The Corporation has approved the following development plans : At Hunterscroft, Penkull, for Messrs. Adams and Edwards : Temple Street, Basford, for Mr. Marsden ; Chatterlet Street, Tunstall, for Mr. F. Barlow ; Biddulph Road, Chell, for Mr. T. B. Cartilidge ; Holly Place, Fenton, for Mr. G. F. Whittaker ; Drubbery Lane, Longton, for Messrs. Holloway & Co.

The memorial to George Watt, F.R.I.B.A., which was recently erected in Springbank Cemetery, Aberdeen. Designed by J. Fenton Wyness, A.R.I.B.A., it is of fine-axed Kemnay granite, the letters being cut out and filled in with lead, set flush with the stone.

NORTHERN COUNTIES

BLACKPOOL. *Estate Development.* The Corporation has approved the following development plans : Mr. E. Carpenter, for shops at the corner of Church Street and Grosvenor Street ; Messrs. Hindle and Waterhouse, for the lay-out of Gynn estate ; Mr. R. E. Sumner, for development of land off Devonshire Road.

BLACKPOOL. *Houses.* Plans passed by the Corporation : Seven houses, Clovelly Avenue, for Mr. R. Jackson ; eight houses, Leaford Avenue, for Messrs. J. Fielding and Son ; nine houses, Cambray Road, for Messrs. G. Hodgson and Sons ; six houses, St. Martins Road, for Messrs. Hayes (Blackpool), Ltd. ; eight houses, Holmfield Road, for Messrs. T. and D. Slater ; 64 houses, off Anchorsholme Lane, for Messrs. R. and H. R. Fletcher ; 13 houses, Wycombe Avenue, for Messrs. A. and G. R. Fletcher ; four houses, Cornwall Avenue, for Mr. G. F. Boyce ; four houses, Antrim Road, for Mr. R. Jackson ; two houses, Cornwall Avenue, for Messrs. T. Bannister and Son ; house and shop, Westcliffe Drive, for Mr. N. Rideout ; four houses, off Anchorsholme Lane, for Mr. A. A. Holt ; six houses, Saville Road, for Mr. Ed. Saville ; four houses and shop, Plymouth Road, for Mr. T. E. Mellor ; two houses, Norkeed Road, for Messrs. J. Cryer and Sons ; 22 houses, Shetland Road, for Messrs. J. and W. Omerod ; three houses, Lyndhurst Avenue, for Mr. J. E. Wright ; two houses, Mossom Lane, for Mr. James Fielden ; two houses, Harcourt Road, for Mr. A. Taylor ; eight houses, Leyburn Avenue, for Mr. T. E. Greenwood ; 48 houses, Salmesbury estate, for Mrs. A. Gilbert.

HYDE. *Houses.* Plans passed by the Corporation : 12 houses, Foxholes estate, for Messrs. G. and S. Ridgway ; two houses, Apethorn Lane, for Messrs. F. Booth and Son ; six houses, Junction Street, for International Waste Co., Ltd. ; two houses, Apethorn Lane, for Mr. H. L. Farrer.

SHIPLEY. *Houses.* The U.D.C. has approved a programme for the erection of 300 houses during the next five years.

SOUTH SHIELDS. *Houses, Shops and Flats.* Plans passed by the Corporation : 55 houses, Banbury Terrace, and 12 flats, Morpeth Avenue, for Messrs. Henderson Bros. : shop, Sunderland Road, for Mr. J. E. Mitchinson ; two shops, Prince Edward Road, for Mr. J. Stolliday ; 11 houses, Sunniside Drive, Sunderland Road, for Messrs. J. T. Armstrong and Son ; eight houses, West Avenue, for Messrs. R. Thornton and Son ; five houses, St. Vincent Street, for Mr. F. W. Newby ; seven houses, Cranford Street, for Mr. F. Buffham ; bakehouse, Rutland Street, for Messrs. T. and T. Vicars ; eight houses, Clyvedon Rise, for Mr. Geo. R. Smith ; two shops, Highfield Road, for Col. R. Chapman ; 12 houses, Reading Road, for Mr. R. C. Shewan ; shop, Prince Edward Road, for Mr. W. Ritchie.

TYNEMOUTH. *Houses.* The Tynemouth Corporation has sold building sites on the Balkwell estate to Mr. James Reed for the erection of four houses; to Messrs. G. W. and S. Black for twelve houses; to Mr. J. R. Wallace for six houses.

WAKEFIELD. *Slum Clearance.* The Corporation has adopted a programme of slum clearance for the next five years, as follows : The demolition of 743 houses in 121 areas, and 74 houses by individual demolition, and the erection of 120 houses per annum (100 being of the A3 type).

WALLSEND. *Houses and Flats.* The Corporation is to obtain tenders for the erection of 32 houses and 52 flats, at Archer Street.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I s. d.	II s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A_1	Abergavenny ..	S. Wales & M.	1 5	1 0½
A_3	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1½
A_2	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1½
A	Airdrie ..	Scotland	*1 5½	1 1½
C	Aldeburgh ..	E. Counties	1 1½	10½
A	Altrincham ..	N.W. Counties	1 5½	1 1½
B_2	Appleby ..	N.W. Counties	1 2	10½
A	Ashton-under-Lyne	N.W. Counties	1 5½	1 1½
A_2	Atherstone ..	Mid. Counties	1 4	1 0
B_1	Aylesbury ..	S. Counties	1 2½	11
B_1	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_1	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1½
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow ..	N.W. Counties	1 5½	1 1½
A	Barry ..	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke ..	S.W. Counties	1 3	11½
A_3	Bath	S.W. Counties	1 4	1 0
A	Batley ..	Yorkshire	1 5½	1 1½
A_3	Bedford ..	E. Counties	1 4	1 0
A_2	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_3	Bewdley ..	Mid Counties	1 4½	1 0½
B_2	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	*1 7	1 2½
A	Birmingham ..	Mid. Counties	1 5½	1 1½
A_1	Bishop Auckland	N E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1½
A	Blackpool ..	N.W. Counties	1 5½	1 1½
A	Blyth	N.E. Coast	1 5½	1 1½
B_3	Bognor ..	S. Counties	1 2½	11
A	Bolton ..	N.W. Counties	1 5½	1 1½
A	Boston.. ..	Mid. Counties	1 4	1 0
A	Bournemouth..	S Counties	1 4	1 0
B_3	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1½
A_1	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M.	1 5½	1 1½
B_1	Bridgwater ..	S.W. Counties	1 3	11½
A_1	Bridlington ..	Yorkshire	1 5	1 0½
A	Brighouse ..	Yorkshire	1 5½	1 1½
A_3	Brighton ..	S. Counties	1 4	1 0
A	Bristol ..	S.W. Counties	1 5½	1 1½
B_2	Brixham ..	S.W. Counties	1 2	10½
A_3	Bromsgrove ..	Mid. Counties	1 4½	1 0½
C	Bromyard ..	Mid. Counties	1 1½	10½
A	Burnley ..	N.W. Counties	1 5½	1 1½
A	Burslem ..	Mid. Counties	1 5½	1 1½
A	Burton-on-Trent	Mid. Counties	1 5½	1 1½
A	Bury	N.W. Counties	1 5½	1 1½
A_1	Buxton ..	N.W. Counties	1 5	1 0½
A_2	CAMBRIDGE..	E. Counties	1 4½	1 0½
B_2	Canterbury ..	S. Counties	1 2½	11
A	Cardiff ..	S. Wales & M.	1 5½	1 1½
A	Carlisle ..	N.W. Counties	1 5½	1 1½
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Carnforth ..	N.W. Counties	1 5½	1 1½
A	Castleford ..	Yorkshire	1 5½	1 1½
B	Chatham ..	S. Counties	1 3½	11½
B	Chelmsford ..	E. Counties	1 3½	11½
A_2	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester ..	N.W. Counties	1 5½	1 1½
A	Chesterfield ..	Mid. Counties	1 5½	1 1½
B_2	Chichester ..	S Counties	1 2½	11
A	Chorley ..	N.W. Counties	1 5½	1 1½
B_2	Cirencester ..	S. Counties	1 2½	11
A	Clitheroe ..	N.W. Counties	1 5½	1 1½
A	Clydebank ..	Scotland	1 5½	1 1½
A	Coalville ..	Mid. Counties	1 5½	1 1½
A_1	Colchester ..	E. Counties	1 4	1 0
A	Colne	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_1	Consett ..	N.E. Coast	1 5	1 0½
A_2	Conway ..	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1½
A_2	Crewe ..	N.W. Counties	1 4½	1 0½
A_2	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1½
A	Darwen ..	N.W. Counties	1 5½	1 1½
A_2	Deal	S. Counties	1 2½	11
A_2	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby	Mid. Counties	1 5½	1 1½
A	Dewsbury ..	Yorkshire	1 5½	1 1½
B	Didcot ..	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1½
B_2	Dorchester ..	S.W. Counties	1 2½	11
A_2	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley ..	Mid. Counties	1 5½	1 1½
A	Dundee ..	Scotland	1 5½	1 1½
A	Durham ..	N.E. Coast	1 5½	1 1½
A_2	EASTBOURNE ..	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1½
A_1	E. Glamorgan-shire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter ..	S.W. Counties	*1 4½	1 0½
B_1	Exmouth ..	S.W. Counties	1 3	11½
A_3	FELIXSTOWE	E. Counties	1 4	1 0
A_3	Filey	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1½
B_2	Folkestone ..	S. Counties	1 2½	11
A	Frodsham ..	N.W. Counties	1 5½	1 1½
B_2	Frome ..	S.W. Counties	1 2½	11
A	GATESHEAD	N.E. Coast	1 5½	1 1½
B	Gillingham ..	S. Counties	1 3½	11½
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole	Yorkshire	1 4½	1 0½
A_2	Gosport ..	S. Counties	1 4	1 0
A_2	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0½
A	Greenock ..	Scotland	*1 5½	1 1½
A	Grimsby ..	Yorkshire	1 5½	1 1½
B_1	Guildford ..	S. Counties	1 3	11½
A	HALIFAX ..	Yorkshire	1 5½	1 1½
A	Hanley ..	Mid. Counties	1 5½	1 1½
A	Harrogate ..	Yorkshire	1 5½	1 1½
A	Hartlepools ..	N.E. Coast	1 5½	1 1½
B	Harwich ..	S. Counties	1 3½	11½
B_2	Hastings ..	S. Counties	1 2½	11
A_3	Hatfield ..	S. Counties	1 4	1 0
B	Hereford ..	S.W. Counties	1 3½	11½
A_3	Hertford ..	E. Counties	1 4	1 0
A	Heysham ..	N.W. Counties	1 5½	1 1½
A	Howden ..	N.E. Coast	1 5½	1 1½
A	Huddersfield ..	Yorkshire	1 5½	1 1½
A	Hull	Yorkshire	1 5½	1 1½
A	ILKLEY ..	Yorkshire	1 5½	1 1½
A	Immingham ..	Mid. Counties	1 5½	1 1½
A_3	Ipswich ..	E. Counties	1 4	1 0
B_2	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1½
A	KEIGHLEY ..	Yorkshire	1 5½	1 1½
B	Kendal ..	N.W. Counties	1 3½	11½
B	Keswick ..	N.W. Counties	1 3½	11½
A	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster	Mid. Counties	1 4½	1 0½
B_2	King's Lynn ..	E. Counties	1 2½	11
A	LANCASTER..	N.W. Counties	1 5½	1 1½
A_1	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester ..	Mid. Counties	1 5½	1 1½
A	Leigh	N.W. Counties	1 5½	1 1½
B_2	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln ..	Mid. Counties	1 5½	1 1½
	Liverpool ..	N.W. Counties	*1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly ..	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12-15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1½
A	Loughborough	Mid. Counties	1 5½	1 1½
A_2	Luton	E. Counties	1 4	1 0
A	Lytham ..	N.W. Counties	1 5½	1 1½
A_1	MACCLES-FIELD	N.W Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11½
A_2	Malvern ..	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1½
A	Mansfield ..	Mid. Counties	1 5½	1 1½
B_1	Margate ..	S. Counties	1 3	11½
A_2	Matlock ..	Mid. Counties	1 4	1 0
A_1	Merthyr ..	S. Wales & M.	1	1 0½
A	Middlesbrough	N. E. Coast	1 5½	1 1½
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1 2½	11
A	Morecambe ..	N.W. Counties	1 5½	1 1½
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M	1 5½	1 1½
A	Nelson	N.W. Counties	1 5½	1 1½
A	Newcastle ..	N.E. Coast	1 5½	1 1½
A	Newport ..	S. Wales & M.	1 5½	1 1½
A	Normanton ..	Yorkshire	1 5½	1 1½
A_1	Northampton ..	Mid. Counties	1 5	1 0½
A	North Staffs. ..	Mid. Counties	1 5½	1 1½
A	North Shields ..	N.E. Coast	1 5½	1 1½
A_2	Norwich ..	E. Counties	1 4½	1 0½
A	Nottingham ..	Mid. Counties	1 5½	1 1½
A	Nuneaton ..	Mid. Counties	1 5½	1 1½
A_2	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham ..	N.W. Counties	1 5½	1 1½
A_2	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford ..	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	*1 5½	1 1½
B_2	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth	Scotland	*1 5½	1 1½
A_2	Peterborough	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	*1 5½	1 1½
A	Pontefract ..	Yorkshire	1 5½	1 1½
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_3	Portsmouth ..	S. Counties	1 4	1 0
A	Preston ..	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate ..	S. Counties	1 3½	11½
A_2	Retford ..	Mid Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A_2	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1½
B	Rochester ..	S. Counties	1 3½	11½
A_1	Ruabon ..	N.W. Counties	1 5	1 0½
A	Rugby ..	Mid. Counties	1 5½	1 1½
A_3	Rugeley ..	Mid. Counties	1 4	1 0
A	Runcorn ..	N.W. Counties	1 5½	1 1½
A_2	ST. ALBANS ..	E. Counties	1 4½	1 0½
A	St. Helens ..	N.W. Counties	1 5½	1 1½
B_2	Salisbury ..	S.W. Counties	1 2	10½
A_1	Scarborough ..	Yorkshire	1 5	1 0½
A	Scunthorpe ..	Mid. Counties	1 5½	1 1½
A	Sheffield ..	Yorkshire	1 5½	1 1½
A	Shipley ..	Yorkshire	1 5½	1 1½
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton ..	Yorkshire	1 4½	1 0½
A_3	Slough ..	S. Counties	1 4	1 0
A_2	Solihull ..	Mid. Counties	1 4½	1 0½
A_2	Southampton ..	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport ..	N.W. Counties	1 5½	1 1½
A	S. Shields ..	N.E. Coast	1 5½	1 1½
A_2	Stafford ..	Mid. Counties	1 4½	1 0½
A	Stockport ..	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud ..	S.W. Counties	1 3½	11½
A	Sunderland ..	N.E. Coast	1 5½	1 1½
A	Swadlincote ..	Mid. Counties	1 5½	1 1½
A	Swansea ..	S. Wales & M.	1 5½	1 1½
A_3	Swindon ..	S.W. Counties	1 4	1 0
A	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton ..	S.W. Counties	1 3½	11½
A	Teesside Dist...	N.E. Counties	1 5½	1 1½
A_3	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1½
A_1	Torquay ..	S.W. Counties	1 5	1 0½
C	Truro	S.W. Counties	1 1½	10½
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall ..	Mid. Counties	5½	1½
A	Tyne District ...	N. E. Coast	1 5½	1½
A	WAKEFIELD	Yorkshire	1 5½	1 1½
A	Walsall ..	Mid. Counties	1 5½	1 1½
A	Warrington ..	N.W. Counties	1 5½	1 1½
A_1	Warwick ..	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid. Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby ..	Yorkshire	1 4½	1 0½
A	Widnes ..	N.W. Counties	1 5½	1 1½
A	Wigan ..	N.W. Counties	1 5½	1 1½
B_1	Winchester ..	S. Counties	1 3	11½
A_2	Windsor ..	S. Counties	1 4	1 0
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_2	Worksop ..	Yorkshire	4	1 0
A_1	Wrexham ..	N.W. Counties	5	1 0½
A_2	Wycombe ..	S. Counties	4	1 0
B_1	YARMOUTH ..	E. Counties	1 3	11½
B_1	Yeovil ..	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	1 1½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London Area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	£ s. d.
Bricklayer . . . . per hour	1 7
Carpenter . . . . . "	1 7
Joiner . . . . . "	1 7
Machinist . . . . . "	1 8
Mason (Banker) . . . . "	1 7
" (Fixer) . . . . "	1 8
Plumber . . . . . "	1 7
Painter . . . . . "	1 6
Paperhanger . . . . . "	1 6
Glazier . . . . . "	1 7
Slater . . . . . "	1 7
Scaffolder . . . . . "	1 3
Timberman . . . . . "	1 3
Navvy . . . . . "	1 2½
General Labourer . . . . "	1 2½
Lorryman . . . . . "	1 8
Crane Driver . . . . . "	1 6
Watchman . . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£ s. d.
Grey Stone Lime . . . . per ton	2 2 0
Blue Lias Lime . . . . "	1 16 6
Hydrated Lime . . . . "	3 0 9
Portland Cement . . . . "	2 6 0
Rapid Hardening Cement . . "	2 13 6
White Portland Cement . . "	8 15 0
Thames Ballast . . . . per Y.C.	6 3
¾" Crushed Ballast . . . "	6 9
Building Sand . . . . "	7 3
Washed Sand . . . . "	8 3
2" Broken Brick . . . . "	8 0
¾" " " . . . "	10 3
Pan Breeze . . . . . "	6 6
Coke Breeze . . . . . "	8 9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

	4" s. d.	6" s. d.
Straight Pipes . . per F.R.	0 9	1 1
Bends . . . each	1 9	2 6
Taper Bends . . . "	3 6	5 3
Rest bends . . . "	4 3	6 3
Single junctions . . "	3 6	5 3
Double " . . "	4 9	6 6
Straight channels . per F.R.	1 6	2 6
½" Channel bends. . each	2 9	4 0
Channel junctions . "	4 6	6 6
Channel tapers . . "	2 9	4 0
Yard gullies . . "	6 9	8 9
Interceptors . . "	16 0	19 6

IRON DRAINS:

	£ s. d.
Iron drain pipe . . per F.R.	1 6 2 6
Bends . . . each	5 0 10 6
Inspection bends . . "	9 0 15 0
Single junctions . . "	8 9 18 0
Double junctions . . "	13 6 30 0
Lead wool . . . lb.	6 —
Gaskin . . . "	5 —

BRICKLAYER

	£ s. d.
Flettons . . . . . per M.	2 18 0
Grooved do. . . . . "	3 0 0
Phorpres bricks . . . . "	2 18 0
Stocks, 1st quality . . . "	4 11 0
" 2nd " . . . "	4 2 6
Blue Bricks, Pressed . . . "	8 17 6
" Wirecuts . . . "	7 17 6
" Brindles . . . "	7 0 0
" Bullnose . . . "	9 0 0
Red Sand-faced Facings . . "	6 18 6
Red Rubbers for Arches. . . "	12 0 0
Multicoloured Facings . . "	7 10 0
Luton Facings . . . . "	7 10 0
Phorpres White Facings . . "	3 17 3
Phorpres Rustic Facings . . "	3 12 3
Midhurst White Facings . . "	5 0 0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:	
Stretchers . . . . . "	21 0 0
Headers . . . . . "	20 10 0
Bullnose . . . . . "	27 10 0
Double Stretchers . . . "	29 10 0
Double Headers . . . "	26 10 0
Glazed Second Quality, *Less* . "	1 0 0
" Buffs and Creams, *Add* . "	2 0 0
" Other Colours . . "	5 10 0
4" Breeze Partition Blocks . . per Y.S.	1 7
2½" " " " . . "	1 10
3" " " " . . "	2 1
4" " " " . . "	2 6

MASON

The following d/d F.O.R. at Nine Elms:	s. d.
Portland stone, Whitbed . . F.C.	4 4½
" " Basebed . . "	4 9
Bath stone . . . . "	2 11
York stone . . . . "	0 6
" " Sawn templates . . "	7 6
" " Paving, 2" . . . F.S.	1 8
" " " 3" . . . "	2 6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station:

	£ s. d.
24" × 12" Duchesses . . . per M.	28 17 6
22" × 12" Marchionesses . . "	24 10 0
20" × 10" Countesses . . "	19 5 0
18" × 10" Viscountesses . . "	15 10 0
18" × 9" Ladies . . . "	13 17 6
Westmorland green (random sizes). per ton	8 10 0
Old Delabole slates d/d in full truck loads to Nine Elms Station:	
20" × 10" medium grey per 1,000 (actual)	21 11 6
" green " "	24 7 4
Best machine roofing tiles . . "	4 10 0
Best hand-made do. . . . "	5 0 0
Hips and valleys . . . . each	9½
" hand-made . . . . "	10
Nails, compo . . . . lb.	1 4
" copper . . . . "	1 6

CARPENTER AND JOINER

	s. d.
Good carcassing timber . . F.C.	2 2
Birch . . . . as 1" F.S.	9
Deal, Joiner's . . . " "	5
" " 2nds . . " "	4
Mahogany, Honduras . . " "	1 3
" African . . " "	1 1
" Cuban . . " "	2 6
Oak, plain American . . " "	1 0
" Figured " . . " "	1 3
" Plain Japanese . . " "	1 2
" Figured " . . " "	1 5
" Austrian wainscot . . " "	1 6
" English . . . " "	1 11
Pine, Yellow . . . " "	1 0
" Oregon . . . " "	4
" British Columbian . . " "	4
Teak, Moulmein . . . " "	1 3
" Burma . . . " "	1 2
Walnut, American . . . " "	2 3
" French . . . " "	2 3
Whitewood, American . . " "	1 1

Deal floorings,		£ s. d.
	¾" . . . Sq.	18 6
	1" . . . "	1 1 5
	1" . . . "	1 2 0
	1¼" . . . "	1 5 0
	1½" . . . "	1 10 0
Deal matchings	¾" . . . "	14 0
	1" . . . "	15 6
Rough boarding	¾" . . . "	1 4 0
	1" . . . "	16 0
	1¼" . . . "	18 0
Plywood, per ft. sup.		1 6 0

Thickness	¼"	½"	¾"	1"
Qualities	AA. A. B.	AA. A. B.	AA. A. B.	AA. A. B.
	d. d. d.	d. d. d.	d. d. d.	d. d. d.
Birch	4 3 2	5 4 3	7½ 6 4½	8½ 7 6
Alder	3½ 3 2	5 4 3	6½ 5½ 4½	8 7 6
Gaboon Mahogany	4 3 3	6½ 5½ 4½	9½ 7½ –	1/0½ 10 –
Figured Oak 1 side	8½ 7 –	10 8 –	11½ – –	1/6 – –
Plain Oak 1 side	6½ 6 –	7½ 7 –	9½ – –	1/– – –
Oregon Pine	5 4 –	5½ 5 –	6 – –	– – –

	£ s. d.
Scotch glue . . . . . lb.	8

SMITH AND FOUNDER

Tubes and Fittings:
(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	¼"	½"	1"	1½"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9
" 3"-11½" long "	7	9	1/3	1/8	3/–
Long screws, 12"-23½" long "	11	1/3	2/2	2/10	5/3
" " 3"-11½" long "	8	10	1/5	1/11	3/6
Bends . . . . "	8	11	1/7½	2/7½	5/2
Springs not socketed . "	5	7	1/1½	1/11½	3/11
Socket unions . . "	2/–	3/–	5/6	6/9	10/–
Elbows, square . . "	10	1/1	1/6	2/2	4/3
Tees . . . . "	1/–	1/3	1/10	2/6	5/1
Crosses . . . "	2/2	2/9	4/1	5/6	10/6
Plain Sockets and nipples "	3	4	6	8	1/3
Diminished sockets . "	4	6	9	1/–	2/–
Flanges . . . "	9	1/–	1/4	1/9	2/9
Caps . . . . "	3½	5	8	1/–	2/–
Backnuts . . . "	2	3	5	6	1/1
Iron main cocks . "	1/6	2/3	4/2	5/4	11/6
" " with brass plugs "	—	4/–	7/6	10/–	21/–

Discounts:

TUBES.	Per cent.		Per cent.
Gas . . .	05	Galvanized gas .	52½
Water . . .	01½	" water	47½
Steam . . .	57½	" steam	42½
FITTINGS.			
Gas . . .	57½	Galvanized gas .	47½
Water . . .	52½	" water	42½
Steam . . .	47½	" steam	37½

SMITH AND FOUNDER—*continued*

	s. d.
Rolled steel joists cut to length . . cwt.	10 9
Mild steel reinforcing rods, ¾" . . "	8 6
" " ½" . . "	8 3
" " ⅝" . . "	8 0
" " ¾" . . "	7 6
" " ⅞" . . "	7 6
" " 1" . . "	7 6
" " 1¼" . . "	7 6
" " 1½" . . "	7 6

Cast-iron rain-water pipes of	3" s. d.	4" s. d.
ordinary thickness metal .	F.R. 8	10
Shoes	each 2 0	3 0
Anti-splash shoes . .	" 4 6	8 0
Boots	" 3 0	4 0
Bends	" 2 7	3 9
" with access door .	" —	6 3
Heads	" 4 0	5 0
Swan-necks up to 9" offsets .	" 3 9	6 0
Plinth bends, 4½" to 6" .	" 3 9	5 3
Half-round rain-water gutters of ordinary thickness metal	F.R. 5	6
Stop ends	each 0	6
Angles	" 1 7	1 11
Obtuse angles . . .	" 2 0	2 6
Outlets	" 1 9	2 3

PLUMBER

	£ s. d.
Lead, milled sheets . . . cwt.	1 0 0
" drawn pipes . . . "	17 6
" soil pipe . . . "	1 0 6
" scrap . . . "	11 0
Solder, plumbers' . . . lb.	10
" fine do. . . . "	1 0
Copper, sheet . . . "	8½
" tubes . . . "	11

L.C.C. soil and waste pipes:	3"	4"	6"
Plain cast . . F.R.	1 0	1 2	2 6
Coated . . "	1 1	1 3	2 8
Galvanized . . "	2 0	2 6	4 6
Holderbats . . each	3 10	4 0	4 9
Bends . . "	3 9	5 3	10 3
Shoes . . "	2 10	4 4	9 6
Heads . . "	4 8	8 5	12 9

PLASTERER

	£ s. d.
Lime, chalk . . . per ton	2 5 0
Plaster, coarse . . . "	2 10 0
" fine . . . "	4 15 0
Hydrated lime . . . "	3 0 9
Sirapite . . . . "	3 6 0
Keene's cement . . . "	3 0 0
Sand, washed . . . Y.C.	11 6
Hair . . . . lb.	6
Laths, sawn . . . bundle	2 4
" rent . . . "	3 9
Lath nails . . . lb.	3½

GLAZIER

	s. d.	s. d.
Sheet glass, 21 oz., squares n/e 2 ft.	s. F.S.	2½
" " 26 oz. " " " "		3¼
Arctic glass, white . . . "		7
Cathedral glass, white, dbl.-rolled, plain, hammered, rimpled, waterwite,		6½
¼" Hartley's rough rolled . . "		7
¼" " wired cast . . "		10
¼" Georgian wired cast . . "		11
¼" Polished plate, n/e 1 ft. . "	†7½ to ‡1	0
" " 2 . "	†10 " ‡1	3½
" " 3 . "	†1 4½ " ‡1	10
" " 4 . "	†1 11 " ‡2	4
" " 6 . "	†2 3 " ‡2	7½
" " 8 . "	†2 5 " ‡3	0½
" " 12 . "	†2 10 " ‡3	3½
" " 20 . "	†3 3½ " ‡3	9
" " 45 . "	†3 6½ " ‡4	0½
" " 65 . "	†3 11½ " ‡4	4
" " 90 . "	†4 4 " ‡4	9
" " 100 . "	†4 6 " ‡4	11
Vita glass, sheet, n/e 1 ft. . "		1 0
" " " 2 . "		1 3
" " " over 2 . "		1 9
" " plate, n/e 1 ft. . "		1 6
" " " 2 . "		3 0
" " " 5 . "		4 0
" " " 7 . "		5 0
" " " 15 . "		6 0
" " " over 15 . "		7 0
Putty, linseed oil . . . lb.		3

†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

	£ s. d.
White lead . . . . cwt.	2 8 0
Linseed oil . . . . gall.	2 2½
Boiled oil . . . . "	2 4½
Turpentine . . . . "	4 1½
Patent knotting . . . "	14 0
Distemper, washable . . cwt.	2 6 0
" ordinary . . . "	2 0 0
Whitening . . . . "	4 0
Size, double . . . firkin	3 0
Copal varnish . . . gall.	13 0
Flat varnish . . . "	14 0
Outside varnish . . . "	10 0
White enamel . . . "	1 15 0
Ready-mixed paint . . "	13 6
Brunswick black . . "	7 6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR		£ s. d.
Digging over surface n/e 12" deep and cart away	Y.S.	2 9
" to reduce levels n/e 5' 0" deep and cart away	Y.C.	8 6
" to form basement n/e 5' 0" deep and cart away	"	9 0
" " 10' 0" deep and cart away	"	9 6
" " 15' 0" deep and cart away	"	10 0
If in stiff clay	add "	2 6
If in underpinning	" "	4 0
Planking and strutting to sides of excavation	F.S.	1 0
" " to pier holes	"	5
" " to trenches	"	5
" " extra, only if left in	"	3
Hardcore, filled in and rammed	Y.C.	10 0
Portland cement concrete in foundations (6-1)	"	1 6 0
" " (4-2-1)	"	1 12 6
" " underpinning	"	1 16 0
Finishing surface of concrete, spade face	Y.S.	7

DRAINLAYER		4" s. d.	6" s. d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1 6	2 3
Extra, only for bends	Each	2 8	3 9
" junctions		3 9	4 6
Gullies and gratings	"	16 6	18 0
Cast iron drains, and laying and jointing	F.R.	4 9	6 9
Extra, only for bends	Each	10 6	15 6

BRICKLAYER		£ s. d.
Brickwork, Flettons in lime mortar	Per Rod	27 10 0
" " in cement	"	28 15 0
" Stocks in cement	"	35 0 0
" Blues in cement	"	52 0 0
Extra only for circular on plan	"	2 0 0
" backing to masonry	"	1 10 0
" raising on old walls	"	2 0 0
" underpinning	"	5 10 0
Fair Face and pointing internally	F.S.	1½
Extra over fletton brickwork for picked stock facings and pointing	"	8½
" " " red brick facings and pointing	"	11
" " " blue brick facings and pointing	"	1 4
" " " glazed brick facings and pointing	"	3 6
Tuck pointing	"	7
Weather pointing in cement	"	3½
Slate dampcourse	"	10
Vertical dampcourse	"	1 1

ASPHALTER		s. d.
½" Horizontal dampcourse	Y.S.	4 6
½" Vertical dampcourse	"	6 9
½" paving or flat	"	4 0
1" paving or flat	"	5 6
1" × 6" skirting	F.R.	1 0
Angle fillet	"	2
Rounded angle	"	2
Cesspools	Each	5 0

MASON		s. d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C.	17 9
Bath stone and do., all as last	"	13 6
Artificial stone and do.	"	13 0
York stone templates, fixed complete	"	10 6
" thresholds	"	13 6
" sills	"	1 0 6

SLATER AND TILER		£ s. d.
Slating, Bangor or equal, laid to a 3" lap, and fixing with compo nails, 20" × 10"	Sqr.	3 10 0
Do., 18" × 9"	"	3 7 0
Do., 24" × 12"	"	3 17 0
Westmorland slating, laid with diminished courses	"	6 0 0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course	"	3 0 0
Do., all as last, but of machine-made tiles	"	2 16 0
20" × 10" medium Old Delabole slating, laid to a 3" lap (grey)	"	4 6 6
" " " " " " (green)	"	4 15 0

CARPENTER AND JOINER		£ s. d.
Flat boarded centering to concrete floors, including all strutting	Sqr.	2 5 0
Shuttering to sides and soffits of beams	F.S.	8
" to stanchions	"	8
" to staircases	"	1 8
Fir and fixing in wall plates, lintols, etc.	F.C.	3 9
Fir framed in floors	"	4 6
" " roofs	"	6 0
" " trusses	"	7 6
" " partitions	"	8 6
⅞" deal sawn boarding and fixing to joists	Sqr.	1 14 6
1" " " " "	"	1 17 6
1½" " " " "	"	2 3 0
2" × 2" fir battening for Countess slating	"	9 6
Do. for 4" gauge tiling	"	12 0
Stout feather-edged tilting fillet	F.R.	4½
Patent inodorous felt, 1 ply	Y.S	2 3
" " " 2 "	"	2 9
" " " 3 "	"	3 3
Stout herringbone strutting to 9" joists	F.R.	10½
1" deal gutter boards and bearers	F.S.	1 2
1½" " " " "	"	1 6
⅞" deal wrought rounded roll	F.R.	8
" deal grooved and tongued flooring, laid complete, including cleaning off	Sqr.	2 1 0
1¼" do.	"	2 10 0
1½" do.	"	2 17 0
1" deal moulded skirting, fixed on, and including grounds plugged to wall	F.S.	1 6
1¼" do.	"	1 9

CARPENTER AND JOINER—*continued*		s. d.
1¼" deal moulded sashes of average size	F.S.	1 0½
2" " " "	"	1 11½
1½" deal-cased frames, double hung, of 6" × 3" oak sills, 1¼" pulley stiles, 1¼" heads, 1" inside and outside linings, ⅞" parting beads, and with brass-faced axle pulleys, etc., fixed complete	"	3 7
2" " " "	"	3 10
Extra only for moulded horns	Each	0
1¼" deal four-panel square, both sides, door	F.S.	2 0
2" " " "	"	2 8
1¼" " but moulded both sides	"	2 4
2" " " "	"	3 0
4" × 3" deal, rebated and moulded frames	F.R.	1 0
4½" × 3½" " " "	"	1 4
1¼" deal tongued and moulded window-board, on and including deal bearers	F.S.	1 9
1¼" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	"	2 6
1¼" deal moulded wall strings	"	2 1
1¼" " outer strings	"	2 4
Ends of treads and risers housed to string	Each	1 9
3" × 2" deal moulded handrail	F.R.	1 3
1" × 1" deal balusters and housing each end	Each	2 0
1½" × 1½" " " "	"	2 9
3" × 3" deal wrought framed newels	F.R.	1 3
Extra only for newel caps	Each	6 0
Do., pendants	"	6 0

SMITH AND FOUNDER		£ s. d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt.	15 6
Riveted plate or compound girders, and hoisting and fixing in position	"	19 6
Do. stanchions with riveted caps and bases and do.	"	19 0
Mild steel bar reinforcement, ½" and up, bent and fixed complete	"	17 6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S.	11
Wrot-iron caulked and cambered chimney bars	Per cwt.	1 10 0

PLUMBER		£ s. d.
Milled lead and labour in flats, gutters, etc.	Per cwt.	1 14 0
Do. in flashings	"	1 17 6
Do. in covering to turrets, etc.	"	2 3 6
Do. in soakers	"	1 9 6
Labour to welted edge	F.R.	3½
Open copper nailing	"	3½
Close " "	"	4½

	½" s. d.	¾" s. d.	1" s. d.	1¼" s. d.	2" s. d.	4" s. d.
Lead service pipe and fixing with pipe hooks F.R.	1 0	1 2	1 5	2 1	3 0	—
Do. soil pipe and fixing with cast lead tacks	—	—	—	—	—	5 9
Extra, only to bends Each	—	—	—	—	2 3	6 3
Do. to stop ends "	0½	8	9	11	1	—
Boiler screws and unions "	3 3	3 9	5 0	8 0	—	—
Lead traps "	—	—	—	6 3	8 9	—
Screw down bib valves "	6 9	9 6	11 0	—	—	—
Do. stop cocks "	9 0	11 0	14 6	20 6	47 0	—

		£ s. d.
4" cast-iron ½-rd. gutter and fixing	F.R.	1 0
Extra, only stop ends	Each	1 0
Do. angles	"	1
Do. outlets	"	9
4" dia. cast-iron rain-water pipe and fixing with ears cast on	F.R.	1 2
Extra, only for shoes	Each	1 3
Do. for plain heads	"	5 6

PLASTERER AND TILING		s. d.
Expanded metal lathing, small mesh	Y.S.	2 3
Do. in n/w to beams, stanchions, etc.	"	3 6
Lathing with sawn laths to ceilings	"	1 4
½" screeding in Portland cement and sand for tiling, wood block floor, etc.	"	1 8
Do. vertical	"	2 1
Rough render on walls	"	1 3
Render, float and set in lime and hair	"	1 11
Render and set in Sirapite	"	2 1
Render, backing in cement and sand, and set in Keene's cement	"	2 10
Extra, only if on lathing		4
Keene's cement, angle and arris	F.R.	6
Arris	"	2
Rounded angle, small	"	3
Plain cornices in plaster, including dubbing out, per 1" girth	"	1½
1" granolithic pavings	Y.S.	3 0
1½" " " "	"	4 0
6" × 6" white glazed wall tiling and fixing on prepared screed	"	17 0
9" × 3" " " " "	"	1 2 0
Extra, only for small quadrant angle	F.R.	8

GLAZIER		s. d.
21 oz. sheet glass and glazing with putty	F.S.	7¼
26 oz. do. and do.	"	8¼
Arctic glass and glazing with putty	"	1 1
Cathedral glass and do.	"	1 2
Glazing only, British polished plate	"	7
Extra, only if in beads	"	2
Washleather	F.R.	4

PAINTER		s. d.
Clearcolle and whiten ceilings	Y.S.	6½
Do. and distemper walls	"	9
Do. with washable distemper	"	1 1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	"	3 3
Do. on woodwork	"	3 6
Do. on steelwork	"	3 0
Do. and brush grain and twice varnish	"	5 6
Stain and twice varnish woodwork	"	1 11
Stain and wax-polish woodwork	"	4 6
French polishing	F.S.	1 2
Stripping off old paper	Piece	2 6
Hanging ordinary paper	from "	2 9

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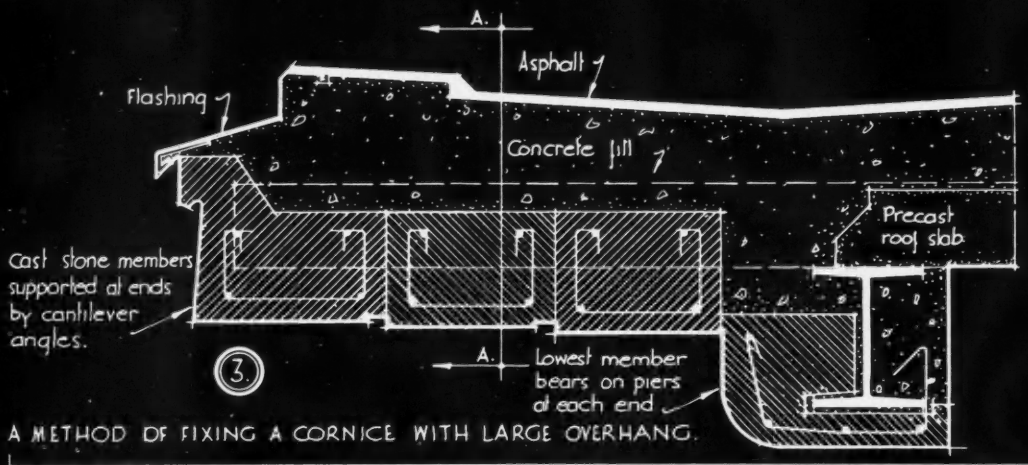
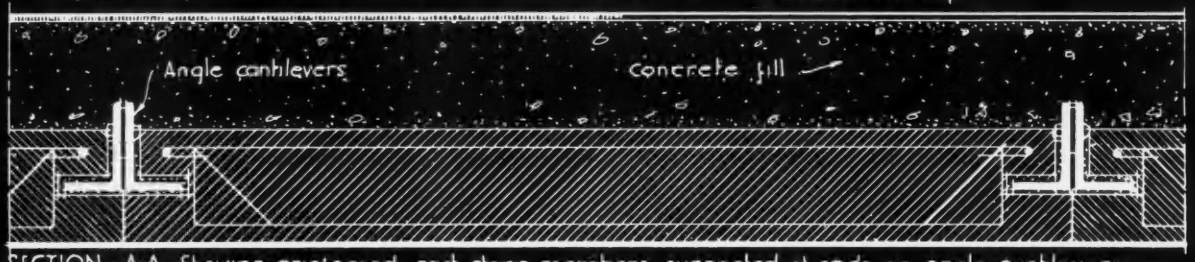
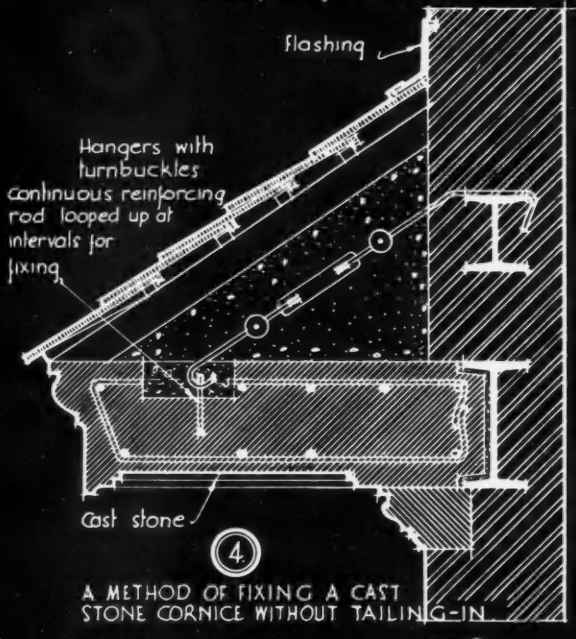


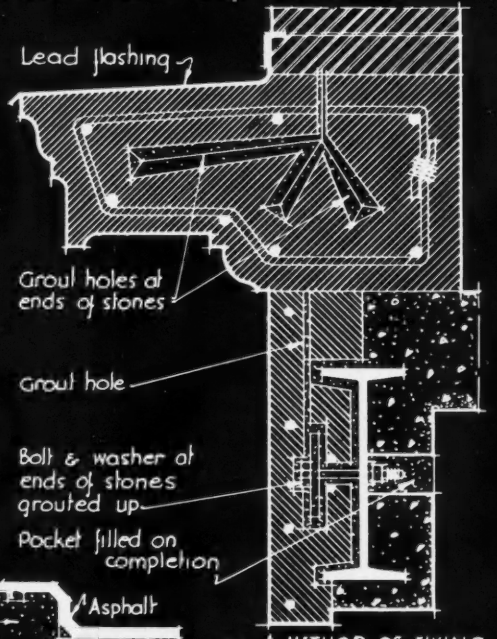
3. A METHOD OF FIXING A CORNICE WITH LARGE OVERHANG.



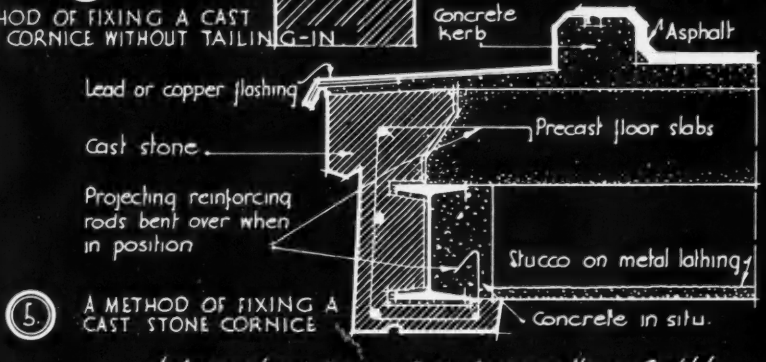
SECTION A-A Showing reinforced cast stone members supported at ends on angle cantilevers.



4. A METHOD OF FIXING A CAST STONE CORNICE WITHOUT TAILING-IN



6. A METHOD OF FIXING CAST STONE CORNICE & FRIEZE



5. A METHOD OF FIXING A CAST STONE CORNICE

Information from D. G. Somerville & Co. Ltd.

INFORMATION SHEET : DETAILS OF FIXING OF 'DURUS' CAST STONE.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.1.

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INFORMATION SHEET

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CAST STONE

Name of Product : Durus Stone

Description :

Durus Stone is not an Artificial Stone, which is a misnomer commonly applied to cast stone. It is a stone manufactured from the same materials as actual building stone such as Portland, Bath, Ketton, Box Ground, Ham Hill, Hopton Wood, etc., with a backing either of the same stone or of concrete.

The facing is manufactured of finely ground natural stone ground by crushing plants from blocks of actual stone, gauged with cement and special sand and thoroughly mixed in a pan rolling mill. The exact proportion or mix of natural stone, cement and sand has been arrived at only after many years of experiment ; the process being highly specialized and designed to eliminate as far as possible crazing, cracking, or discolouration.

The backing, when of concrete, is manufactured with a mix of clean, washed, crushed stone, sand, and cement, again specially gauged, and all prepared with mechanical mixers. These materials are placed into moulds prepared to suit the architectural requirements of the building. Each casting is carefully reinforced to withstand all stresses, including temperature stresses, and has a hook cast in for the purpose of hoisting and setting. The stones when cast are taken from the moulds and stacked under cover, the Casting Shops being artificially heated so as to maintain an even temperature. After maturing under cover, the castings are then stacked outside and are left until thoroughly matured, and ready for dispatch. From the time that they are taken from the moulds, all stones are kept moist and carefully watched, for this is one of the chief ways to eliminate crazing. The colour of natural building stones can be matched or other colours can be obtained for particular schemes. The finishes applicable to natural stone, such as fine axed, claw tooled, boasted, rock faced, bush hammered, etc., are applicable to Durus. It can also be carved either in the shops or on the site in the same way as natural stone.

Name of Manufacturers : D. G. Somerville & Co., Ltd.

Address Durus Stone Works, Cold Blow Lane, New Cross

Telephone New Cross 4383

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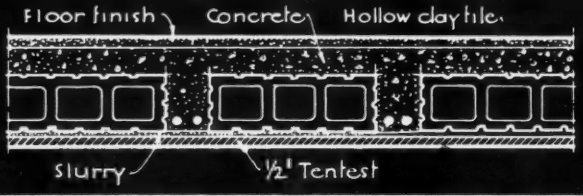
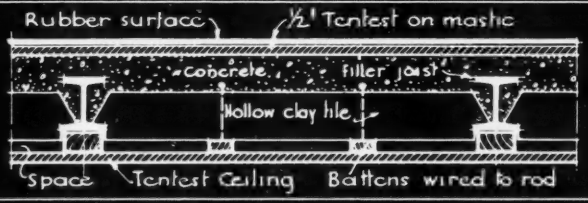
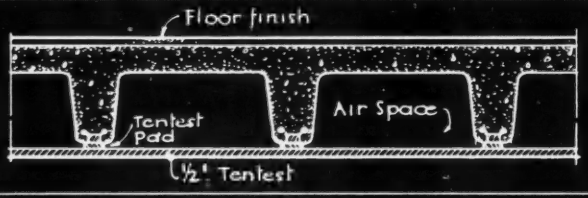
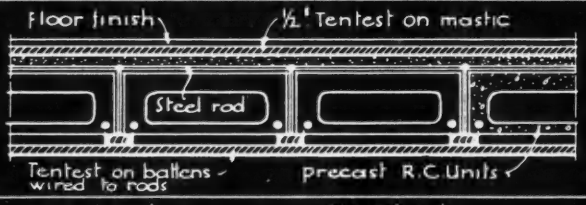
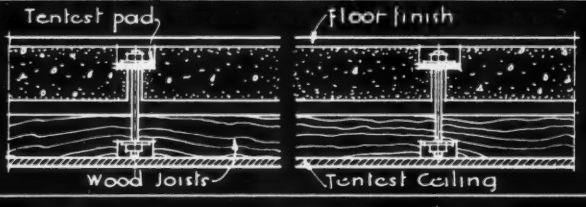
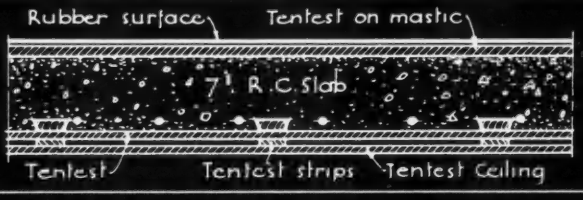
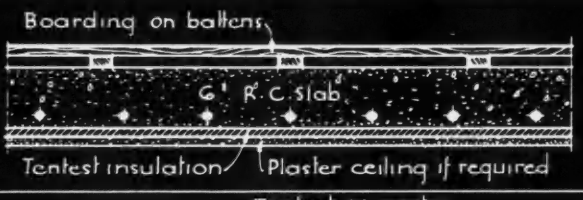
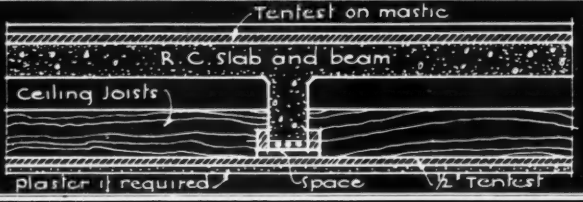
NOTE: O.W.U. = open window units at frequency 512.
In examples 23 & 24 the plaster reduces the sound absorption.

Information from The Tentest Fibre Board Co (1929). Ltd.

ESTIMATED SOUND INSULATION.	SOUND ABSORPTION OF CEILING per sq. yard.	FLOOR CONSTRUCTION.
51 db	2.8 o.w.u.	(17) 
55 db	2.8 o.w.u.	(18) 
57 db	3.1 o.w.u.	(19) 
60 db	3.1 o.w.u.	(20) 
63 db	3.0. o.w.u	(21) 
68 db	3.1 o.w.u	(22) 
69 db	0.3 o.w.u	(23) 
70 db	0.4 o.w.u.	(24) 

INFORMATION SHEET : DETAILS OF TENTEST INSULATING BOARD.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.1.

INFORMATION SHEET • 68 • WALLBOARD

THE ARCHITECTS' JOURNAL
LIBRARY OF PLANNED INFORMATION

INFORMATION SHEET

••68 •

WALLBOARD

Name of Product : TenTest Fibre Board
Type Illustrated : Floor Insulation

Description :

Generally speaking, buildings insulate against sound in proportion to their mass and solidity. Massive walls and partitions designed to prevent the passage of sound from one portion of a building to another are too costly to allow of their use in a modern type of structure. An insulating board, however, controls or eliminates the passage of sound at an economic cost.

The diagrams and tables overleaf illustrate the application of TenTest to various types of floor construction and indicate the sound insulation values—expressed in decibels—of solid and hollow concrete floors. The sound absorption values of the ceilings are expressed in terms of open window units per square yard of area.

A decibel, or sensation unit, is a measure of sound intensity, or loudness. Variations in sound intensity, as appreciated by the normal ear, have been more or less standardised and may be listed as follows :—

Decibels or Sensation Units	
100	Noise in aeroplane Express train 12 feet away
90	Tram on very noisy rails Pneumatic drill 20 feet away
80	Noise in Underground Railway Very loud radio music
70	Busy traffic in street Noise in busy typing office
60	Loud radio speech
50	Ordinary conversation
40	Soft radio music
30	Quiet office
20	Rustle of leaves in quiet garden
10	Threshold of hearing
0	Inaudibility

When, therefore, a floor or partition is said to have a sound insulation value of 50 decibels, such floor or partition, if properly constructed, would reduce the intensity of noise experienced in an Underground Railway train to that of an ordinary quiet office and would render the sound of loud radio speech practically inaudible.

Name of Manufacturers : TenTest Fibre Board Co. (1929) Limited
Address : Astor House, Aldwych London, W.C.2
Telephone : Holborn 8018

THE STRAND, WITH SOMERSET HOUSE AND ST. MARY'S CHURCH

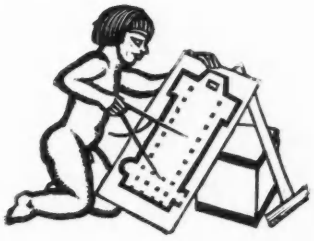
FROM THE WATER-COLOUR DRAWING BY THOMAS MALTON, JNR.

(Size of original 13 × 19 ins.)

This drawing, reproduced from BRITISH WATER COLOUR PAINTING, *by H. M. Cundall, is typical of the work of the topographical draughtsmen of the second half of the eighteenth century.*

The current Exhibition of British Art, which was opened to the public at Burlington House last Saturday, affords an opportunity of examining at one time the whole progress of British painting, in which the water-colour draughtsman plays so eminent a part. Though rated usually as "minor" art, the work of the water-colourists is at the same time as completely English and as fine in quality as anything the Exhibition can show. The water-colour tradition which this example represents had its beginnings in the truthful delineation of natural and architectural features for purposes of topographical record; and (until it was submerged in the romantic inventiveness of Turner—who was at one time, incidentally, a pupil of Thomas Malton) retained always in a large degree the sober linear character conditioned by that origin.

Facing Leader



NEW YEAR RESOLUTION

IT is customary at about this time of year to take advantage of the rejuvenation of the calendar and the atmosphere of fresh opportunity it engenders to make a halt in our assiduous march of endeavour, raising momentarily our noses from the grindstone, to look about us ; asking ourselves towards what objective it is that we are marching, and surveying at the same time the progress we have made since a year ago.

The architectural achievements of the year in the shape of actual buildings are recorded this week on other pages of the JOURNAL ; so let us here concern ourselves with a wider aspect of the architect's business than drawing out plans or supervising contractors, namely with his responsibilities as one of the more highly educated members of the community.

The architect has a tradition of disinterested service reaching beyond the fulfilment of the demand for a commodity. He has also to anticipate, even create, new demands ; sometimes to suppress an anti-social one ; considering always the ultimate common benefit. He has to protect democracy from itself.

His failure in recent times to accept these social responsibilities is evident all around us. The barbarous living conditions that a large proportion of our population have to put up with, the ugly surroundings that the whole population now takes so pathetically for granted, and the gradual destruction in the name of expediency of the decent survivals from more enlightened ages, are all the indirect result of the architect's failure to keep pace with the progress of democracy—or perhaps of his too great willingness to join the bureaucratic conspiracy of *laisser-faire* that hides behind democracy's coat-tails.

There are signs, however, to-day that we are beginning to realize the need for a more constructive further-sighted outlook. Under rational conditions it would be to the architect, as the trained planner, that the country in this need would naturally turn for assistance. That it does not do so is an aspersion on the modern architect's effectiveness. It is the opportunity of the present generation of architects to refute that aspersion ; not by the example of isolated good building, but by a concerted recognition of the sociological foundation on which a living architecture must be based, and a concerted apprehension of the human, as opposed to the ideological, contemporary problem.

A high standard of architectural creation on the part of the individual is not enough. He may have the satisfaction of producing isolated examples of good taste that will provide welcome relief amid the mass of unrestricted ugliness ; but the responsible architect of the future will not let his conscience be comforted by so easy an anodyne. Instead of retreating from displeasing manifestations of democracy run riot, he will analyse their causes and plan to get rid of the conditions that give rise to them. He will study the sociological peculiarities of his own neighbourhood ; he will certainly be familiar with the details and progress of his local regional plan (not to be familiar with it, once the architect's real function is understood, becomes unthinkable ; but many architects, because they do not happen to have run across it in the course of their practice, consider it none of their concern) ; he will continuously urge a long-sighted attitude to all planning problems, fighting against commercial expediency and anti-social interests.

It is collective action, however, that can achieve most—supported by collective propaganda. One of the vehicles of collective propaganda is the Press. During the past year this JOURNAL has tried to play its part in regaining for architecture its old importance as a civilizing influence and particularly to keep architects in touch with the social background that forms their raw material. In a number of directions we have had an opportunity of pursuing this policy ; we have put forward the claims of a National Housing Board and pressed for a national planning scheme ; we have earnestly opposed, for example, the desecration of Carlton Gardens—a perfect illustration of our present absence of system that allows the destruction of one of our few planned unities to come to light only when the damage is already done.* We have presented our Slum survey, which gave to architects some conception of the extent and gravity of one of this generation's most pressing problems—and, incidentally, of this generation of architects' greatest opportunities. Finally, in an attempt to restore the technique of architecture to the position of an applied science—itself applied to the technique of living, we have initiated our Library of Planned Information.

In the coming year we intend to enlarge both the scope of our Planned Information and of our investigation of architecture's social background.

We make no apology for preaching a sermon. To do so is the prerogative of a New Year leading article ; and we believe, in declaring our intention to regard the architectural future as a technical branch of the sociological and economic, that we are pursuing the only helpful—and indeed the only possible avenue of progress.

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* See Astragal's note on page 34

The Architects' Journal
9 Queen Anne's Gate
Westminster, S.W.1
Telephones: Victoria
9212-7
Telegrams:
Buildable
Parl
London

NOTES & TOPICS

ART AND INDUSTRY

IT must be an extremely difficult job for a Government used to appointing commissions on pig marketing schemes and tariff quotas to stir the mixed circles of art and industry to produce what is known as a "representative body" to advise the Board of Trade on its relation with art.

*

We know well enough that the important persons in this relationship are young and active, but mainly young, and must therefore escape the short ranging net of government committee fishermen.

*

Not too bad after all, with manufacturers, industrialists and civil servants sitting round the same table with artists and one not too industrial architect. Rather a new line in committees; and, praise be, Mr. Pick is chairman.

*

Their first job is obviously centred about the new Cunarder. No escape from that.

BURLINGTON HOUSE

I visited Burlington House last Friday, on the opening day of the Exhibition of British Art. It was very gratifying; and must also have been disturbing to anyone who came presuming (as many people do) that the title of the Exhibition was itself a contradiction in terms.

*

For they had only to look at the catalogue to be assured that every work was British, and on the walls to discover that most of them were Art.

*

Not that there was much display of the grand manner. That is not native to this country; though whether the reason is climatic or temperamental is hard to say—probably it is both. Ours is a tradition of sensitive craftsmanship and of acute preoccupation with actuality.

*

The material for the Exhibition has not been sought with quite the world-wide thoroughness of the previous winter shows. Nothing has been contributed from the great American private collections—from the Huntington, for instance.

*

But there was ample material available in this country for a comprehensive survey, without even tapping our own national collections; and it is fortunate that the masterpieces acquired in the boom years by Chicago meat-barons at fantastic prices (those over-rated Lawrences and pretentious Romneys), to a chorus of popular outcry, and for all the wrong reasons, are the ones we can best do without.

*

The water colour rooms should be crowded all the time, for here is displayed our greatest national achievement. Perhaps Turner is rather over-represented, as Rowlandson is under-represented; though there are some superb drawings by that completest in his own small way of all English artists. And there is nothing by Samuel Howitt.

*

What reputations will be made or lost before the Exhibition is over? My own prediction is that the heroes of the show will be Stubbs and Ben Marshall, that Dobson will at last be granted recognition as the true descendant of Vandyck—he is in a higher class altogether than those flashy foreigners, Lely and Sir Godfrey Kneller; and that many people will discover the merits of Samuel Scott and Paul Sandby for the first time.

*

Also that the poor pre-Raphaelites will be driven still further into their anachronistic cul-de-sac of middle-class distaste for reality. The room in which they are hung seems to have no part in the grand continuity of achievement that unites the others.

TOWN PLANNING AND THE PARKS

Now who would have thought that Astragal, suddenly giving tongue on the scent of Carlton House Terrace, should have run to earth such a prize of a spoliation scandal as rocked our centres these summer months past.

*

The outcome is to hand, for the L.C.C. is taking action appropriate to the urgency of the case, and proposes to collaborate with the Commissioners of Crown Lands in a Town Planning Scheme for the area lying between the Green Park and Piccadilly.

*

They are to be congratulated upon their action in defence of a district so filled with the beautiful and the historical, and so subject, at the same time, to the pressure of commercial interests.

*

What I would like to say is this. This district contains within its borders what remains of a London that was perfectly built for its one-time requirements. St. James's Palace lies there. The Green Park runs like a garden wall along its length from the Mall to Piccadilly. That far its "preservation" aspect.

*

And on the other hand, there presses the claims of business to house itself with economy upon expensive sites, using modern materials and methods to shelter organisations unknown to the 18th century. The thing is not simple. Modern traffic bears upon us. We are no longer in bonds to Classic architecture.

*

This planning of St. James's is, in fact, a problem of the first

H. V. Lanchester, F.R.I.B.A., the Royal Gold Medallist, 1934.

magnitude that may well engage the best architectural brains in the country, or, indeed, in the world.

*

For what we do in St. James's—what is crystallized in the legal document of a town planning scheme—must last us well into the future, and must forestall the future outcome of events only made known to a few men, and those young, perhaps, in years.

*

What a fine thing it would be if the Combined Authorities would sponsor a competition for the replanning of the district, using just so much of the contributions as events make possible.

*

I would suggest that very small scale models should be asked for instead of drawings, because models are more easily made than is supposed—and they do not lie.

*

Apropos the Crown Commisioners, it has again been rumoured that they have intentions—not at all honourable ones—towards Cumberland Terrace, Regent's Park. At any moment, we are told, they may be expected to raze it to the ground. I have it on unofficial but reliable authority that there is not a word of truth in this rumour.

THE ROYAL GOLD MEDAL

Mr. Lanchester's name is far too well known, and his reputation far too well established to make it necessary for me to produce any eulogy. The Royal Gold Medal for Architecture could not have gone to a more worthy and deserving recipient.

*

Before the war Lanchester and Rickards were much before the public eye. The Central Hall, Westminster, stands as a memorial to that partnership.

*

Since the war Mr. Lanchester has been responsible for many great works of architecture, not only in this country but in India, where, too, he has allowed his ability to play upon the wider aspect of the profession—town planning.

GIDEA PARK COMPETITION

At a cocktail meeting at the Savoy, if one can so describe a party that has intentions beyond the mere pleasure of talking and drinking, the promoters of the Gidea Park Modern House Competition put the idea over to the Press, using as its mouthpiece one of the members of the jury of assessors.

*

The successful designs were set about for inspection, the assessors' reports were available, there was a drink for the thirsty, and the atmosphere was therefore peculiarly favourable to the expression of views concerning the place of the architect in house building, the value of his ideas to the community (especially when these ideas constitute a leadership), and the true meaning of the confusing words *modern architecture*.

*

One came away with the impression that this competition, albeit a stepping stone towards better things, is to be a lively affair with something interesting to say; and, thanks to the bravery of the promoters, the public may actually see for themselves next July what a modern house looks like away from the arc lights of a great exhibition.

THE GIRDER

It may be remembered that I said some hard things about that girder at the Cumberland Hotel; that it caused a lot of trouble and sank into the mud after it was delivered.

*

In saying it caused trouble, I was referring to the traffic hold-up occasioned by its delivery to the site, but Mr. Dalrymple, of Dorman Long's, has corrected me—kindly, but firmly—about the mud. The girder never sank into it. In fact, the whole job, though a very difficult one, was admirably carried out.

*

Mr. Dalrymple adds that the 100-ton girder was necessary at the Cumberland Hotel as its use was the only way of avoiding columns. I accept his word for it. Nevertheless, I stick to my point, that steelwork on that scale often *is* evidence of planning in uneconomic units.

THE WEEK-END REVIEW

It is not a purely sentimental sorrow with which I regard the passing of *The Week-end Review*. When it first made its appearance I was especially interested in it, because its editorial had sparkle as well as punch, and I felt that here was the beginning of a new influence.

*

The *W.E.R.* stood the champion of young thought, not in the usual "infallibility of youth" attitude, but in the reasonable one that tired brains and tired organizations and a tired national outlook had led us into an *impasse*, and that it needed vigour of thought and courage of action to put us on to a new road.

*

I am told that the *Review* could have saved its life if it had been prepared to sink its conscience. If the method of salvation which was offered was what I am told it was, I am inclined to give thanks that it was not accepted.

*

It is only rarely that conscience can keep financial backing in its place, and one distrusts these organized "rackets" more especially in this case, when the very source of the backing is not in itself very permanent.

*

However, *The Week-end Review* has had its effect even on its competitors, and the weekly papers are a brighter and more spirited lot for its influence.

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

"What a fine thing it would be if the Combined Authorities would sponsor a competition for the replanning of the St. James's Park district" 35

A feature in the lay-out of tenement blocks, commonly and successfully handled on the Continent, but introduced for the first time into this country 40

Russia has lost faith in functionalism because it requires a degree of technical skill which the predominantly ideological training of Soviet architects and artisans is not yet able to impart.... 46

The progress of the new architecture, strange as it may sound to Americans, has nothing to do with the height of buildings as such..... 65

TOWN PLANNING AND THE PARKS

A town-planning scheme covering the area between St. James's Street and Green Park was announced in a statement issued last week by the Commissioners of Crown Lands. This is expected to be the first step towards a scheme for safeguarding the amenities of all the London parks.

Following are some extracts from the statement :

"The Commissioners of Crown Lands recently sought the advice of the Crown Lands Advisory Committee on a proposal for the rebuilding of a house in Arlington Street, St. James's, overlooking the Green Park.

"The Committee, after a very thorough examination of the whole question, and having tendered advice on the individual case, expressed the opinion in effect that the rebuilding of this one house could only properly be considered in relation to the development of the adjoining property. They suggested that the particular case submitted to them presented a significant warning of what must befall areas of outstanding importance unless with all convenient speed steps were taken to safeguard the amenities of London under some coherent plan.

"They, therefore, urged that the appropriate authorities—namely, the London County Council, the Office of Works, and the Commissioners of Crown Lands, should collaborate in preparing a scheme designed to preserve the amenities of such important areas as those surrounding the extensive range of the Royal Parks. They recommended in particular that the area stretching east from the Green Park and north from St. James's Park should be protected by a town-planning scheme as soon as possible, adding that unless action on these lines were taken it seemed to them that haphazard and anarchic development was inevitable.

"The Commissioners of Crown Lands have been in communication with the London County Council and are glad to learn that the necessary resolution has been passed for the preparation of a town planning scheme covering the area between St. James's Street and the Green Park. The planning of this relatively small area is considered to be a matter of urgency, but it is hoped that in the near future schemes will be prepared for similarly safeguarding the amenities of all the London parks."

THE ARCHITECTS' DIARY

Thursday, January 11

Institution of Structural Engineers. At 10, Upper Belgrave Street, S.W.1. "The Design, Fabrication and Erection of a Small All-welded Machine Shop." By C. Helsby. **6.30 p.m.**

Institution of Electrical Engineers (Dundee Sub-centre.) At University College, Dundee. "Costing: Its Application." By R. J. Lawson. **7.30 p.m.**

Friday, January 12

Institution of Structural Engineers. (Midland Counties Branch.) At the James Watt Memorial Institute, Birmingham. "Foundations." By Gower B. R. Pimm. **6.30 p.m**

Monday, January 15

Institution of Heating and Ventilating Engineers. At the Borough Polytechnic, Borough Road, Southwark, S.E.1. "Alignment Charts: Their Construction and Use." By A. C. Pallot, B.Sc. **7 p.m.**

Then and Now, No. 2. At Lanthorne House, 89 to 91, Newman Street, W.1. Exhibition of old and modern lamps and examples of lamps from all parts of the world, from the collection of Paul Faraday. **Closing date.**

Tuesday, January 16

Institution of Heating and Ventilating Engineers. (Manchester and District Branch.) At the Engineers' Club, Albert Square, Manchester. "Manchester Central Library." By S. Mel. Saunders. **7 p.m.**

Wednesday, January 17

University College. At Gower Street, W.C.1. "English Mediæval Art: Some Points of View." By Professor Tancred Borenius. **5.30 p.m.**

L.C.C. Central School of Arts and Crafts. At Southampton Row. "English Mediæval Architecture: B. The Mediæval Period: 1, Plans, Vaults, Buttresses." By Sir Banister Fletcher, F.S.A., PP.R.I.B.A. **6 p.m.**

Institution of Civil Engineers. At Great George Street, Westminster, S.W.1. "Transition Curves and Super-elevation on Roads." By E. L. Leeming, M.Sc.TECH., ASSOC. M.INST.C.E. **6 p.m.**

Royal Society of Arts. At John Street, Adelphi, W.C.2. "Modern Developments in Street Lighting." By J. M. Waldram, F.INST.P. **8 p.m.**

ART AND INDUSTRY: THE REPRESENTATIVE COUNCIL

The President of the Board of Trade announced last month that he was taking steps to appoint a representative council to deal with questions affecting the relations between art and industry. The composition of the council has now been settled. Following are the names of the twenty-eight members :—

Chairman : Mr. Frank Pick (vice-chairman of the London Passenger Transport Board and president of the D.I.A.) ; vice-chairmen : Sir A. Steven Bilsland, BT., M.C., J.P. (Director of Bilsland Brothers, Ltd., Glasgow ; Workmen's Dwellings Co., Ltd., and other companies) ; Mr. T. D. Barlow, K.B.E. (chairman and managing director of Barlow and Jones, Ltd., Manchester) ; Mr. F. V. Burridge, O.B.E., R.E., A.R.C.A. (formerly principal of the L.C.C. Central School of Arts and Crafts) ; Lady (Austen) Chamberlain, O.B.E. (who was chairman of the Committee of the Exhibition of Italian Art, Royal Academy, 1930) ; Mr. Philip Connard, R.A., A.R.W.S., (painter) ; Mr. Ronald Copeland, J.P. (chairman, W. T. Copeland and Sons, Ltd., Stoke) ; Sir William Crawford, K.B.E. (chairman, W. S. Crawford, Ltd., and vice-chairman Post Office Publicity Committee) ; Mr. Stanley Cursitor, O.B.E., R.S.W. (director, National Galleries of Scotland) ; Mr. J. T. Davis (director, Co-operative Wholesale Society) ; Mr. W. C. Eaton, C.B. (Principal Assistant Secretary of the Technical Arts Schools, Board of Education) ; Mr. E. R. Eddison, C.B., C.M.G. (Deputy Comptroller-General of the Department of Overseas Trade) ; Sir Ambrose Heal (chairman and managing director, Heal and Son, Ltd.) ; Mr. Oliver Hill, F.R.I.B.A. (Architect for the lay-out of the Exhibition of Industrial Art at Dorland House, 1933) ; Mr. A. S. Hoskin (Assistant Secretary, Industries and Manufactures Department, Board of Trade) ; Mr. E. McKnight Kauffer (artist designer) ; Sir Eric Maclagan, C.B.E., V.P.S.A. (Director of the Victoria and Albert Museum) ; Mr. F. J. Marquis, J.P. (joint managing director, Lewis's, Ltd.) ; Mr. Paul Nash (painter, engraver and designer) ; Mr. J. W. Reck, C.B. (Second Secretary, Scottish Education Department) ; Mr. J. Murray Reid (partner in the firm of Whytock and Reid, Edinburgh) ; Mr. R. Hugh Roberts (chairman of the Birmingham Guild, Ltd., and other companies) ; Sir Hubert Llewellyn Smith, G.C.B. (formerly Permanent Secretary to the Board of Trade and Chief Economic Adviser to his Majesty's Government. He was chairman of the British Institute of Industrial Art) ; Mr. W. L. Stephenson (chairman and managing director of F. W. Woolworth and Co., Ltd.) ; Mr. C. L. Stocks (Assistant Secretary to the Treasury) ; Mr. Douglas Strachan, HON. R.S.A. (painter and designer) ; Mr. Charles Tennyson, C.M.G. (Secretary of the Dunlop Rubber Company and chairman of the Industrial Art Sub-committee of the Federation of British Industries) ; Secretary : Major A. A. Longden, D.S.O., O.B.E. (Department of Overseas Trade).

The address of the Council will be : Council for Art and Industry, Board of Trade, Great George Street, London, S.W.1.

FALSE ECONOMY

Mr. Hope Bagenal, A.R.I.B.A., in a paper entitled "The Architect's Contribution to the Thought of His Time," read at a meeting of the Architectural Association on Tuesday night, said :—

"For architects a most important duty is to resist the suicidal cutting of prices thrust upon us by a false economic theory. Here, in my view, we should seriously consider our trusteeship as a profession. We must not, for instance, allow

residential buildings to become cheap boxes of thin materials, structurally safe, but transparent to vibrations of all kinds. The influence of the intensive study of structure has led to an over-emphasis of the engineering point of view. An engineer's job is to find the factor of safety and to build to that. He is trained to eliminate unnecessary mass in a safe structure. But an architect has to consider safety plus protection. And mass is and has always been a ready method of securing protection—that is of securing proper living conditions. Another factor is the right porosity. On mass and porosity hinge the problem of good building as distinct from engineering."

R. I. B. A.

THE GOLD MEDALLIST

It was announced on Monday last that the Council of the R.I.B.A. propose to submit to His Majesty the King the name of Mr. Henry Vaughan Lanchester, F.R.I.B.A., as a fit recipient of the Royal Gold Medal for 1934.

PRIZES AND STUDENTSHIPS 1934.

At a general meeting of the Institute, held on Monday last, the results of the competitions for the annual prizes and studentships were announced as follow :—

Tite Prize : A Certificate and £50 for the Study of Italian Architecture.—Subject : "A Walled Garden at the Rear of a Large London House." Mr. Arthur Douglas Kirby, Student R.I.B.A. (School of Architecture, Royal West of England Academy).

Soane Medallion and £150 for Travel Abroad for the Advancement of Professional Education.—Subject : "An International Temple of Religion at Geneva." Mr. Hubert Bennett, A.R.I.B.A. (Victoria School of Architecture, University of Manchester).

R.I.B.A. Silver Medal and £75 for Measured Drawings : Mr. P. Kennerell Pope, Student R.I.B.A. (School of Architecture, Royal West of England Academy), for measured drawings of the Church, Richelieu.

Certificate of Honourable Mention was awarded to Mr. Emil C. Scherrer, A.R.I.B.A. (Victoria School of Architecture, University of Manchester).

Owen Jones Studentship : A Certificate and £100 for the Study of Ornament and Colour Decoration.—Subject : "The Foyer of a National Opera House in London." Mr. Alexander Esme Gordon, Student R.I.B.A. (School of Architecture, Edinburgh College of Art).

Royal Institute Silver Medal and £50 for an Essay. Miss Olive Vernon Briggs, A.R.I.B.A. (The Bartlett School of Architecture, University of London), for an essay entitled "Some Painted Screens of Norfolk."

Alfred Bossom Travelling Studentship : A Gold Medal and £250 for the Study of Commercial Architecture in America.—Subject : "An Exchange for an Association of Merchants and Brokers." Mr. George Davidson Griffiths, A.R.I.B.A. (London University Atelier).

Hubert Bennett, A.R.I.B.A., the winner of the R.I.B.A. Soane Medallion. Last year he was awarded the Arthur Cates Prize of the Royal Institute. Mr. Bennett, who is twenty-four years of age, was appointed lecturer in the Leeds School of Architecture in December last.

The Silver Medal for the competitor placed second was awarded to Mr. T. Arnold Jeffryes, A.R.I.B.A. (School of Architecture, Edinburgh College of Art).

Grissell Gold Medal and £50 for the Encouragement of the Study of Construction.—Subject : "A Provincial Terminal Railway Station." Mr. Eric Bedford, A.R.I.B.A. (School of Architecture, Leicester College of Arts and Crafts).

A Certificate of Honourable Mention was awarded to Mr. Norman Edgar, A.R.I.B.A. (Rutherford Technical College, Newcastle-upon-Tyne, and The Armstrong College School of Architecture (University of Durham), Newcastle-upon Tyne).

Hunt Bursary : £50 for the Encouragement of the Study of Housing and Town Planning.—Mr. William Arthur Eden, B.ARCH. Liverpool, A.R.I.B.A. (Liverpool School of Architecture, University of Liverpool).

Neale Bursary : £70 for the Encouragement of the Study and Measurement of Old Buildings.—Miss Sadie Speight, M.A. (Hon.), ARCH. Manchester, A.R.I.B.A. (Victoria School of Architecture, University of Manchester).

Athens Bursary : £100 for Study at the British School at Athens.—Mr. Wilfrid Bythell Edwards, M.A. Manchester, B.ARCH., Liverpool, A.R.I.B.A. (Liverpool School of Architecture, University of Liverpool).

Ashpitel Prize, 1933.—This is a prize of books, value £10, awarded to the candidate who has most highly distinguished himself among the candidates in the Final Examinations of the year. Mr. Birkin Haward, Student R.I.B.A., of Ipswich, Suffolk.

Rome Scholarship in Architecture.—£250 per annum for two or three years' study and research at the British School at Rome. Offered by the R.I.B.A. and awarded by the Faculty of Architecture of the British School at Rome.—Mr. Alwyn Gwilym Sheppard Fidler, A.R.I.B.A. (Liverpool School of Architecture, University of Liverpool).

R.I.B.A. Silver Medal and £5 in Books for Students of Schools of Architecture recognised for Exemption from the Final Examination.—Mr. Edward Thorne Dowling, Student R.I.B.A. (School of Architecture, Architectural Association, London).

R.I.B.A. Bronze Medal and £5 in Books for Students of Schools of Architecture recognised for Exemption from the Intermediate Examination.—Mr. Norman Charles Westwood, Student R.I.B.A. (School of Architecture, Architectural Association).

Certificates of Honourable Mention were awarded to :—Mr. Harry Gibberd, Probationer R.I.B.A. (Birmingham School of Architecture) ; Mr. Frederick William Griffiths, Probationer R.I.B.A. (Liverpool School of Architecture, University of Liverpool) ; and Miss Mary Drysdale, Probationer R.I.B.A. (School of Architecture, Edinburgh College of Art).

Archibald Dawnay Scholarships : Two Scholarships of the value of £50 each for the Advanced Study of Construction.—One scholarship awarded to : Mr. John Holt, Student R.I.B.A. (Armstrong College School of Architecture, University of Durham, Newcastle-upon-Tyne) ; and another Scholarship awarded to : Mr. John Muskett, Student R.I.B.A. (Liverpool School of Architecture, University of Liverpool).

R.I.B.A. Prize for Art Schools and Technical Institutions with Facilities for the Instruction of Intending Architects (£5 in Books).—Mr. Eric Geoffrey Broughton, Student R.I.B.A. (Portsmouth Municipal School of Arts).

A Certificate of Honourable Mention was awarded to : Mr. Edgar Arthur Jones, Probationer R.I.B.A. (Coventry Municipal Art School).

R.I.B.A. Prizes for Public and Secondary Schools.—These prizes are of a total value of £10 10s. They are offered for an essay of not more than 1,000 words or for sketches or scale drawings of a building or part of a building.

The prizes, offered for competition between boys and girls in Public and Secondary Schools, were awarded as follows :—

(*a*) *Essays.*—(i) £2 2s. to B. W. Watkin, of Bishop's Stortford College, for his essay on "The Royal Hospital, Greenwich" ; (ii) £1 1s. to Miss Margaret L. Harvey, of George Dixon Secondary School for Girls, Birmingham, for her essay on "The Church of St. John the Baptist, Halesowen, Worcestershire" ; (iii) £1 1s. to Geoffrey Robson, of the Grammar School, Dudley, Worcester, for his essay on "Malvern Priory Church" ; (iv) £1 1s. to Bruce Martin, of Surbiton County School, for his essay on "Hampton Court Palace."

(*b*) *Sketches.*—(i) £2 2s. to Geoffrey Robson, of the Grammar School, Dudley, Worcester, for his drawings of St. Peter's, Wolverhampton ; (ii) £1 1s. to John Agnew, of Rock Ferry High School for Boys, for his drawing of Liver Building, Pierhead, Liverpool ; (iii) £1 1s. to M. A. J. Farey, of Tonbridge School, for his miscellaneous sketches ; (iv) £1 1s. to H. H. Knopp, of the Polytechnic Secondary School, Regent Street, London, W.1, for his drawing of St. John's Church, Pinner.

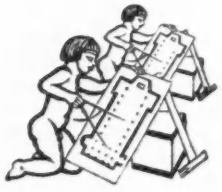
A criticism of the work submitted was given by Mr. G. Grey Wornum, F.R.I.B.A.

The competition drawings are now on exhibition in the R.I.B.A. Galleries, 9 Conduit Street, W.1, until January 27, between

the hours of 10 a.m. and 8 p.m., Saturdays 10 a.m. and 5 p.m. (Sundays excluded).

The President, Sir Giles Gilbert Scott, R.A., will deliver his address to students and present the medals and prizes for 1934 at a general meeting to be held at the Institute on Monday, January 22, at 8.30 p.m.

COMPETITION



NEWS

SOUTHWARK TOWN HALL

The Southwark Borough Council is to ask the L.C.C. for an £83,000 loan to build the first instalment of the new town hall, which was the subject of a limited competition some two years ago.

Competitions Open

January 13.—Sending-in Day. Proposed Public Elementary School, to be erected on a site in Han Lane, Coventry, for the City of Coventry Local Education Committee. Open to architects whose offices are situate within the City of Coventry on November 1, 1933. Assessor: C. E. Bunch, F.R.I.B.A. Premiums: £100, £50 and £30. Last day for questions was November 18. Designs are to be submitted to Frank H. Harrod, Director of Education, The Council House, Coventry, by January 13.

January 15.—Designs of electrical kitchens suitable for (1) a house (or flat) valued at £300-£400 (net building cost without land), and (2) a house (or flat) valued at £800-£900 (net building cost without land), for the British Electrical Development Association. Assessors: R. S. Downe, M.I.E.E., Francis Lorne, F.R.I.B.A., Lionel G. Pearson, F.R.I.B.A., A. C. Cramb, M.I.E.E., M.I.M.E., and Miss Maughan, M.Sc. Premiums: £50 and £25, for each section. Designs are to be sent to the Association at 2 Savoy Hill, W.C.2, not later than January 15. Conditions, etc. (Price 1s.), are now obtainable.

[*For Competitions Pending, see last week's issue.*]

THIS ARSHETECTURE

Wirral Urban Council last night decided to erect offices on land it owns fronting Pensby Road, Heswall, used as a car park, and to procure competitive designs for a building costing £7,000.

The vice-chairman suggested that the surveyor's department should carry out the work. If they obtained the services of the architect the cost would be a great deal more than if they carried out the work themselves. They could engage an architectural draughtsman to work under the supervision of the surveyor, and employ their own labour.

From the *Liverpool Daily Post.*

THE ARCHITECTS' JOURNAL

LIBRARY OF PLANNED INFORMATION

WE have already outlined the aims of the new Library of Planned Information. For the benefit of any readers who are not familiar with the Library, its aims can be briefly re-stated.

THE INCEPTION

of the Library grew out of Sir John Burnet, Tait and Lorne's Information Book, published last month. But the number of subjects which can and should be dealt with by Information Sheets is naturally far greater than that which can be covered in one book, full as this book is. Hence the Library. The book itself is the model for, and the cornerstone of, the Library; and Sir John Burnet, Tait and Lorne are acting as editors of the Library.

THE UNIT

of the Library is the Information Sheet. Briefly, the object of the Information Sheet is to give:—

The vital facts about a given subject in a standardized form which can be quickly mobilized for reference, easily handled and easily stored.

THE AIM

of the Library is to build up by means of Information Sheets a complete service of vital information regarding every method, product, and process used in the practice of building.

THE ORGANIZATION

of the Library falls under two main heads.

1. Information on Planning.
2. Information on Materials.

Planning

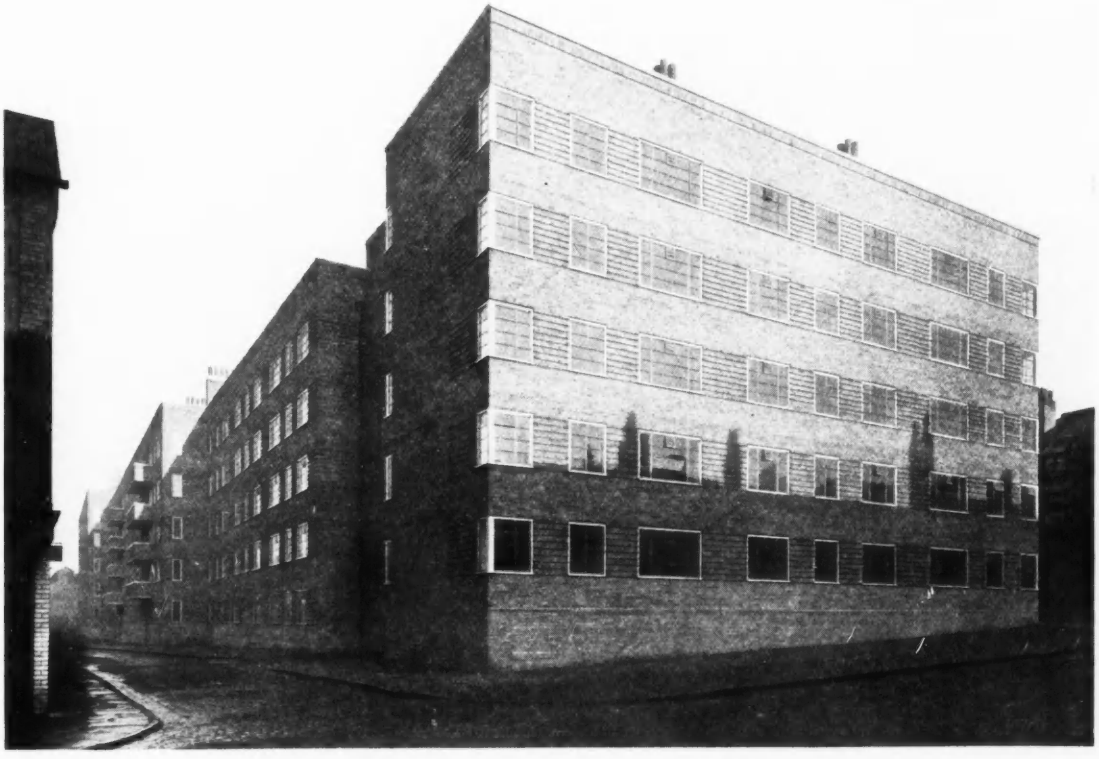
is used in the widest sense to cover those technical methods and data which impinge upon design. In fact, every kind of information about building which is capable of convenient reduction to graphic form. It includes such matters as the method of setting out auditorium floors in cinemas, the lighting of classrooms, and the cost of various types of buildings, all of which will shortly be dealt with.

Materials

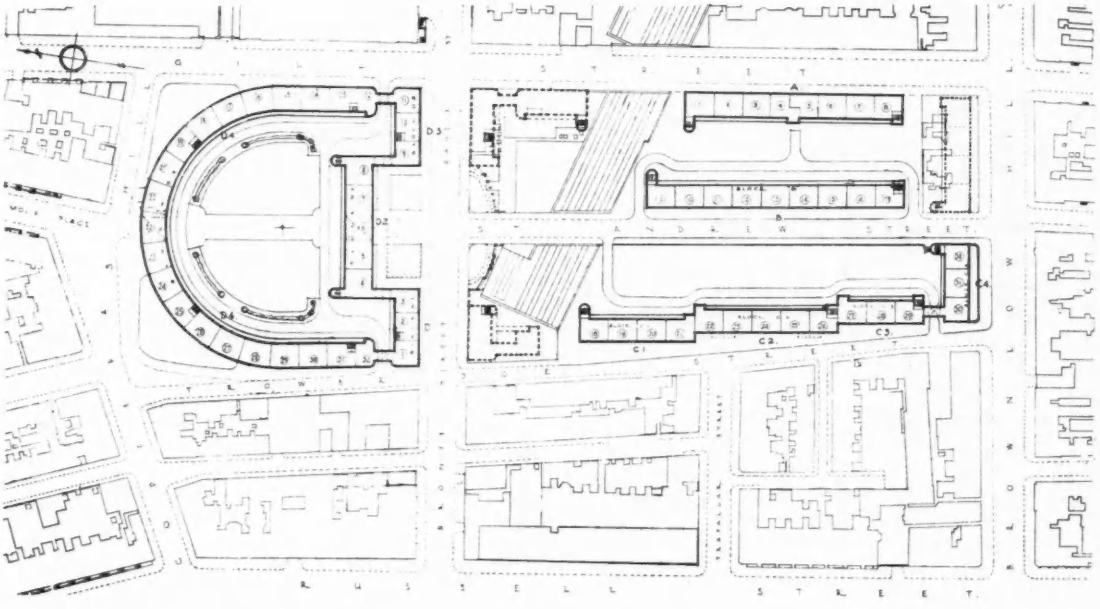
covers every kind of product and accessory, from bricks to light bulbs. In modern architectural practice the designer must have a mass of variegated knowledge at his elbow; he must know all about actual *things*, their sizes, weights, characteristics, methods of application. He must have the means of immediate reference to all those preliminary facts about materials and their uses which will dictate his choice of method and facilitate design. And these must be in a convenient form for constant reference. But the expert on materials is not the architect but the manufacturer—the man who makes the stuff. The manufacturer has therefore been asked to co-operate in this section of the Library by producing all the vital data regarding his products. This is reduced under the editorship of Sir John Burnet, Tait and Lorne into Information Sheet form.

For the collection of the Sheets a spring-back folder is advocated, one folder to each sub-section, and at regular intervals a complete index will be published.

HOUSING SCHEME AT LIVERPOOL

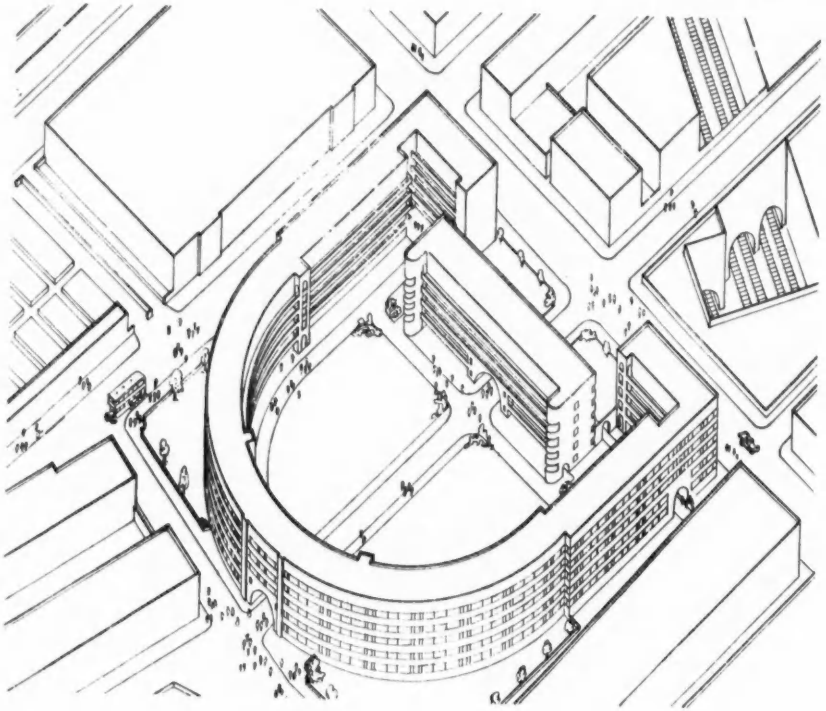


The complete proposed lay-out of this housing scheme, which is being designed by the Liverpool Housing Director, is shown on the plan below. The portion so far completed, containing 75 flats, is the series of blocks facing on to Trowbridge Street and Brownlow Hill, and marked C1, C2, C3 and C4. These blocks are illustrated in the pages following. The others are at present under construction. The flats are for working-class housing in connection with Liverpool's slum clearance schemes. The entire development will provide accommodation for 380 families dispossessed from a neighbouring clearance area. Above is a general view from Brownlow Hill.

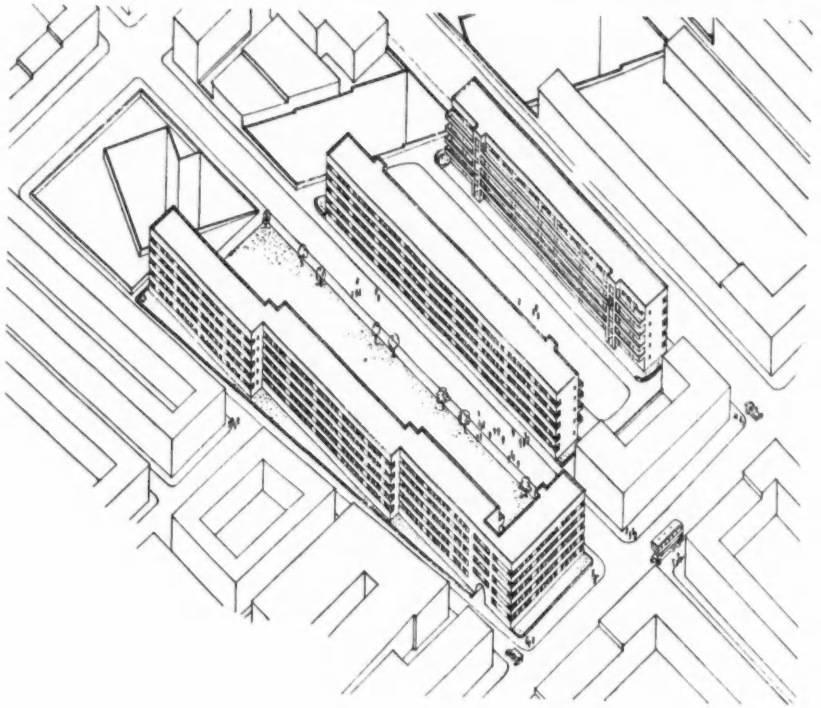


DESIGNED BY L. H. KEAY

HOUSING SCHEME AT LIVERPOOL: BY L. H. KEAY



An axonometric drawing of the circular portion now under construction, showing St. Andrew Street carried through the block.

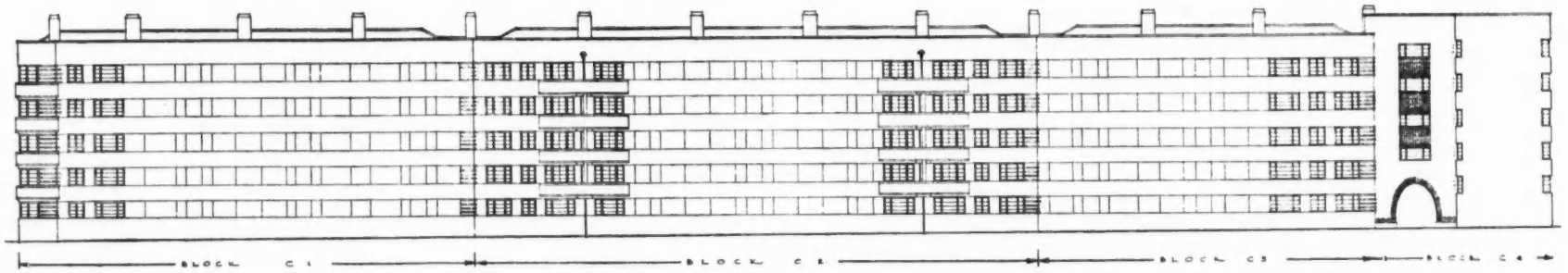


The southern portion of the scheme, of which the block nearest the view-point is now completed.

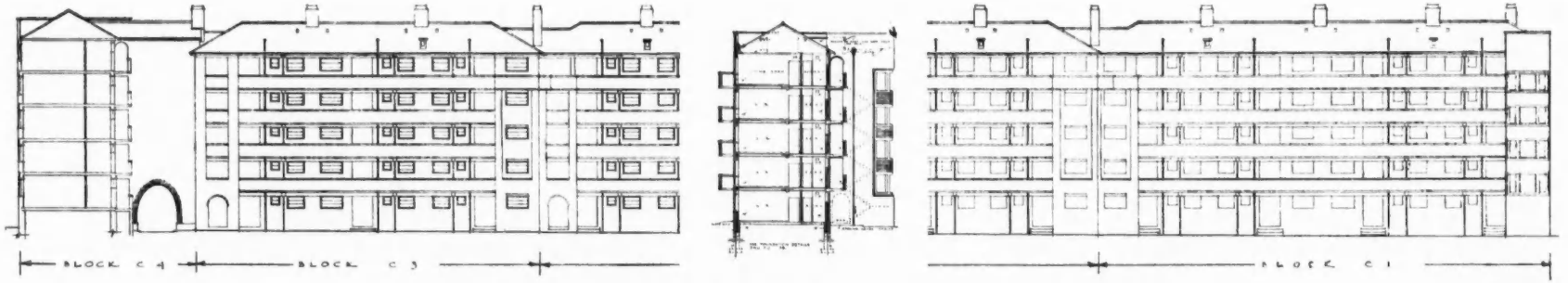
LAY-OUT.—*The lay-out plan shows that it is intended to build across one of the existing roads that traverses the site—St. Andrew Street—introducing probably for the first time in this country a feature so common and so successfully handled on the Continent. Though the street in question will be closed for vehicular traffic it will remain open for pedestrians, and will be spanned by two semicircular brick arches and vaults having a radius of 13 feet.*

PLANNING.—*The actual planning of the flats follows the arrangement which has for some time been adopted in Liverpool, entrance being from open balconies served by staircases, but for the first time a number of living-rooms on the south-west elevation open out into a projecting balcony—another feature common in Continental schemes. The use to which these balconies are put will be carefully watched, and in the summer months they should prove of great benefit to children. The window opening is rather in excess of that usually provided in similar schemes, due to the fact that the flats are in the centre of the City and the amount of light is somewhat restricted. It is proposed to provide window boxes fitted into brightly coloured vitrified steel frames to the window over the main entrance.*

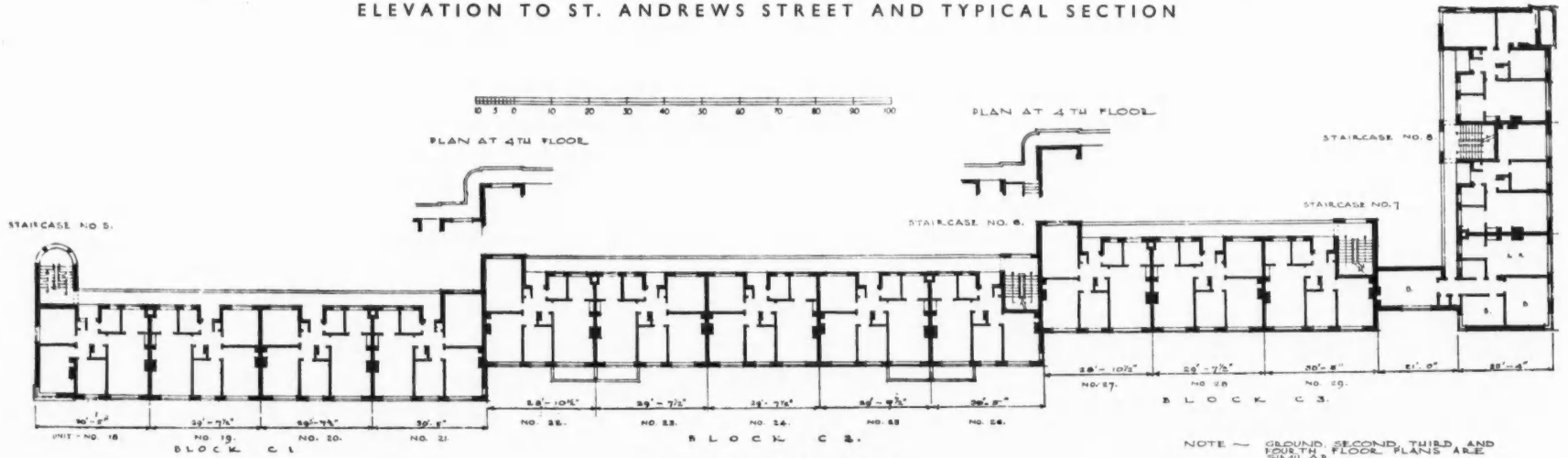
STRUCTURE.—*The walls are built with a golden brown light wave rustic brick, set with yellow mortar, the alternate courses between the windows projecting $\frac{3}{4}$ in. No brick cills or arches to the windows are provided, except over the main entrance arch. The windows are metal casements in wood frames with horizontal glazing bars, each window being provided with a small hopper light. On the street elevations walls are terminated by a stone coping set on top of a recessed and a soldier course, the joints of the latter being raked back. Rainwater from the roof, which is covered with locally manufactured concrete tiles, is all taken to the back of the building, leaving the main elevations unbroken by the usual down-pipes. To blend with the colour of the facing bricks the window frames are painted in deep cream, but the steel casements are painted light green and blue on alternate floors. These colours are also used on the back elevations, where the soffits of balconies and upper portions of the walls are distempered cream.*



ELEVATION TO TROWBRIDGE STREET

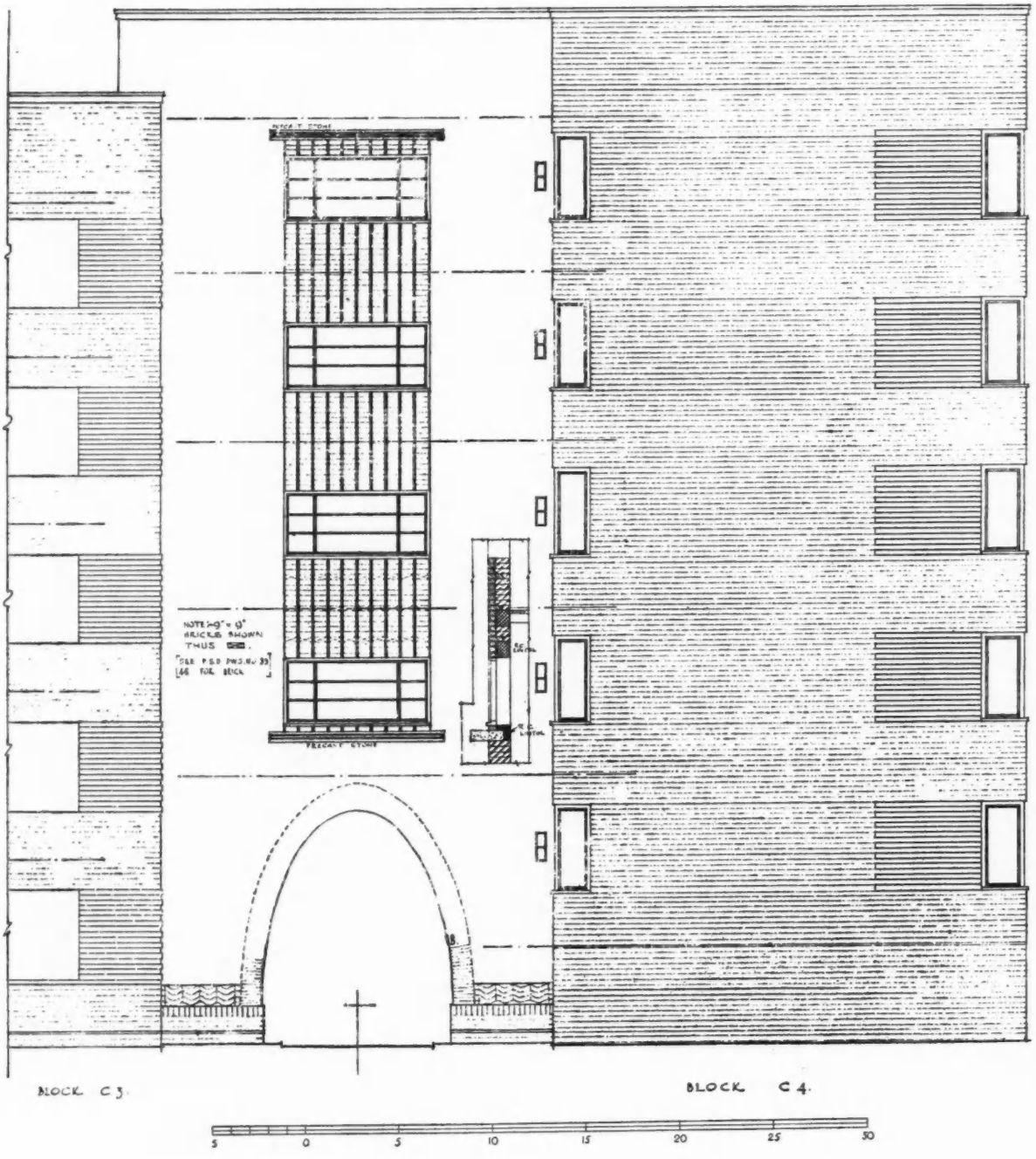


ELEVATION TO ST. ANDREWS STREET AND TYPICAL SECTION



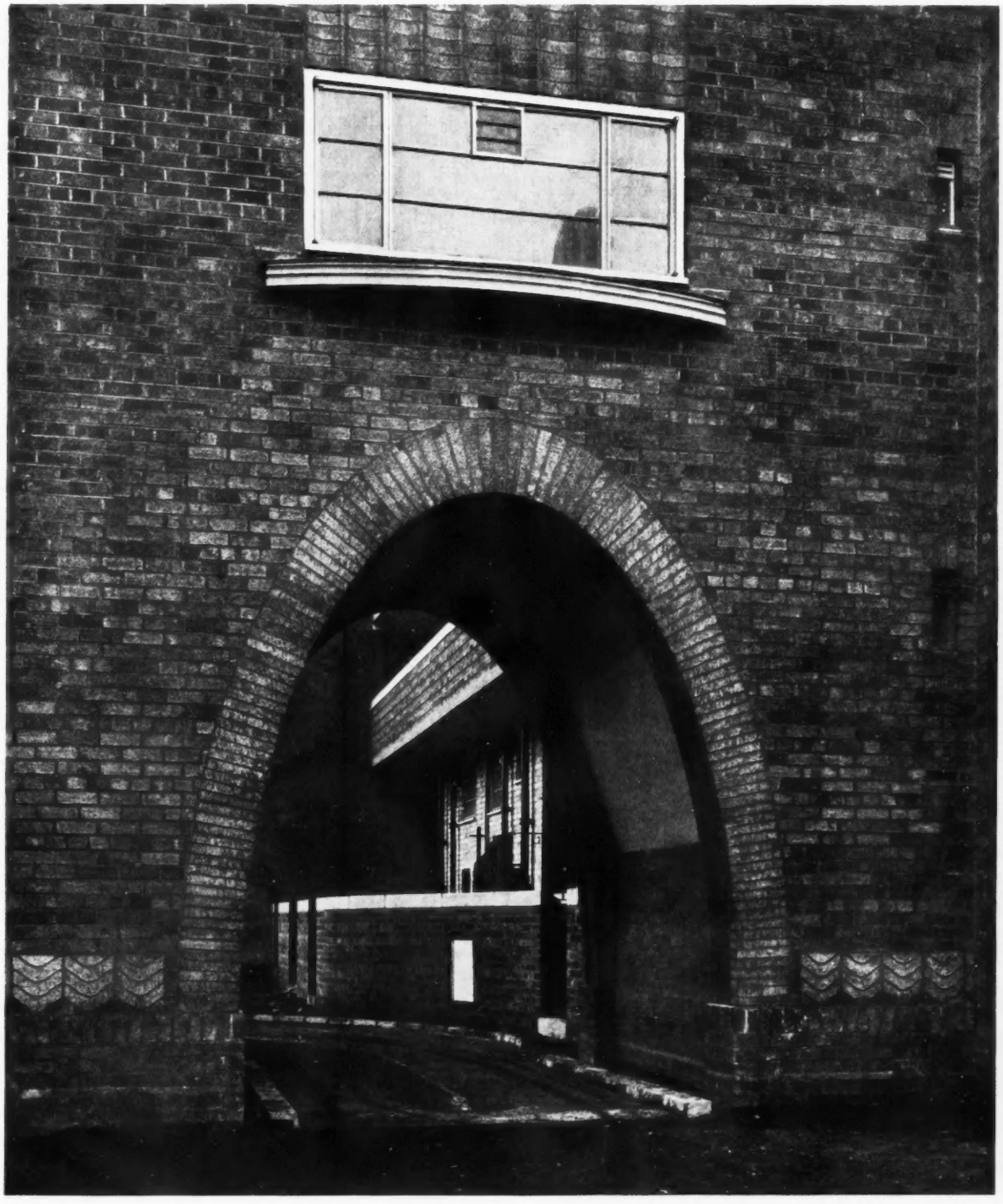
FIRST FLOOR PLAN

HOUSING SCHEME AT LIVERPOOL:



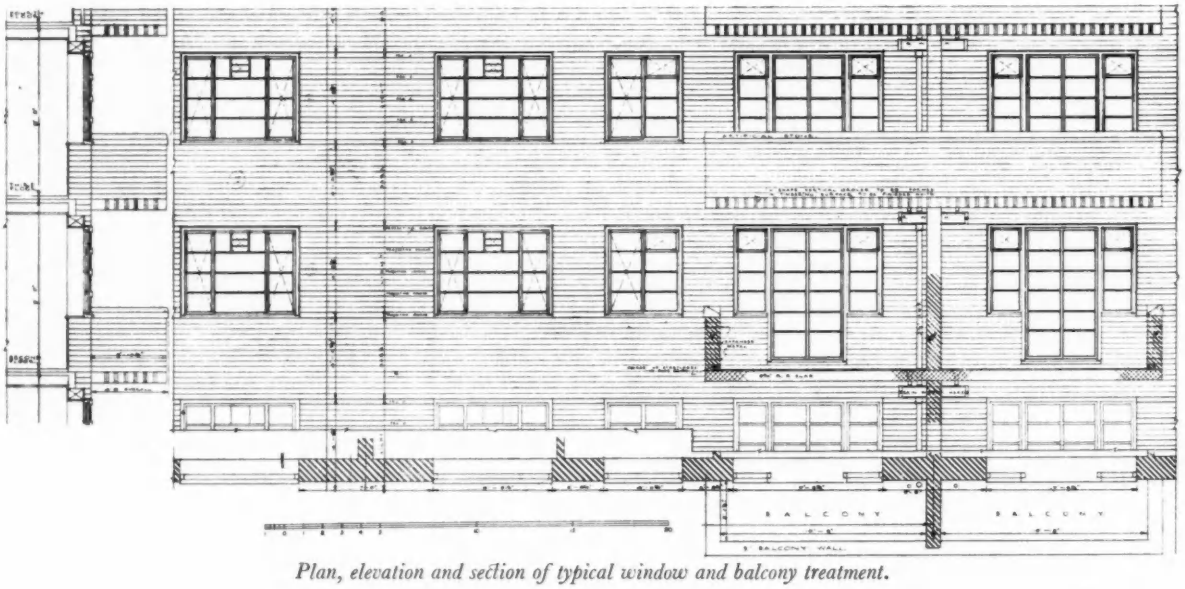
Detail elevation of connecting link between blocks C3 and C4 (see lay-out plan, page 39), illustrated in photograph opposite. The archway leads through to the court between the blocks, from which staircases lead to the access balconies.

DESIGNED BY L. H. KEAY

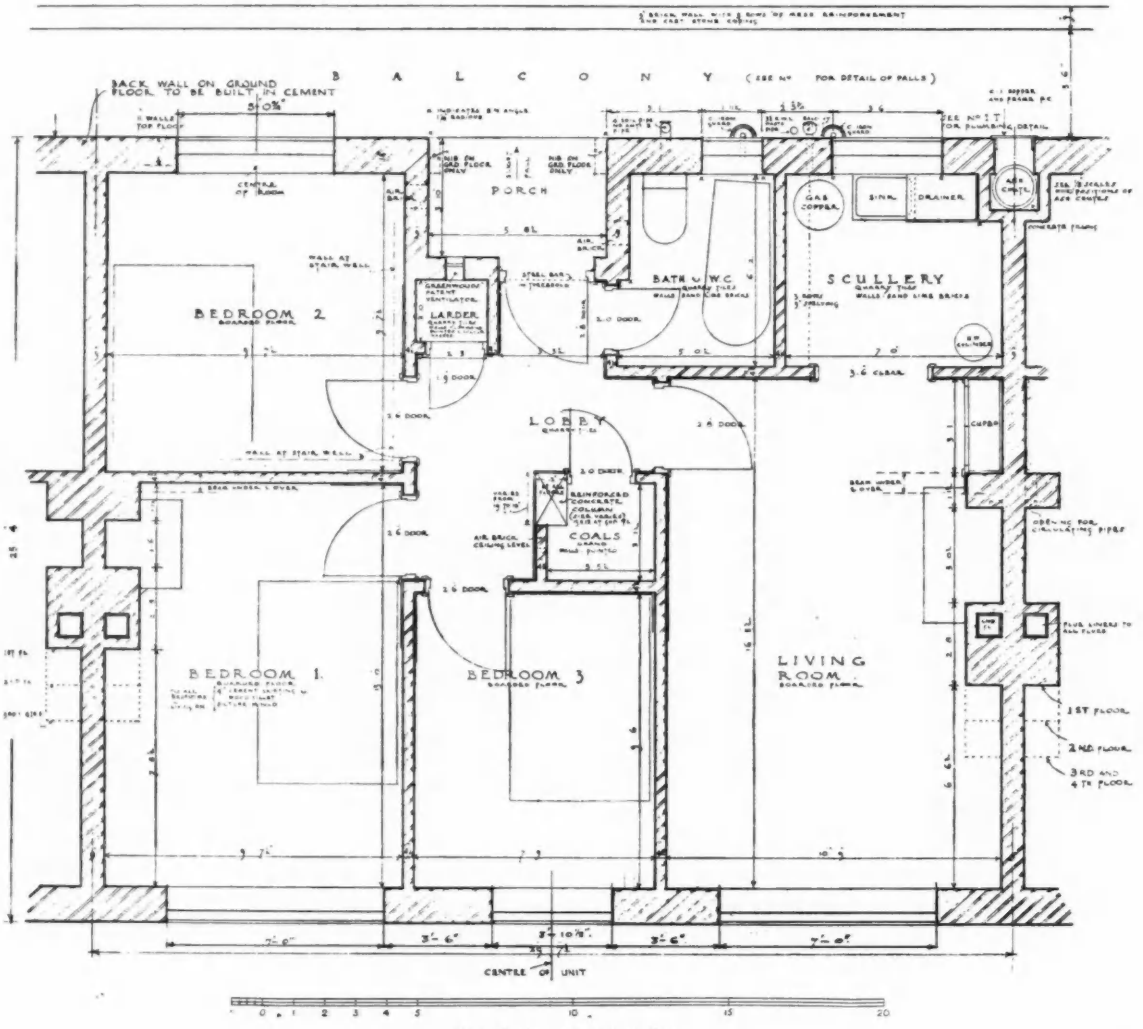


A photograph of the archway shown on the drawing opposite. The arch is parabolic in shape, and the decoration is of purpose-made bricks of the same light brown colour as are used generally.

HOUSING SCHEME AT LIVERPOOL



Plan, elevation and section of typical window and balcony treatment.



Detail plan of typical flat.

DESIGNED BY L. H. KEAY

CONTEMPORARY TRENDS

[*By P. MORTON SHAND*]

AN architectural survey of the Europe of 1933 reveals some curious contrasts—notably between the two leading Fascist states. Italy, which inaugurated a new era with the resolve to create a new Augustan idiom of imperial pomp and circumstance (e.g., the new ministries in Rome and the new central station in Milan), has now fallen into line with the international Esperanto of flat roofs and plain façades. True, the new Italian functionalism is a functionalism with a very national difference; but it is none the less a definite adherence to that school of thought.

GERMANY

Germany, the political pupil of Italy, the country where the new architecture thrived as nowhere else, and as though on native soil, has apparently cut short its further development in order to evoke some more purely racial embodiment of Nazi hope and glory. I say "apparently" advisedly, for so far all prognostications of the official Third Reich style are largely surmises. There is certainly nothing Neo-Biedermeier about the three most important churches that have been finished in Germany this year. Contrary to what is often stated, comparatively few German architects were either Jews or Marxist Aryans. The reason why those who happened to be functionalists or modernists suffered under the new regime has been somewhat misrepresented. One or two of the most prominent among them got the straight tip as to what was coming from well-informed Jewish financial circles, and fled the country before the elections that returned the Nazis to power. In the enflamed state of public opinion after the Reichstag fire this was interpreted as proof that all who were left-wing architecturally must be left-wing politically. The many had to bear the brunt of the suspicions bred by the cowardice of the few.

It would be foolish to despair of the future of German architecture when men like Peter Behrens, the father of Modernism, and Neo-Classicists such as Tessenow, Bonatz, and Schmitthener—to say nothing of hundreds of young architects who have never before had a job—are actively at work in their own country. Others at present under a cloud are hardly likely to remain so indefinitely, with the undoubted expansion that is now taking place in building as part of Hitler's campaign against unemployment. If some of the bigger men are forced to leave as a result of economic encirclement, other countries will be the gainers. It may well be that Nazi architectural history is destined to repeat the first cycle of Fascist, and in a few years we may find Germany quietly reverting to what was after all (even in the "Aryan paragraph" sense) far more the creation of her own genius for organization than that of any other nation. The new German architecture may prove less stimulating than what I suppose we must call the old, but there seems no reason to condemn it in advance of its appearance. Even the most back-to-Methuselah German architects are modern-minded compared with their opposite numbers in at least one country that might be mentioned.

The prospect of an era of politically inspired schools of architecture opened up by recent events in Germany is certainly one that promises variety, if not necessarily vitality. With which of the "orders" may the Conservative, Labour and Liberal parties be expected to indentify their respective "creeds"? (The present National Coalition will obviously choose the "composite".) It looks as if ambitious young architects will soon be studying Sir Oswald Mosley's and Mr. Maxton's personal tastes with the same emulative zeal as they now devote to flattering the stylistic preferences of assessors in their competition designs.

FRANCE

In France the Beaux Arts still holds its own—not by standing fast on the rock of ages, but by virtue of an adroit change of front. As Josef Frank has pointed out, it is just as easy to fit a "modernist" façade to a building which belies its construction as it is to clap on a nice slab of "period, and proud of it too." Today it is rare for a Second Empire or "Louis style" elevation to emerge from a scaffolding. Instead, it is usually a brazen expanse of jazz-modern, lavishly bedizened with the decorative "*fantaisie*" born of the Paris Exhibition of 1925. Fortunately for France she has the finest structural engineers in the world, and their independent work is still about the best modern architecture any country can boast. Thanks to their influence the less ambitious type of French building is becoming steadily soberer, and in this new austerity the French genius for scale and proportion finds full scope. There has been considerable building activity throughout the year, largely as a result of municipal and private housing schemes under the Loi Loucheur—the first serious attempt to make up for the acute post-war shortage of working-class dwellings. The past year also saw the completion of many admirable schools, hospitals, shops and railway stations in France and French Northern Africa, in which the national itch for florid ornament has been either entirely subdued, or else sternly disciplined. In view of the increasing competition of motor transport it is significant that a large number of important French stations are being either completely rebuilt or thoroughly modernized; for whatever their shortcomings the old French stations had a far better right to rank as "public buildings" than most of their English counterparts. The English official attitude to the needs of the travelling public in 1933 was summed up in an address on "The Railways Act of 1921: Ten Years After," delivered on October 26 by Mr. W. V. Wood, the Chairman of the Railway General Managers' Conference:

"Largely because of a capital outlay of £200,000,000 by the railway companies during the past decade their plant, equipment and services have attained a higher level of efficiency than ever before. In one respect, however, a reservation must be made. Railway stations have not similarly shared in this development. Something has been done, but not much. Priority has been given—and properly so—to equipment. There was no reason why private capital should be sunk in the erection of passenger stations to emulate Leipzig or Milan, with their lavish state and municipal aid, or the huge new stations in America."

This is characteristic of the "practical" mentality which, while appreciating that a modern machine is more efficient, and therefore economical, than an obsolescent one, entirely fails to understand how the same consideration can apply to buildings. In France municipalities have to contribute to the cost of new stations, and a town gets the sort of station it wants, or that which its apathy or avarice deserves.

Auguste Perret's elegant new villa and block of flats in concrete, faced

with thin stone slabs, might be described as French studies in English Regency. Young English architects might learn a great deal from French concrete engineers about the possibilities of Regency stucco as a point of departure for contemporary design, if training began with the study of structural instead of conventional forms. In spite of Perret's pioneering work, church design still typifies modern French architecture at its worst. Here the plastic liberty *fantaisie* finds in concrete is almost invariably debased into licence. One example of the year is the huge new Eglise Saint-Jeanne d'Arc at Nice with its eleven ostrich-egg cupolas.

NORTHERN EUROPE

Holland has now thrown off the last traces of that *art nouveau* crewel-work which disfigured so much otherwise fine handling of brick in the nineteen-twenties. "*Suedoiserie*," though still the rage of artistic circles in England, has worn very thin in its native land.

In Northern Europe the initiative has passed to Finland. Russia, we are told, has lost faith in functionalism because it requires a degree of technical skill which the predominantly ideological training of Soviet architects and artisans is not yet able to impart. There are stories of old gentlemen, once professors of class-enemy architecture under the Czarist regime, being dragged out of exile in the Urals to teach the young Prolet idea how to foliate capitals as prettily as the bourgeois students of capitalist countries. In any case the design which won the competition for the Palace of the Soviets showed a decided leaning towards the conventional grand manner. Functionalism is clearly a bit too plain for Bolshies and Nazis alike, if for supposedly different reasons. Both would probably agree that it allows too much freedom.

ENGLAND

Whither England? Optimists (or, if you prefer it, pessimists) declare that buildings of the year such as the Masonic Headquarters, South Africa House, the extensions to St. Mary's Hospital, and the new City Hall at Leeds will never be built again. Can this be quite so confidently predicted now that the Government has decided to sink £2,500,000 worth of Portland stone in Whitehall? Whitehall is the key to the situation, and Whitehall has pronounced "no change." Emboldened by this example of bulldog tenacity, English architecture continues to face the past bravely, with an occasional contemptuous glance over its shoulder to see what the poor foreign fools are doing who imagine that the present age differs from the last.

If only "recovery" comes soon enough no change whatever may be necessary—or at worst only another revival (Norman and Saxon are still waiting for an innings). All the same a spirit of unrest is abroad. One or two more English architects, including an "eminent," have "gone modern" (a term that must be interpreted in shades of meaning varying from the *Arts Décoratif* manner of 1925 to pre-Krueger Swedish charm), though scarcely in a way suggesting they have burnt their boats. An avenue of retreat from such light-hearted philanderings is always left open in case the spacious days of a shilling in the pound income tax should return.

The small band of Martian architects who could alone vie with Continental exponents of the new æsthetic are not entirely kept on the footing known as "supernumerary to strength"; though the banks and insurance companies continue to turn to those "safe men" who know how to make a lot of money go a very short way. The railways turn to nobody at all, secure in the knowledge that no better stations than Victorian ones can ever be built. Housing is as housing doesn't. If one were asked to name the typical major London buildings of 1933 I suppose the answer would be Shell-Mex House or the Cumberland Hotel. Both are monumental embattlements of hollow stone propped up with steel, which make a brave show of capitalistic contempt for rumours that vested interests have become public nuisances that must be devested. "Confidence," as understood in Lombard Street, is none too convincingly expressed in either of these hybrid structures.

But in small things the modern spirit, hampered far more by the sham modern than the sham antique, pushes its way through; and is noticed where "the usual thing," like rain on Sunday, is taken for granted after the first indifferent glance. Though the visible signs of impending change are few, there is a growing sense of some inexorable imminence that threatens mending or ending.

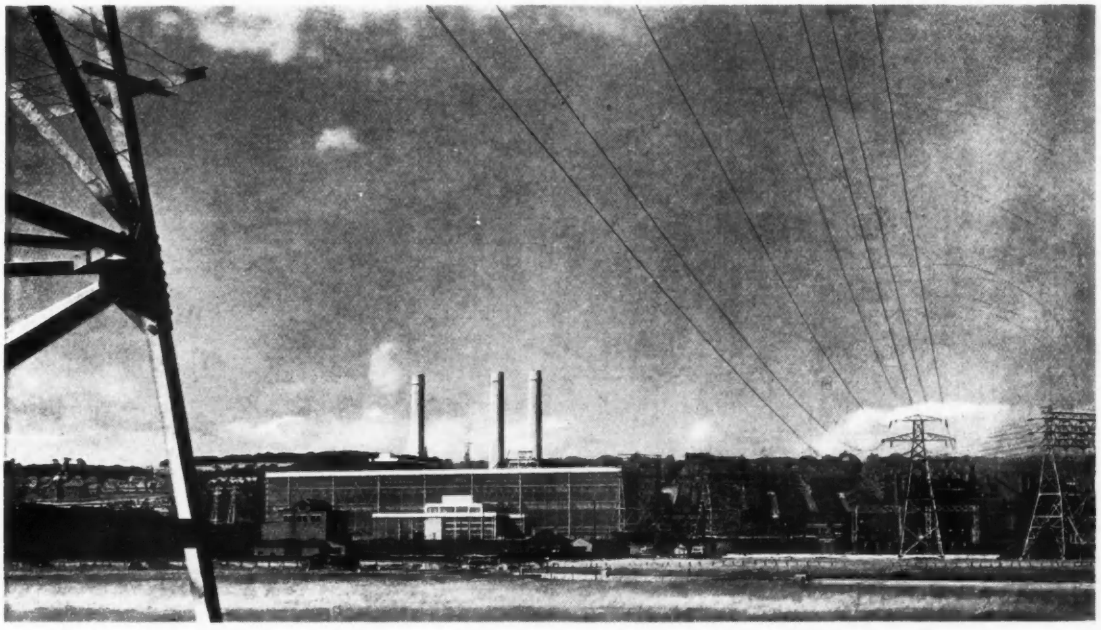
The disheartening procrastinations of the Slum Clearance campaign have had a numbing effect on the whole profession; and in part explain its dogged refusal to recognize that structure has become the only basis of architecture, and economy the only justification of design. Architects have been slow to realize that this presents the greatest architectural opportunity there has been for a century. How are the slums to be rebuilt? Piecemeal, and in crabbed little patches, hemmed in by bye-law streets; or according to a master plan embracing the whole area of every city? In true-lover's knots of garden-city cottages, such as have been derisively erected as a whiff of *rus in urbe* on the vacant plot beside Bush House, or in rational tenement blocks? In an over-taxed and impoverished state, faced with the necessity of rehousing some ninth of its population, structural economy can be the only architectural criterion. And a national housing board, operating on a national scale, is the only possible way to solve the problem without laying up a fresh legacy of the slum evil for the next generation. To these questions the Ministry of Health makes no answer, and allows the inception of its campaign to be held up while cities with unspeakable purlieus protest their idyllic slumlessness, and thereby proclaim the moral breakdown of local government.

OPPORTUNITY

Yet on whether we tackle this problem, and if we do on how, turns the whole future development of English architecture. Here is an ideal chance for one of those rare concerted efforts from which great architecture is born. If we succeed it may mean far more than a resumption of the broken tradition of English architecture, far more even than a minor English renaissance. It might mean that England would become the architectural exemplar and mentor of Europe. Signs are not wanting that this is by no means impossible. The preliminary conditions are favourable. England enjoys a degree of political and economic stability which, if only relative, is admittedly without parallel elsewhere. The intellectual magnetic pole, which moved from Paris to Berlin after the war, is shifting once again—largely as a result of Germany's self-denying ordinance. In putting back the clock, and ridding herself of so much and such varied talent, Germany has tacitly renounced "the leadership principle" in several spheres of international co-operation. Architecture is the most important of these, and England perhaps the only country that can assume this vacant rôle. She alone has remained aloof from the whole modern movement, and she alone has a national tradition old and strong enough to assimilate it without being assimilated by it. And once again, as in the days of the Huguenot exodus, England has the chance of enriching her native genius with the skill of some eminently desirable exiles.

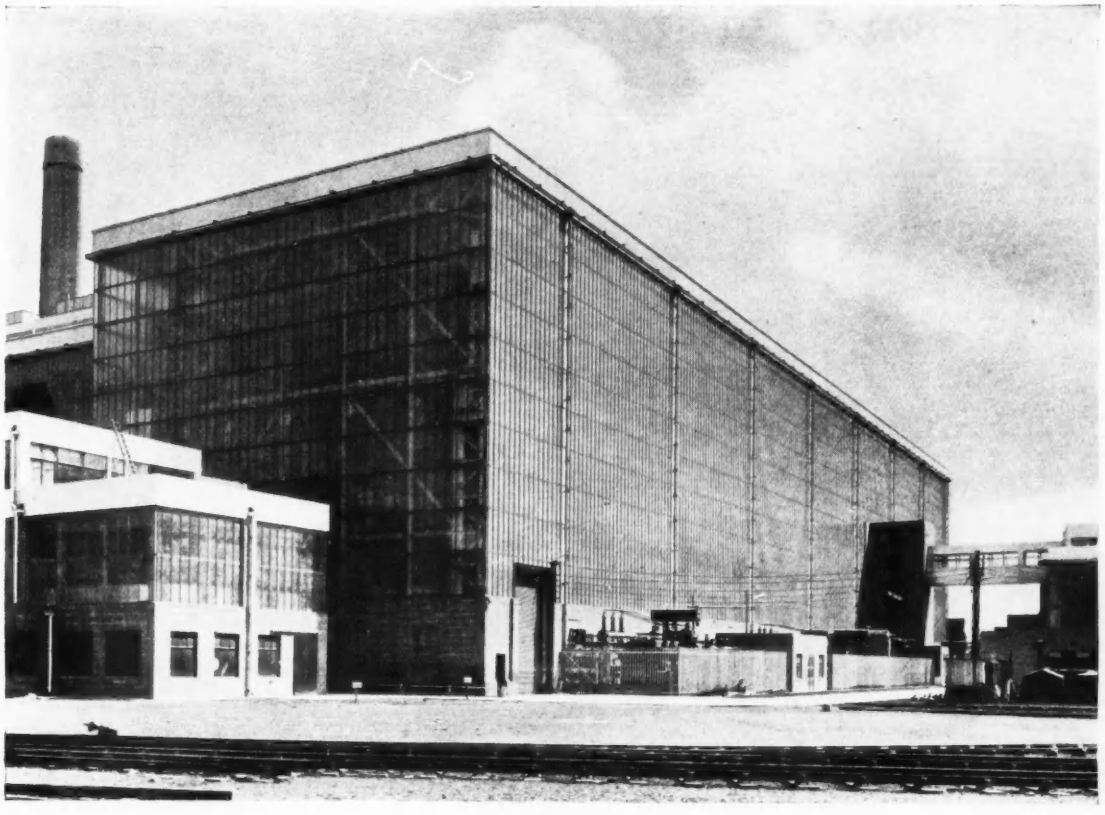
If 1933 has been another year of pusillanimous postponements, 1934 opens fraught with magnificent opportunities. All we need to realize them is a leader. Not a "Duce" or a "Führer," but the sort of English organizer who gets things done without shouting and overcomes obstructions without force.

DUNSTON POWER STATION



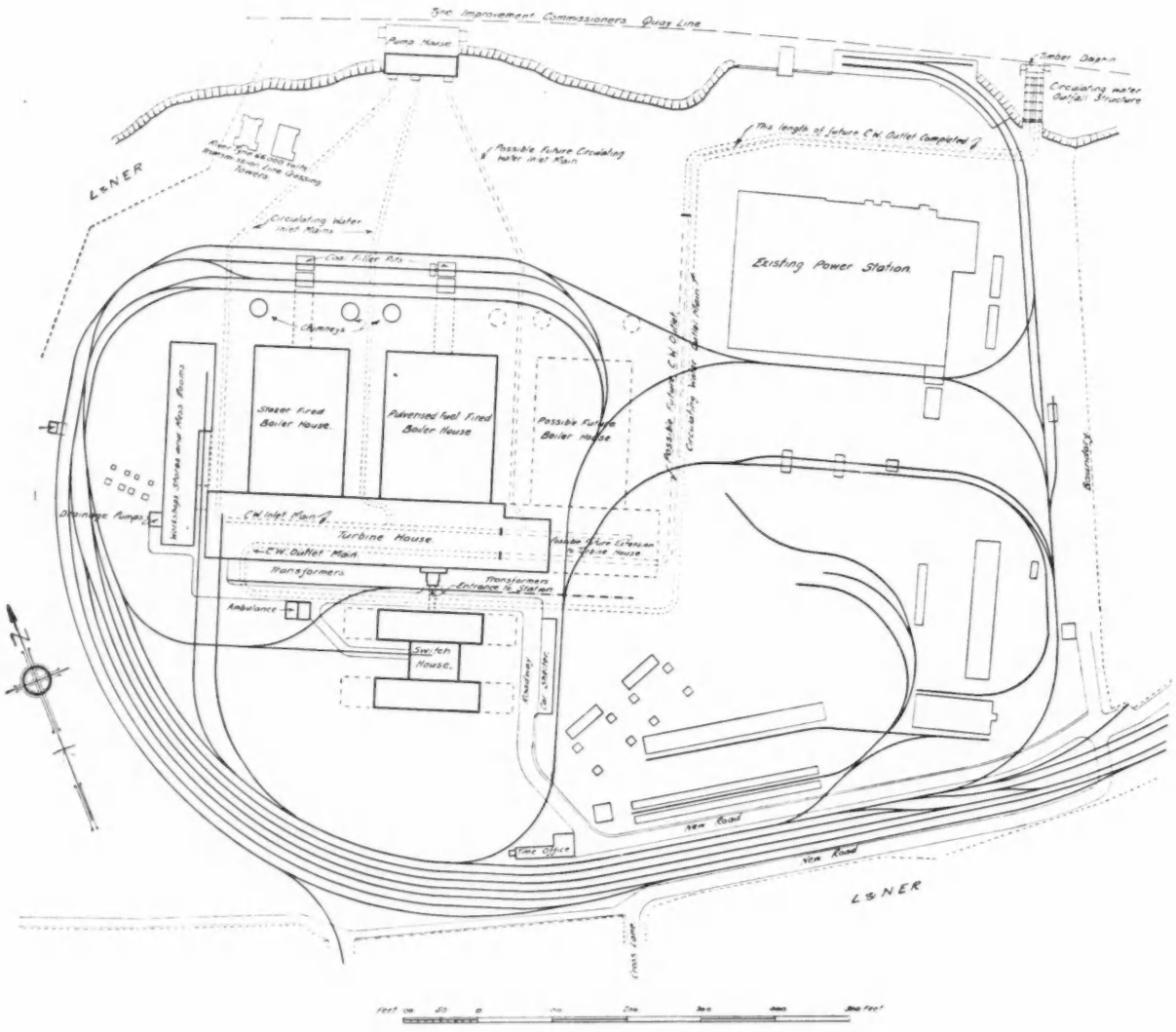
The new Dunston 50-cycle power station is situated on the south bank of the river Tyne, about two miles west of Newcastle.

It has an area of approximately 75 acres with a river frontage of about one quarter of a mile. The present buildings are sufficient to accommodate four 50,000 kW turbo-generator sets, and provision has been made for extending them in an easterly direction to accommodate two similar sets with the necessary boiler plant, making a total capacity in all, when completed, of 300,000 kW.



DESIGNED BY MERZ AND McLELLAN

DUNSTON POWER STATION:



LAY-OUT PLAN OF THE WHOLE STATION

The buildings consist of a steel frame with the whole of the walls hung with patent glazing. Reinforced concrete is used for floors, piling, chimneys, etc. Following are some details of the construction :

PILE DRIVING.—*Pile driving was commenced in November, 1930, and completed in September, 1931. The maximum rate of driving was about 350 piles per week, or 60 per day. There were four pile frames working, which amounted to 15 piles driven per frame per day.*

The total number of reinforced concrete piles driven, excluding sheet piles, was about 6,000, of which just under two-thirds were made in ordinary Portland cement, and the remainder in special rapid hardening cement. The maturing time allowed was originally six weeks. This was later reduced to four weeks and finally to two weeks. The maturing time allowed for the special cement piles was 24 hours. The designed load per pile is 30 tons : the average sustained load obtained was from 40 to 75 tons.

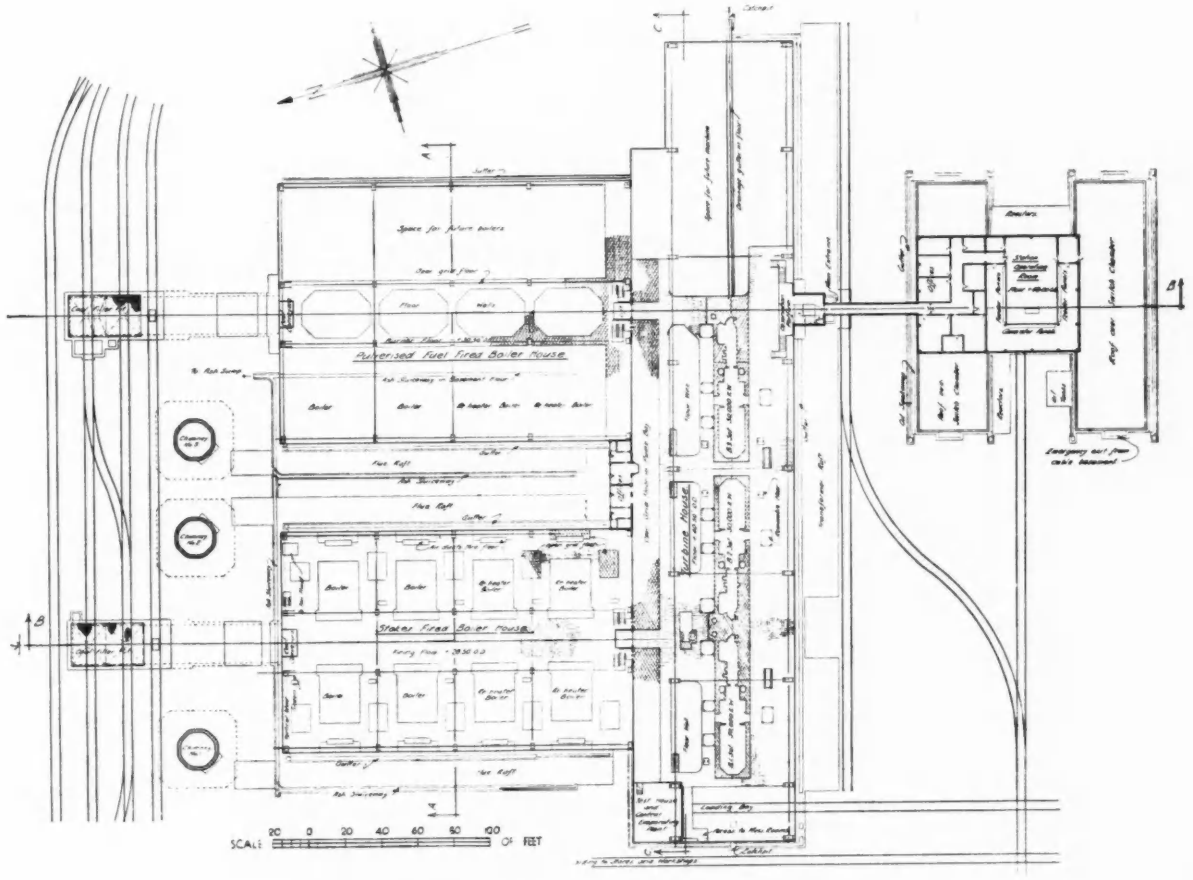
The depth of the gravel strata in which all the piles are set varies from about −30 o.d. to −40 o.d., the average ground level being +9 o.d. In driving, some piles have dropped 20 ft. under the dead weight of the hammer, and no load is sustained until the gravel strata is reached. Above the gravel strata the ground consists of sand and silt, and beneath it brown clay, which has little sustaining value. In certain instances 12 in. by 12 in. timber piles have been used, particularly for carrying the circulating water pipes. The total number of timber piles driven amounts to about 1,600.

EXCAVATIONS.—*About 2,800 tons of sheet steel piling were driven for enclosing the deep excavations, varying from 30 to 70 ft. in length. The Riverside Pump House has not been built on piles but the foundations for this have been carried down to the gravel bed. A sheet steel pile cofferdam surrounding the whole structure was first constructed, this being divided into six compartments by sheet steel diaphragm walls : all these sheet piles were driven through the gravel bed, the piles being 70 ft. long.*

The next stage was the excavation of the interior compartments, one at a time, the foundations being laid on the gravel bed. The side pressure from outside was resisted by an elaborate system of timbering inside the excavated chambers, which added greatly to the difficulty of construction, and in spite of these precautions, the diaphragm walls deflected as much as 12 ins. in certain places.

The particular danger to be guarded against in such deep excavations is that of the bottom blowing in, due to external hydrostatic pressure. This is minimized to a considerable extent by the key provided by the sheet steel

DESIGNED BY MERZ AND McLELLAN

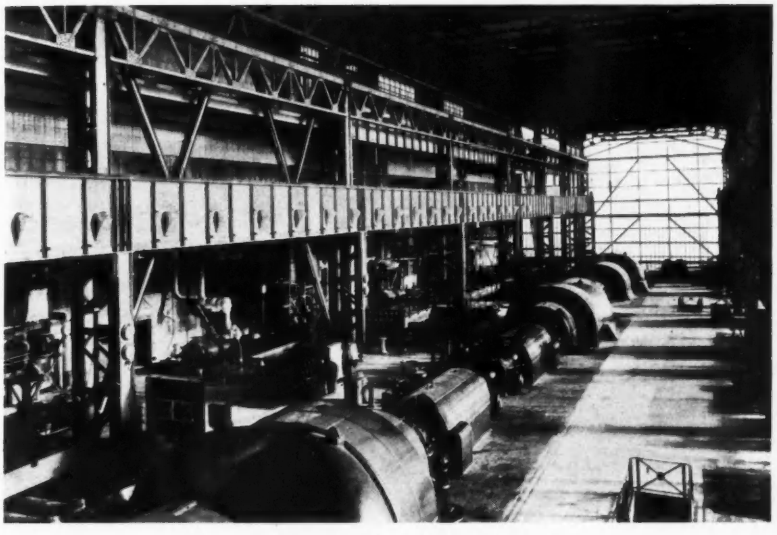


PLAN OF THE POWER-STATION BUILDINGS

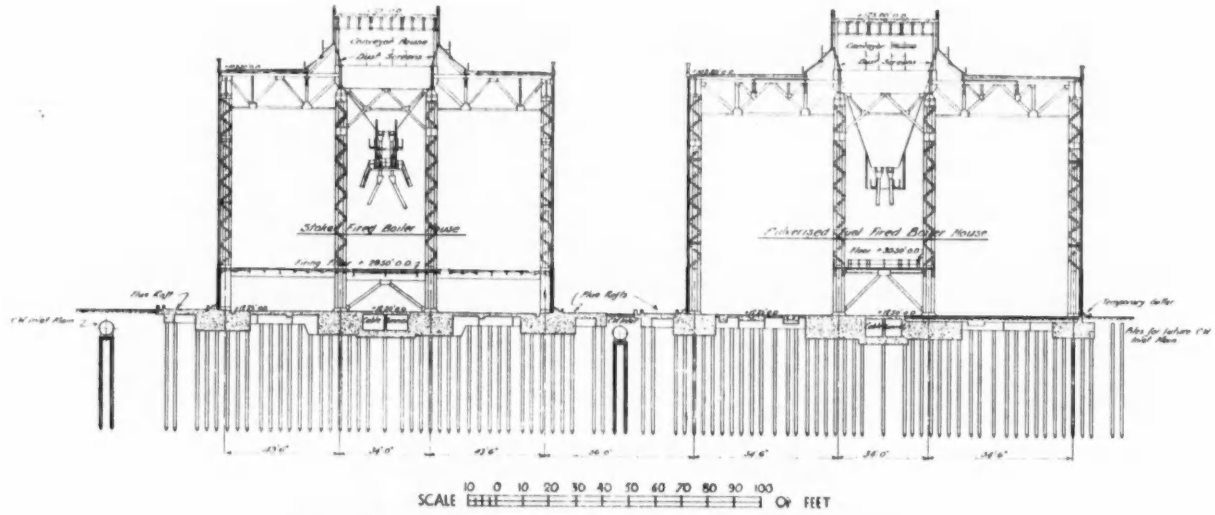
piles. In this particular work there was only one small blow, which was ultimately found to be due to one of the sheet piles having slipped out of its clutch. The other deep excavations undertaken were those for the two Coal Filler Pits and Circulating Water Pipe Trench, which were also sheet piled.

The precaution was taken of carrying out all deep excavations before any other work was started, in case of any trouble being experienced. Having concreted the bottom of the excavations and proved them safe, the building foundations were then proceeded with.

Considerable difficulty was experienced with the drawing of the sheet piles. The total upward pull required to draw the first pile amounted to 150 tons. The piles were then withdrawn with the pneumatic hammer. To maintain the required upward effort, three compressors having a total capacity of about 1,000 cu. ft. min. were required.



A view in the interior of the turbine room.

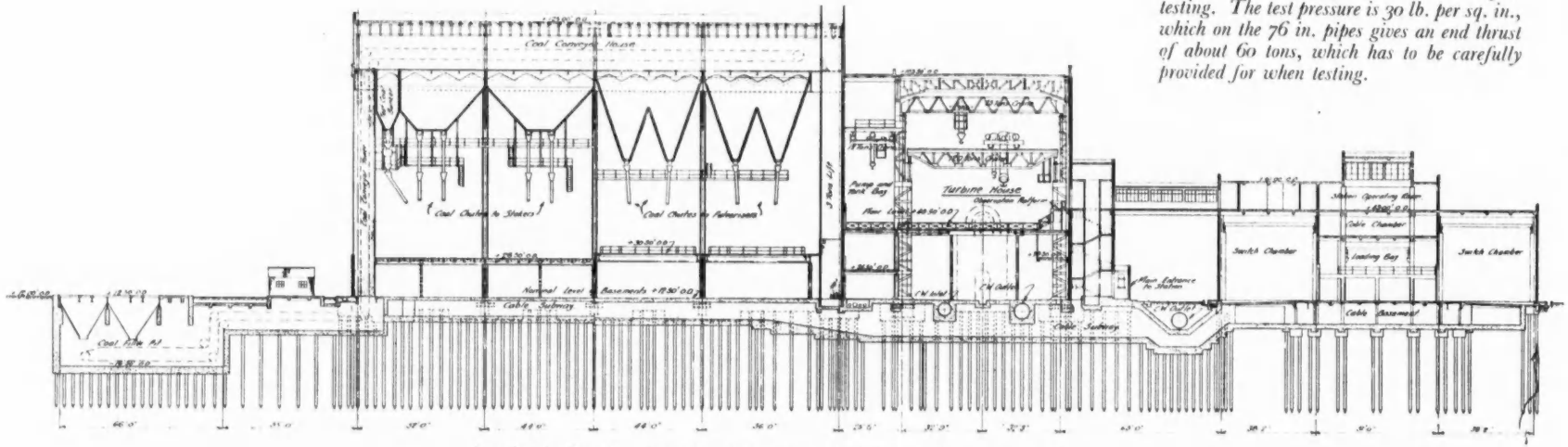


Cross section through boiler houses on line A-A (see plan on page 49).

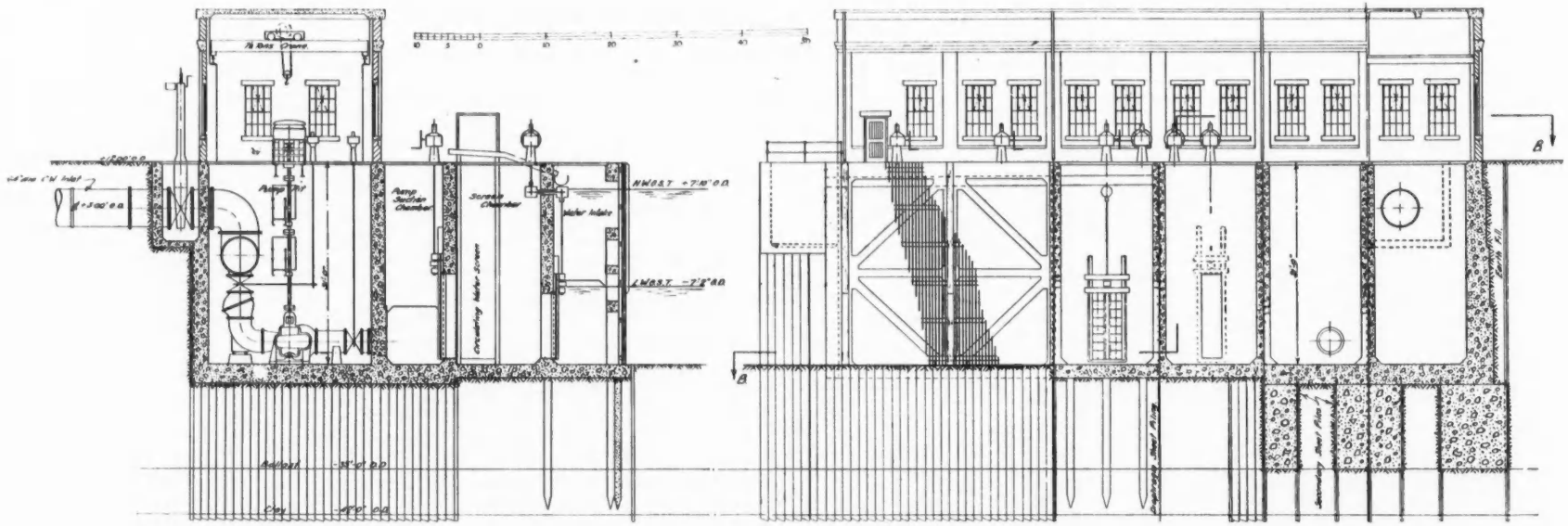
CHIMNEYS.—*The three reinforced concrete chimneys are octagonal at the base and circular at the top, and their complete construction, exclusive of the internal brick lining, was carried out in five months.*

A special method of shuttering was employed in their construction. The inside diameter at the base is 18 ft. and that at the top 15 ft., and the thickness at the base is about 9 ins., tapering to 5 ins. near the top. The total weight of each chimney is approximately 900 tons. The chimney is protected on the inside by a lining of acid resisting bricks, and ventilation is provided between the lining and the concrete shell.

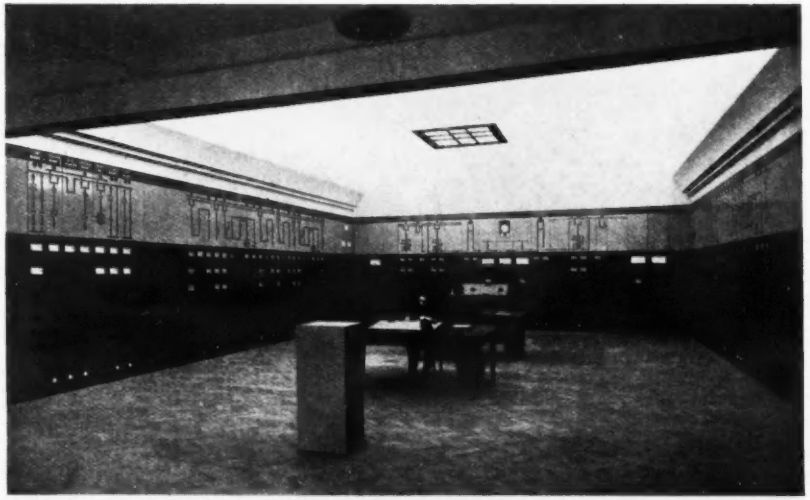
CIRCULATING WATER MAINS.—*The circulating water inlet pipes are 64 ins. in diameter, and the outlet pipes 76 ins. They are connected together by spigot and socket joints. The outlet pipes are caulked with double collar lead joints to allow for expansion due to rise in temperature of water. At regular intervals along the line, flanged pipes are provided with a blank flange in between; the object of this arrangement is to enable the pipes to be tested as laying proceeds. The blank flanges are cut out after testing. The test pressure is 30 lb. per sq. in., which on the 76 in. pipes gives an end thrust of about 60 tons, which has to be carefully provided for when testing.*



Longitudinal section through buildings on line B-B (see plan on page 49).



Left, typical cross section and right, longitudinal section through pump house.



The interior of the switch operating room.

The interior of the stoker-fired boiler house.

DESIGNED BY MERZ AND McLELLAN

SLOANE AVENUE MANSIONS,

The building from Sloane Avenue.

This building has been entirely constructed in reinforced concrete, and contains 195 flats of one and two rooms, each with a kitchenette and bathroom.

The U-shaped plan of the block was designed to ensure adequate lighting of all the flats, and offer at the same time a reasonable lay-out for the columns; for in any cross section there is one column on the outside wall face, one on each side of the corridor, which runs centrally round the building, and another column on the inside wall face.

PROGRESS.—*The building has eleven storeys, each with a floor area of approximately 10,000 sq. ft. It was erected in six months, practically an average of one storey a fortnight; for, since the wall fillings were carried out simultaneously with the main structure, internal finishings were started at an earlier stage than is usually possible. When the structure had reached the fourth floor only, partition work, door frames, flooring finishes, and even plaster work were proceeding on the ground and first floors.*

GENERAL CONSTRUCTION.—*The building is carried on columns, the foundation slabs for which go down to a sandy ballast which is loaded to 3 tons per sq. ft. The concrete mix in the columns is 1 : 1 : 2 by volume, while that in the beams and walls is 1 : 2 : 4. In the design of the structure a horizontal wind pressure at 15 lb. per sq. ft. was allowed for on the upper two-thirds of the projected area.*

WALLS.—*The exterior walls are of 4 ins. reinforced concrete, and a 2 in. pumice concrete lining with a 2 in. air space between is provided, the pumice blocks being finished with $\frac{1}{4}$ in. of plaster on the inner face.*

By the use of rough boarding covered with waterproof three-ply, a satisfactory face was obtained for the concrete, practically without further treatment, except the rubbing in of a few air pockets. The whole exterior was afterwards treated with a patent surfacing.

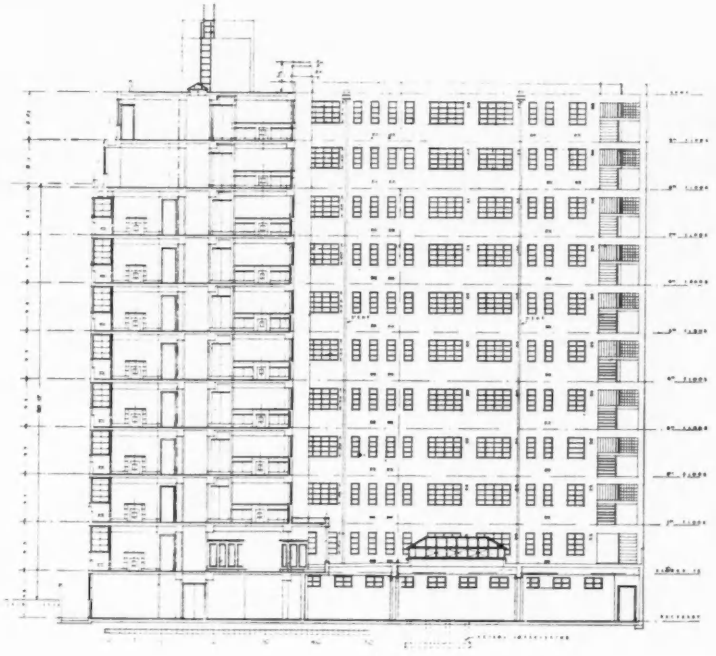
The division walls between the flats consist of two 2 in. pumice blocks, with a 2 in. air space between. The external face of each pumice concrete block has a $\frac{1}{4}$ in. plaster finish. These finishing methods serve to provide heat and sound insulation, and to prevent condensation; also, the cavity in the external wall forms a vertical damp course.

FLOORS.—*All the floors to the flats are of hollow tile construction, with a concrete mix of 1 : 1 : 2; while the corridor floors are of solid reinforced concrete, 5$\frac{1}{4}$ ins. thick. The floors are finished with wood boards on battens.*

EQUIPMENT.—*The building is equipped with electric service and passenger lifts, central heating and constant hot water. The corridors are heated at a temperature of 60° F. by means of radiators, while the*

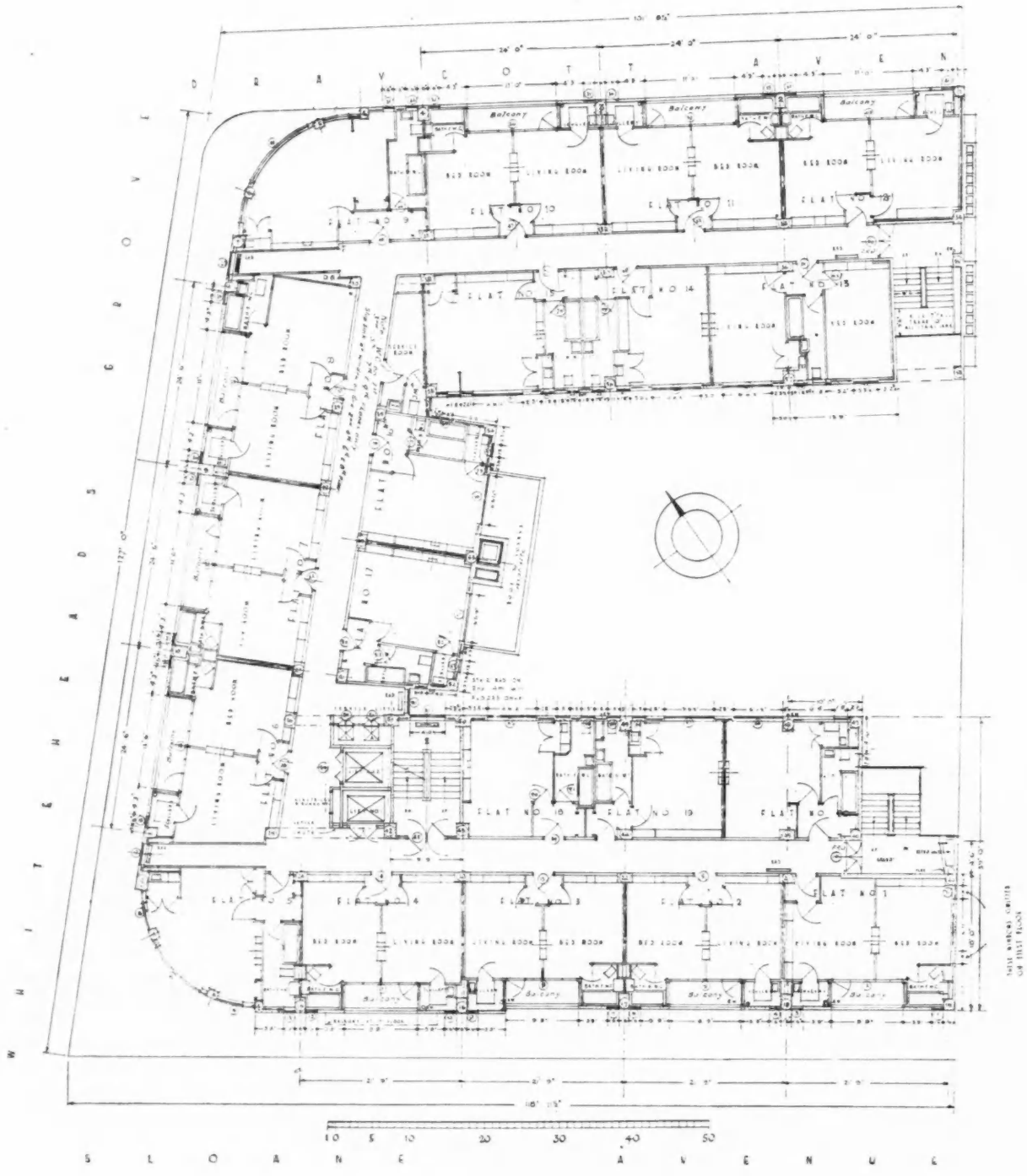
CHELSEA : BY G. KAY GREEN

flats themselves have pipes behind the skirting boards, and a temperature of 50° F. is maintained. In addition, there are electric fires in each flat, and in each kitchenette is an electric or gas cooker, and an electric refrigerator. All bedrooms have built-in wardrobes, and Post Office telephones are installed in every flat, there being a private exchange in the building.



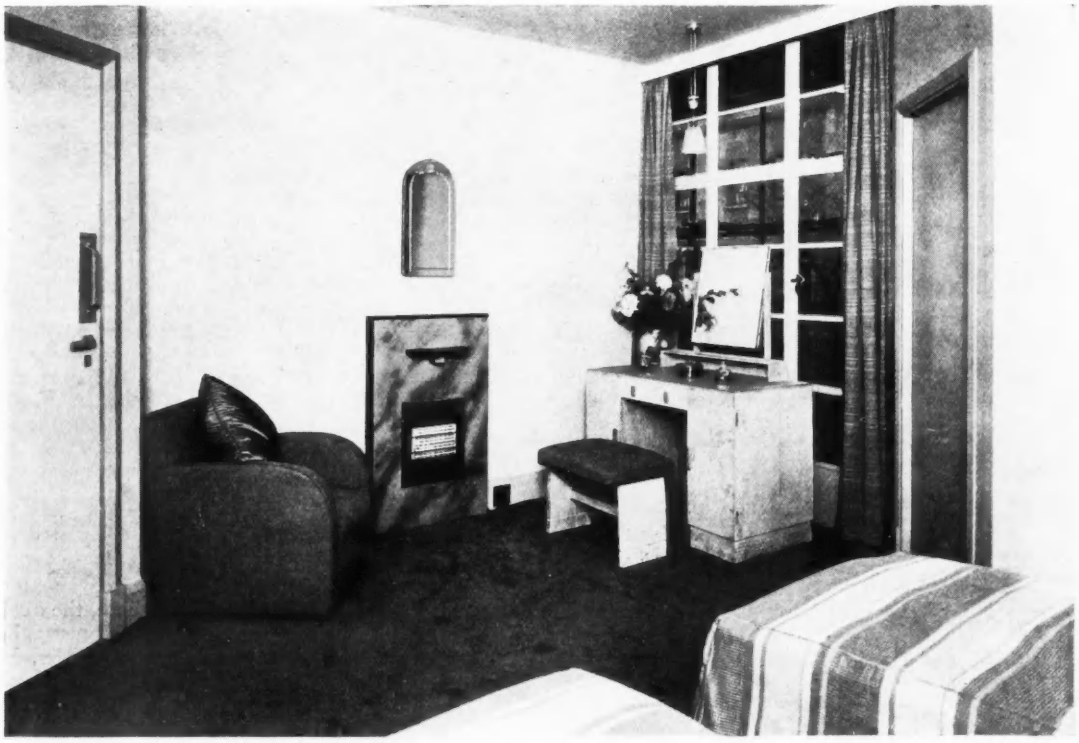
Above : general view of the exterior. Right : cross section through the building, showing elevation to interior court.

SLOANE AVENUE MANSIONS,



Typical floor plan. This plan is repeated on all floors from first to seventh, and on the ground floor with the difference that Flat number 4 is replaced by the entrance hall.

CHELSEA: BY G. KAY GREEN



Top, a typical bedroom and bottom, a typical living-room interior.

E. J. Carter.

ARCHITECTS' CHRISTMAS CARDS

[*By GEOFFREY BOUMPHREY*]

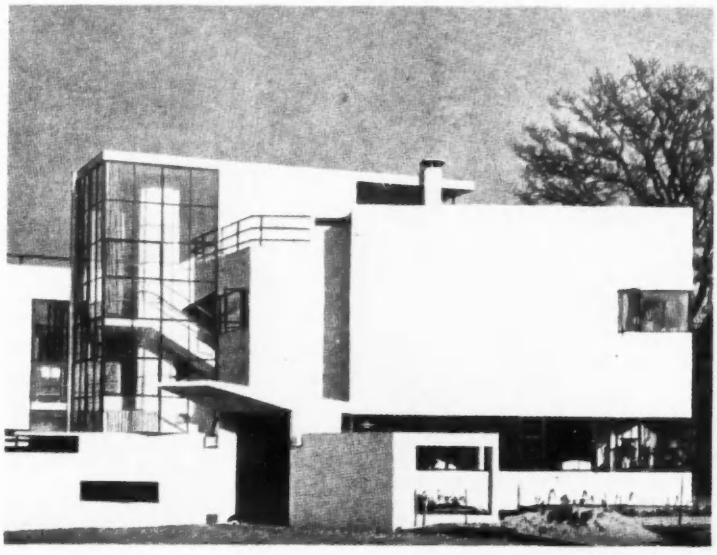
THOSE who are familiar with architects (I use the adjective not in its colloquial sense, of course) will be little surprised to learn that these men—and occasionally, I believe, women—are persistent senders of Christmas cards. For the sending of Christmas cards is backed by a fine healthy tradition and only the cynic would credit it with any ponderable function. Moreover, the British architect is, by training at least, every inch an artist; and the designing of his own card gives him the opportunity of exploiting his own talent to a degree which is becoming increasingly difficult in his everyday work.

Few of my own architect friends consider it worth their while to send me specimens of their cards, and it was with peculiar interest, therefore, that I looked forward to being given the run of this JOURNAL's Yuletide postbag. I tried to picture to myself in advance the probable catch, and in imagination I divided it into four groups: (i) the purely artistic, (ii) the architectural-artistic, (iii) the "all-my-own-work" and (iv) the well-designed. If it be objected that groups (i) and (iv) are the same, I can only reply that according to the usages of my vocabulary this is not so. As to quantities, I expected the second group to be the most numerous, closely followed by the first, with three some distance behind and four an also ran.

This forecast was so astonishingly accurate that I wish now I had deposited it in advance at a bank in a sealed envelope—to be opened on Christmas Eve in the presence of admiring witnesses. The only mistake of any account was an excessive allotment to class three—and here I must be allowed to plead in extenuation the number of my friends who, crowned (I think that is the word) with parenthood in the last year—as so many appear to have been, slump or no slump—have insisted on embodying a reproduction of their reproduction in their Christmas cards. Evidently the pride of architectural creation is less potent than that of parenthood, for there is only one entrant in the former class—from Messrs. Connell and Ward. This may also be granted admission to class four, where it joins, amongst others that can be seen here, the cards of Mr. and Mrs. Stanley Ramsey, Mr. E. J. Carter and Mr. and Mrs. Raymond McGrath. The latter makes interesting use of a window-cleaner's ladder, a trowel of unique pattern, a tulip, dropped, no doubt, from some careless foreman's button-hole, and a plumb-line (which was certainly not employed in the erection of the circumjacent scaffolding) to make a really good design. Among the runners-up for this disappointingly small class are the cards of Mr. P. J. Westwood and his son, Mr. Bryan Westwood. It is a seemly thought to include a photograph of the sender's hands in a Christmas card, and had the specimen illustrated been technically rather better (there is, I think, too much monotone about the shadows), it would have had a yet stronger claim to my affections.

In class two I was bitterly disappointed to find no "Old Hampstead" (though one or two "Old Homesteads"), but ample amends were made by the discovery of a genuine "Polperro." Unfortunately for the gratification of my nasty mind this is so extremely well done that were it not for my abhorrence of all that Polperro stands for and of all that the artists have done to it (blue and orange paint, facetious poker-work legends and tame seagulls) I should have had to consider its admission to class four. There is little else in this group to call forth more than a comment of "pleasant" or "adequate."

The diffidence with which I pass these remarks, being no Art Critic, is increased when I come to those who, even in my own estimation, are far



THE

SEASON'S GREETINGS

from

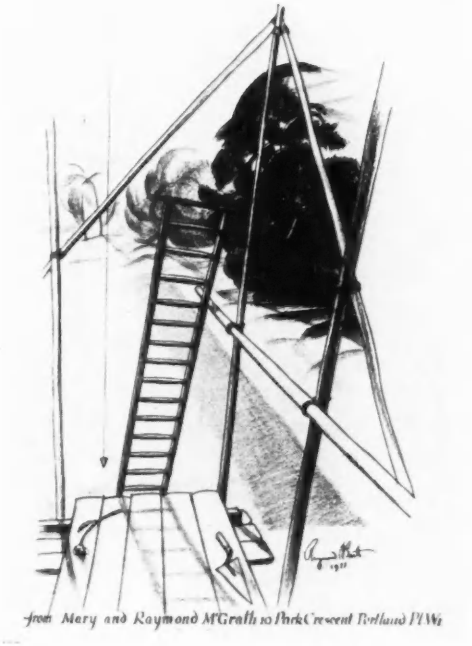
AMYAS CONNELL

and

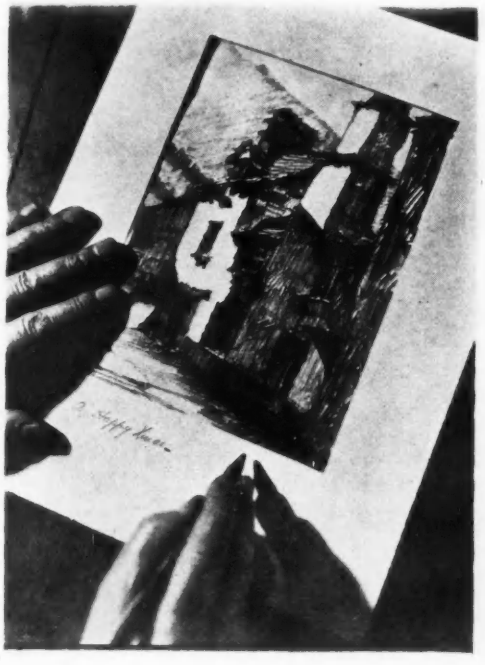
BASIL WARD

25 GROSVENOR PLACE, LONDON, S.W.1

Amyas Connell and Basil Ward



Raymond M'Grath

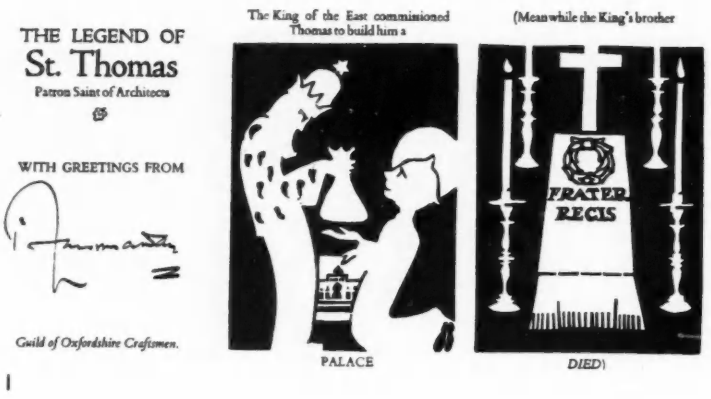


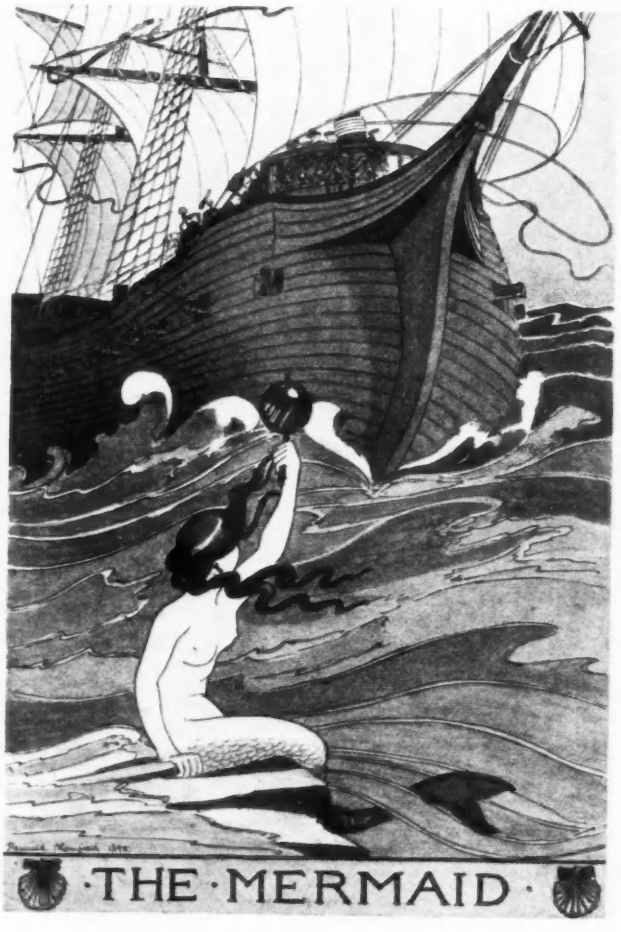
P. J. Westwood

E

more important than I. Sir Reginald Blomfield's card comes well within a category comprehensible to the very youngest and least sophisticated of us. But there is more to this card than meets the eye, for the card is described by the author as "an allegory of modernism to be interpreted in any way you like." I can see but one interpretation. Here we have a young woman, admirably adapted, so far as one can see, for almost any purpose, wearing no ornament (nor anything else) to typify her modernism, and, coming towards her, a ship of extremely traditional build. The bluff Stewart bow, prodigiously wasteful of energy (and later superseded by the efficient "clipper" bow), the clutter of pennants and purposeless ropes, the very nearly unstepped bowsprit—all serve to perfect the analogy. It is clear that the ship is running straight on the rocks. It is equally clear that the girl is well able to swim and look after herself. Need one say more? I feel that Sir Reginald must unhesitatingly be awarded the "Best allegory in 1933" medal.

Before I end, it would only be prudent of me (since I hope to have the opportunity one day of writing an article on "Architects' Valentines") to point out that the views expressed here are mine and mine alone. If I appear to have been superior and cynical, let me plead the after-effects of Christmas and the jealousy of the cardless; few things are more calculated to madden a man than the sight of Christmas cards which he would feign have been able to design himself.





1. *T. LAWRENCE DALE*
2. *SIR REGINALD BLOMFIELD R.A.*
3. *S. D. ADSHEAD*
4. *H. M. FLETCHER*
5. *ARTHUR J. DAVIS*
6. *ARTHUR KEEN*
7. *E. GUY DAWBER, A.R.A.*

The moral of this story is employ the *Hand Craftsman* and so both help to turn machine-made unemployment and revive the English Handicrafts and thus

MAKE THE BEST OF BOTH WORLDS.

Illustrated by
T. L. Dale, F.R.I.B.A., Oxford.

Wood blocks cut by
E. Joyce Francis, Edgbarton.

Printed by
The Alcuin Press, Campden, Glos

Published at 40 George Street, Oxford

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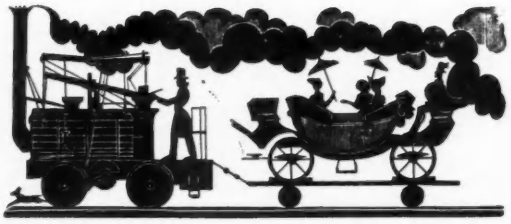
With Best Wishes from Mr. & Mrs. E. Guy Dawber.

7

1



TO WISH YOU EVERY HAPPINESS AT CHRISTMAS

AND

A PLEASANT AND PROSPEROUS JOURNEY

THROUGH THE COMING YEAR

4

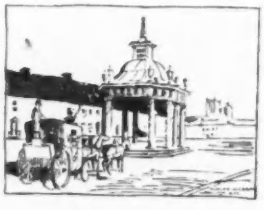
With best wishes

2

1. *S. C. RAMSEY*
2. *G. VAL MYER*
3. *DUDLEY HARBRON*
4. *AYLWIN DENT*
5. *P. D. HEPWORTH*
6. *P. E. PALMER*

BEST WISHES FOR CHRISTMAS
FROM PHILIP HEPWORTH
7 GRAYS INN PLACE WC

5



Greetings
from
Dudley Harbron

4 Arlington Street,
Hull. *1933.*

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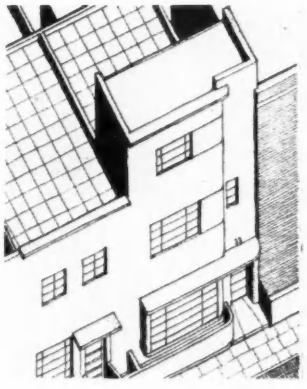


WITH BEST WISHES FOR
CHRISTMAS & NEW YEAR
FROM PHILIP & LILIAN
EVANS PALMER ···1933

33
COLLEGE PLACE
CHELSEA
SW3

6

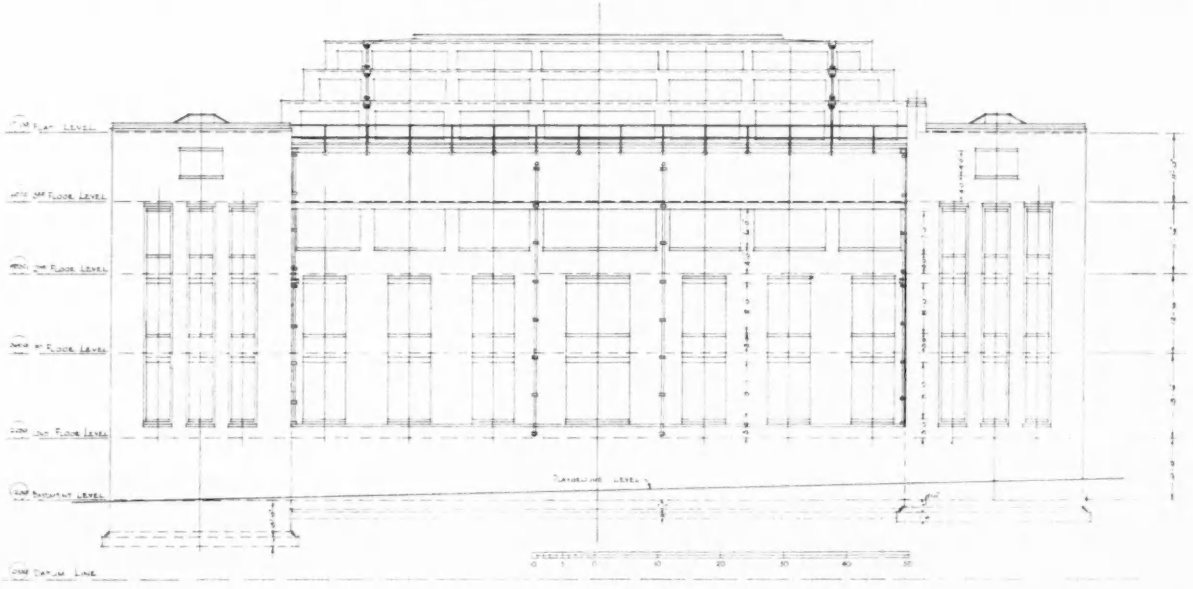
ARCHITECTS' CHRISTMAS CARDS

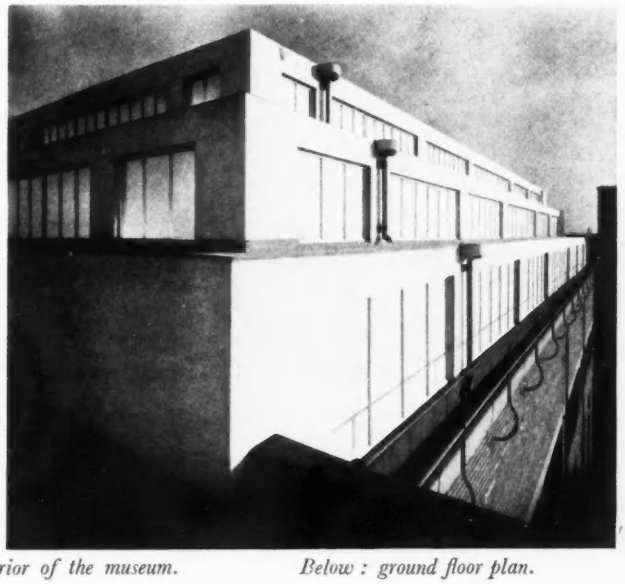
PAINTED INTERIOR

Wall decoration by John Armstrong in a flat in Portman Square, reproduced from COLOUR SCHEMES FOR THE MODERN HOME, *by Derek Patmore (see* BOOKS OF THE YEAR *in this issue).*
The painted panel seen on the end wall represents the harbour at Ostia, and the material for the others is drawn from ancient Roman emblems and accoutrements.

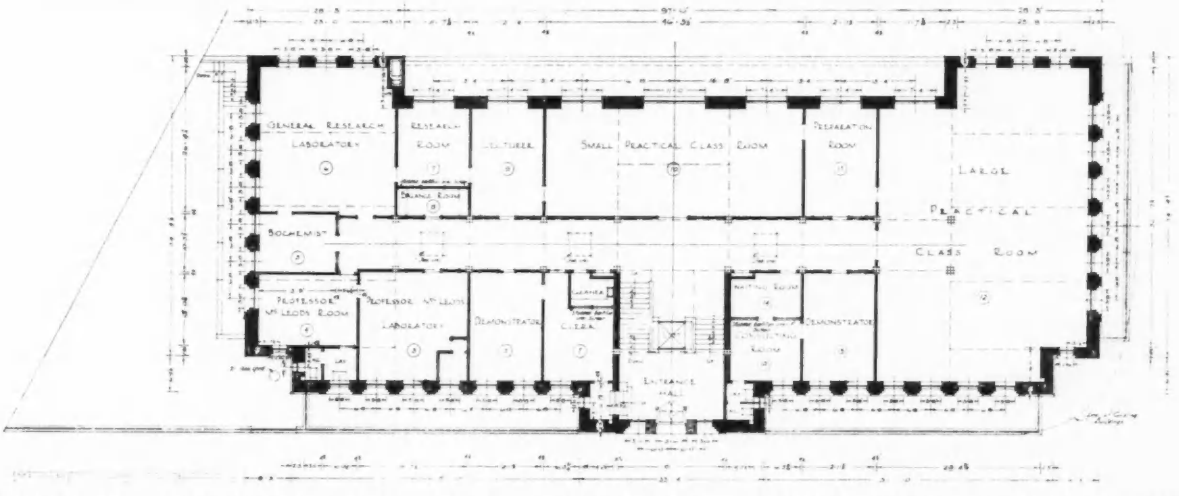
To face page 60

INSTITUTE OF PATHOLOGY, LEEDS



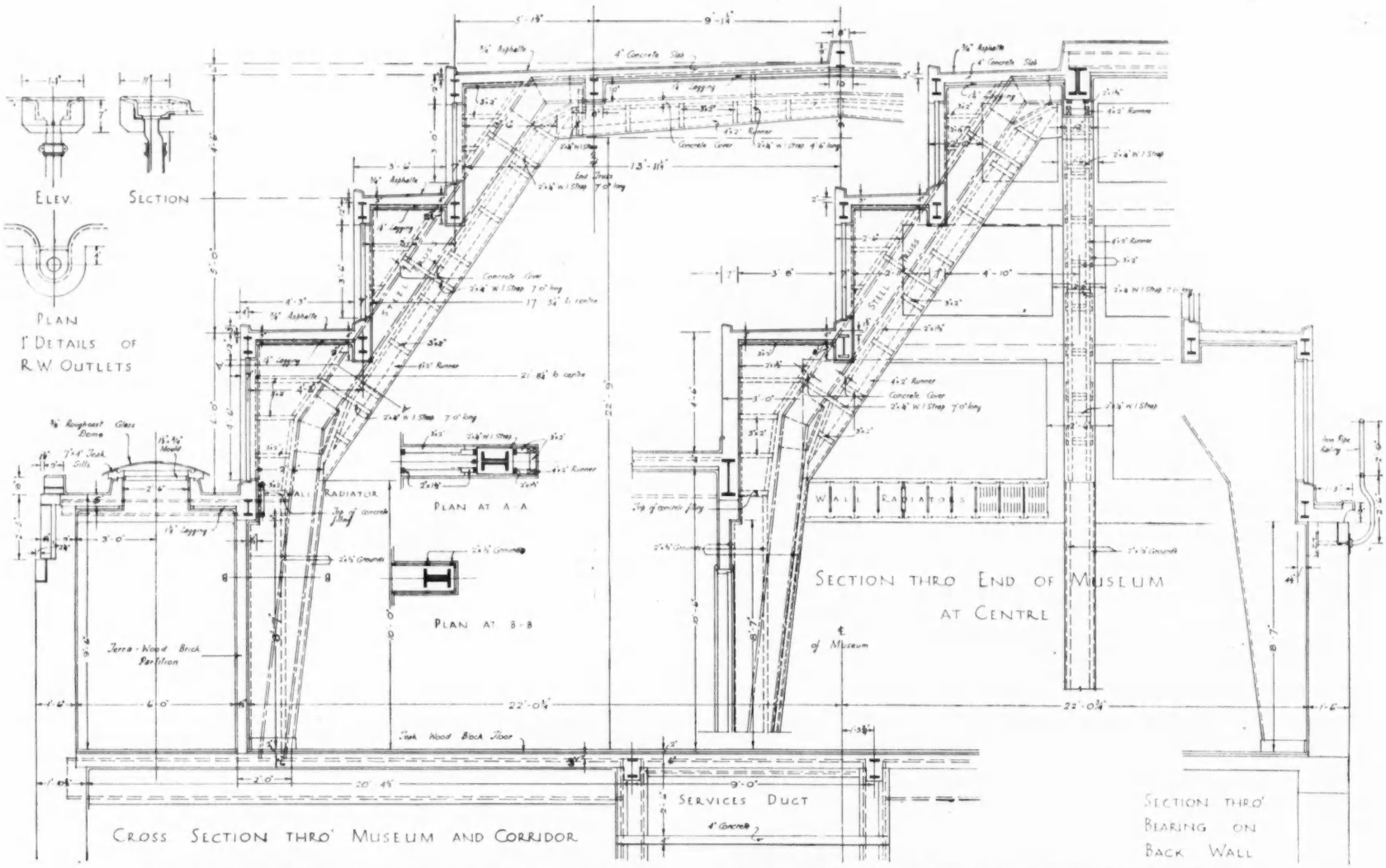


Left: the rear elevation. *Right: the exterior of the museum.* *Below: ground floor plan.*



JOHN C. PROCTER AND F. L. CHARLTON, ASSOCIATED ARCHITECTS

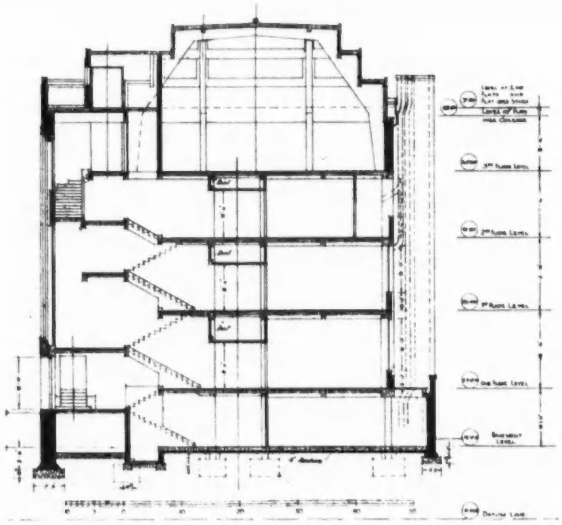
THE INSTITUTE OF PATHOLOGY, LEEDS



The Algernon Firth Institute of Pathology, in the University of Leeds, has as its most important feature the museum on the top floor, which is illustrated on these two pages.

The museum is lit by three tiers of clerestory windows; the two lower tiers are fixed lights, while the upper tier is top-hung, to open out, the whole range being electrically operated. These windows are glazed with a diffusing glass, to obviate the necessity for blinds.

Below is a general section through the building showing the stepped back construction of the museum roof and a view of the interior. Above are detailed sections through the roof and walls.



JOHN C. PROCTER
AND F. L. CHARLTON
(Associated Architects)

WALLS.—*The structure, except for a small amount of Portland stone in the plinth and main entrance, is entirely of brick. Steel stanchions are used on either side of the main central corridors to break the span, but there are no stanchions in the outer walls, and the floor girders are supported on the brick walls and the central stanchions. Internal partition walls are in a patent light brick, and are not structural, in order that room sizes may be altered in the future if required, with the minimum of disturbance.*

FLOORS.—*The suspended floors throughout are of expanded metal and concrete, the floor-coverings to corridors and lavatories being terrazzo, to museum and lecture theatre oak, and in the remainder of the rooms and laboratories "battleship" linoleum, cemented direct to the concrete.*

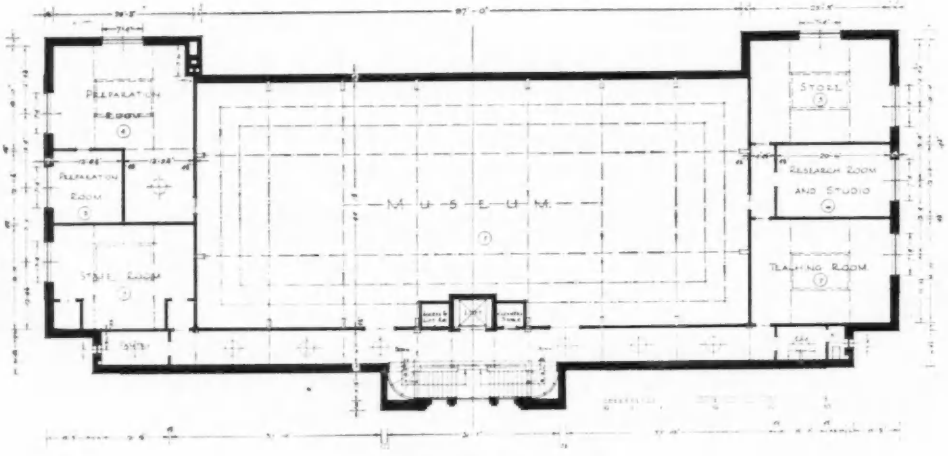
WINDOWS AND DOORS.—*The windows are steel frame, and the fenestration is for the most part in regular bays; windows 3 ft. 8 ins. and piers 3 ft. Stained Columbian pine flush doors are used throughout internally.*

VENTILATION.—*The general ventilation is natural. Fume cupboards are divided into groups, and exhausted by electric fans.*

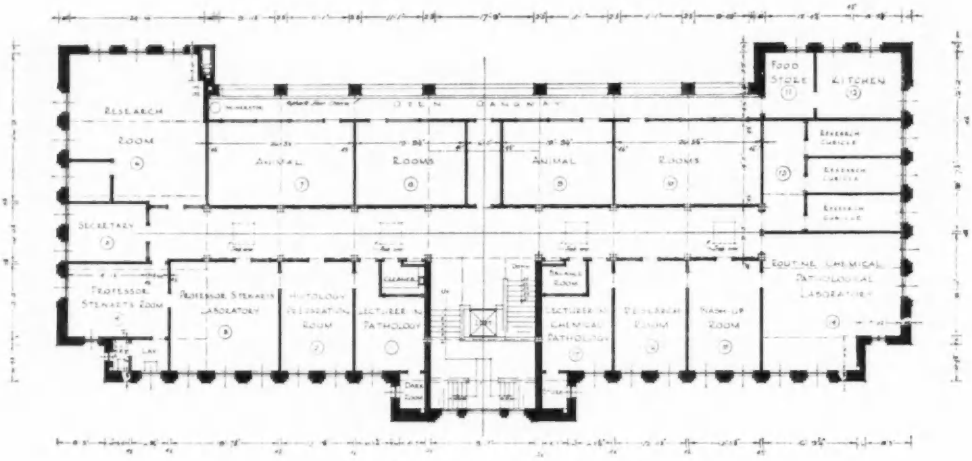
DRAINAGE AND SERVICES.—*All internal drainage is exposed, that for the laboratories on one floor being carried in glass-lined cast iron pipes on the ceiling of the floor below. All services are also exposed, the main runs being carried in the ducts over the corridor ceilings on each floor. The corridor ducts are served from two vertical ducts on each side of the staircase well, one carrying all the electrical work and the cold water supply, the other hot water, heating mains, gas, etc. Each service and run is ringed with a key colour, at intervals throughout the building, for identification purposes.*

ANIMAL ACCOMMODATION. — *The animal accommodation on the second floor occupies the whole of the west front between the two shallow projecting wings, and is reached from an external open gallery, which is cut off from the main building by a lobby and two sets of doors opening from the centre of the main corridor.*

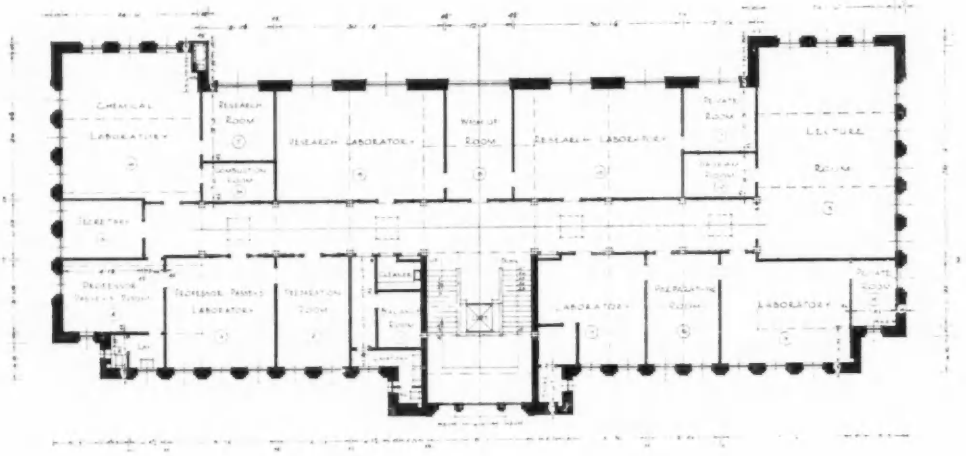
INSTITUTE OF PATHOLOGY, LEEDS



THIRD FLOOR PLAN



SECOND FLOOR PLAN



FIRST FLOOR PLAN

JOHN C. PROCTER AND F. L. CHARLTON, ASSOCIATED ARCHITECTS

Battersea Power Station. Sir Giles Gilbert Scott, R.A., architect for the exterior; Halliday and Agate, architects for interior; Dr. S. Pierce, consulting engineer. "What is this great romantic pile with its long incised vertical windows? Is it a new cathedral? There is a faint plume steam from one of the towers which can hardly be incense . . ."

THE YEAR'S WORK AT HOME

[*By PROFESSOR C. H. REILLY, F.R.I.B.A.*]

IT is clear, looking at the mass of the year's buildings, that in this country at least the movement for purely logical building continues to grow. Each year the proportion of genuinely modern work is a little bigger and the work itself more ambitious in character and spreading to new categories; but, unlike the state of affairs in Germany or in Russia of a year or two ago, it is still but a fragment of the whole output. One qualifies with "a year or two ago" because Hitler, sentimentalist as he obviously is, has ordered a return to steep roofs and curly gables; while the new Russia, just to show she is now as firmly established as the old ever was, is, one hears from various sources, also back among the columns.

It would seem, then, that the responsibility for the progress of the new architecture now lies with France and England. America, always a little behind the rest of the world in this respect which, strange as it may sound to Americans, has nothing to do with the height of buildings as such, has for the moment almost ceased to contribute.

What is really the position in England? Are the majority of architects convinced? I am afraid not yet. Personally, I should have my doubts about anyone over forty, for curiously enough it seems largely a question of age.

In the schools of architecture up and down the land youth is all for the brave, new world. The spontaneous reception that Erich Mendelsohn recently received at Liverpool was extraordinary. This youthful enthusiasm is contagious. Listening to his speech at the Architectural Association, one gathered that Sir Giles Scott had been converted; but at the R.I.B.A., when he gave his presidential address, it was clear he still had his doubts. Indeed he gave there a fine display of our natural genius for compromise, which is sometimes the source of our strength but often, too, of our weakness. It is, indeed, what his great Battersea building shows. This building seems to express the general position of a great number of architects at the present time. Let us therefore begin with it in this annual bird's-eye glance at the more salient work of the past year.

BATTERSEA POWER STATION

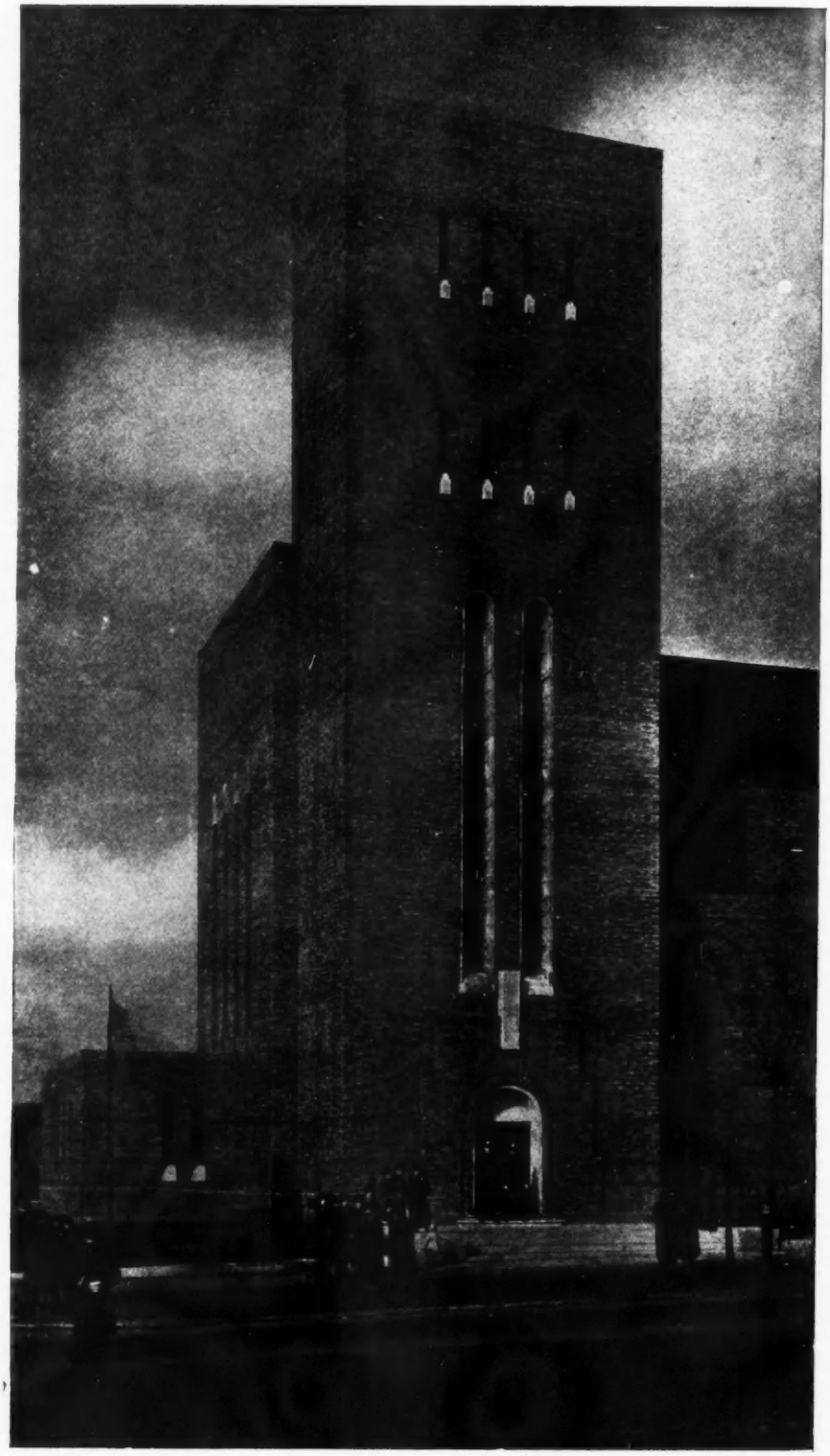
Anyone travelling on the Southern Railway towards Victoria Station cannot help being impressed by the great pile of pleasant coloured brick, with its two end towers standing high above the ocean of roofs, which he sees through the carriage windows as he looks eastward. What is this great romantic pile with its long, incised vertical lines and hidden windows? Is it a new cathedral by that interesting church fellow up in the north, F. X. Velarde? There is certainly something of his at Blackburn rather like it. No, it cannot be that. There is a faint plume of steam from one of the towers which can hardly be incense; and what, anyhow, are those long, sloping-cornered gangways doing? One does not enter a church as one does a

liner by such means. Nevertheless, whatever it is it is well worth having and a great gift to so dull a part of town ; for the average man badly needs a demonstration of the architectural value of plain masses. I know a theatrical producer of the old school, who was so moved by the sight of this building that he began at once to consider a Gordon Craig production of Macbeth with simple, solid scenery. Except in castles on the stage there must, of course, be windows —in a factory particularly. For myself I have always assumed that the far side of this Power Station, which one cannot see from the railway, is one great wall of glass, flooding with light the vast solemn masses of the turbines within. Someone tells me it is not so ; but I shall make no further enquiries. I like, in my old age, to keep my ideals. Only youth can afford to be cynical.

ECCLESIASTICAL BUILDINGS

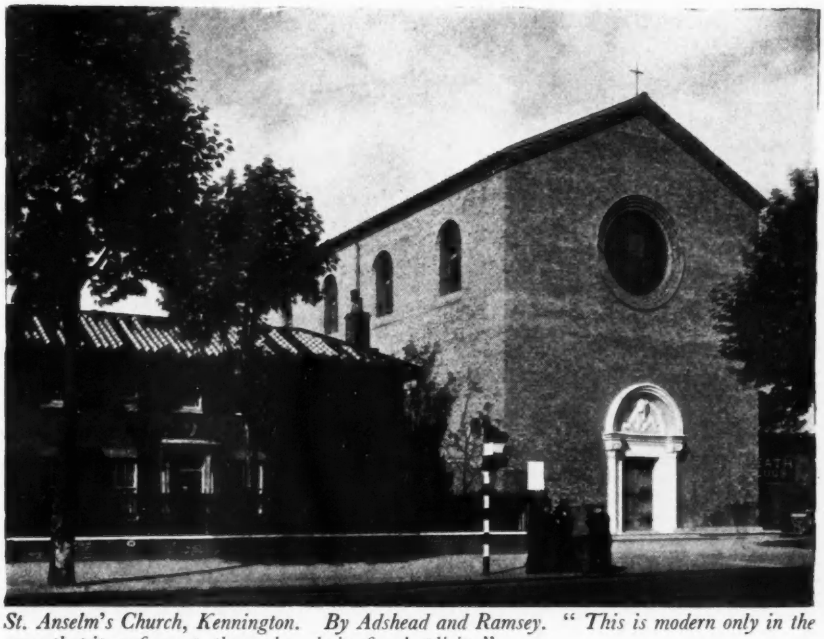
While we are considering ecclesiastical-looking buildings, let us look over the recent churches. St. Gabriel's, Blackburn, already referred to, is the most striking. As my office of consulting architect for this church hardly consisted of anything more than of recommending the committee, largely of working men and mostly unemployed, to go to Mr. Velarde, I feel quite free to attempt to assess the result. This church, in a warm orange brick rather like the Battersea building, stands out over the town in a somewhat similar way. It is on an arterial road curving uphill through a new corporation suburb. The squareness and plainness of its masses are therefore to be seen against the small intricate detail of a housing scheme, and seen to advantage. Its simplicity and solemnity are very impressive. The interior is good too, but in a sweeter way. I am not sure that its barrel vault and procession of deep arches on either side, reminiscent of the Högalid church at Stockholm, are quite consistent with its exterior squareness. Still, the author of it has clearly proved both in his exterior and interior that an English church today can be modern and at the same time genuinely and simply religious in its atmosphere. This was a very valuable thing to have demonstrated at the present juncture and we should, I think, be very grateful to Mr. Velarde for having done it so successfully.

The next important church is St. Anselm's, Kennington, by Professor Adshead and Mr. Stanley Ramsey. This is modern only in the sense that it conforms to the modern desire for simplicity. It is of the Early Christian basilican type, impressive like churches

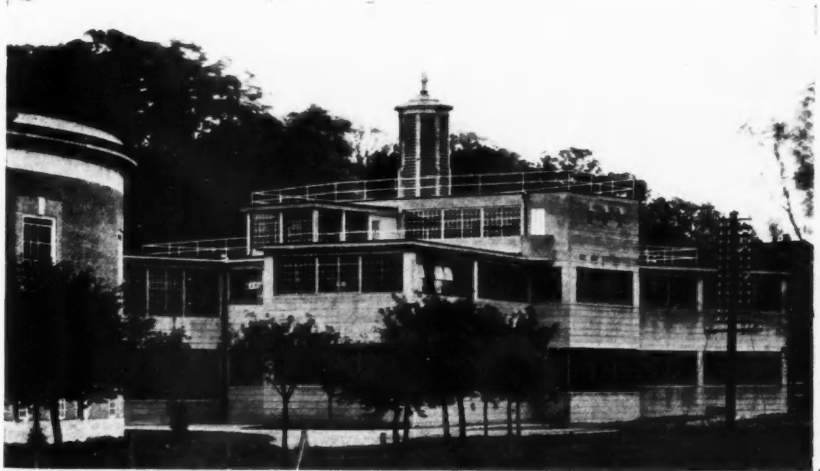


St. Gabriel's Church, Blackburn. By F. X. Velarde. This "is the most striking of recent churches. It is on an arterial road curving uphill through a new corporation suburb. The squareness and plainness of its masses are therefore to be seen against the small intricate detail of a housing scheme, and seen to advantage. Its simplicity and solemnity are very impressive."

New Tower, St. Mary's Church, Liss, Hants. By Edward Maufe. "It is a clever addition and one which, while greatly improving the original building, does not call too loudly for its immediate destruction."



St. Anselm's Church, Kennington. By Adshead and Ramsey. "This is modern only in the sense that it conforms to the modern desire for simplicity."



Science Block, Marlborough College. By W. G. Newton and partners. "It is a factory and it is elegant. It is engineering and it is architecture."

of that epoch were in their direct, almost childlike, statement of the facts and by the naïveté of their detail. The stone doorway at the west end, with its semicircular pediment of crude moulding, its carved tympanum and Byzantine capitals, is a very clever exercise in the spirit of Early Christian decoration, as well as being an effective ornament to the plain brickwork of the west wall. If one desires to be traditional at all in church design, and it is almost impossible to escape being so to some extent, and if, too, one has very little money to spend, this Early Christian attitude appears to be a good one to adopt, but it is, of course, an attitude today just as much as Gothic or Classic.

Another ecclesiastical building is Edward Maufe's new tower to a church at Liss in Hampshire. The original church is a building by Sir Arthur Blomfield. Without the new tower the building would appear to have had almost a negative existence architecturally. With the tower in Maufe's free Gothic, rather like Sir Giles Scott's in his smaller work, the church becomes a reality standing out firmly and strongly among the trees. It is a clever addition and one which, while greatly improving the original building, does not call too loudly for its immediate destruction. A new tower which would have demanded that would have been far easier to design. In the ceiling Maufe has found an opportunity for some of his charming colour work.

SCHOOLS

So much for churches. Let us proceed to schools. In this field there is no doubt that the palm for the year goes to W. G. Newton and his partners, not so much for the Merchant Taylors' School, interesting and thoughtful as that is, as for their frank acceptance, next to their own classical auditorium at Marlborough, of the logical requirements of a block of science laboratories; and for producing in the words of the headmaster "not an academic block, but an elegant factory." It is a factory and it is elegant. It is engineering and it is architecture. That too is a possibility in school buildings, like the possibility of a thoroughly religious modern building, which needed proving, and Mr. Newton has proved it for us.

HOSPITALS

With hospitals there is no doubt that the event of the year is the Royal Masonic Hospital by Sir John Burnet, Tait and Lorne. Here the programme of the physical facts has been accepted, with complete frankness at any rate as regards the ward block facing south. I have not seen the building in the flesh but it looks from illustrations as

if this ward block was a very fine achievement, well shaped, strong and expressive, and yet eminently functional at the same time. As far as one can judge, the other blocks suggest a more compromising spirit with regard to the facts and perhaps because of this do not compose quite so satisfactorily. Still, it is a great work; and to have released hospitals in this country, as this building has done once and for all from architectural flummery and pretence, is an even greater.

OFFICE BUILDINGS

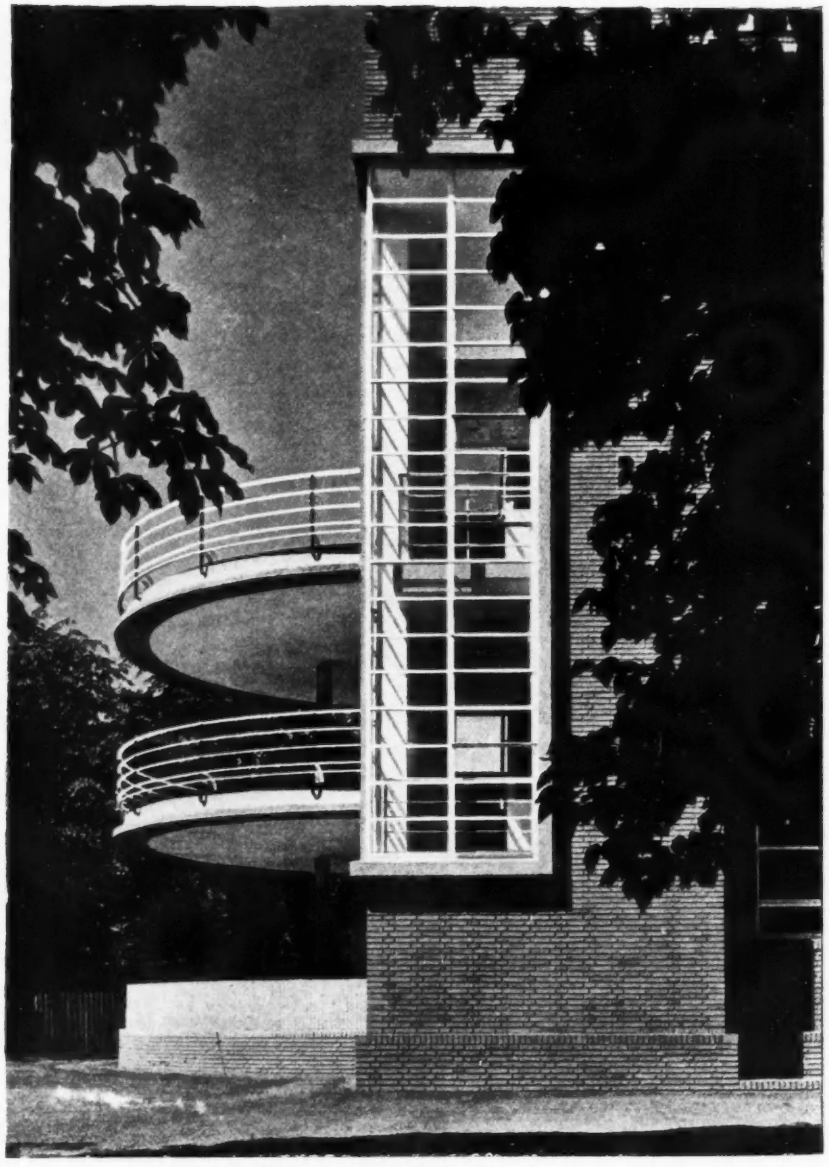
In the office group, which is not a large one this year, Universal House at Southwark, by Joseph Emberton, represents the greatest advance towards freeing the sentimental business man from his usual pompous or shamly romantic surroundings. It is a direct enough building, which can be extended in height by several more floors when needed and will look much better when that has happened. The detail on close examination is a little crude. If modern buildings are going to follow a parallel line of evolution to the motor-car, increasing elegance and high finish must be aimed at. This will be found in the Electricity Showrooms in Victoria Street, by Maxwell Fry, though, of course, it is much easier to get such finish on a small scale than on the large one of Universal House. Among the office and warehouse class, one feels impelled to mention the Co-operative Society's new building in the City, not because it is a very good building, but because, like their new tobacco warehouse in Manchester, it shows that this great concern is at last waking up to its architectural responsibilities. It is yet very far behind its Swedish rival, but then it has not got, like it, a practising artist, who is also the heir to the throne, as its president. If the members of our Royal Family—no, that is a line of thought one had better not pursue.

UNDERGROUND STATIONS

With the limited space at one's disposal, one can only mention a few more buildings. The new Underground Stations, particularly the Southgate one with the circular booking hall, are among the main architectural events of the year. When last could one have said that with truth of a railway station? One would have to go back, I imagine, to the opening of King's Cross Terminus.

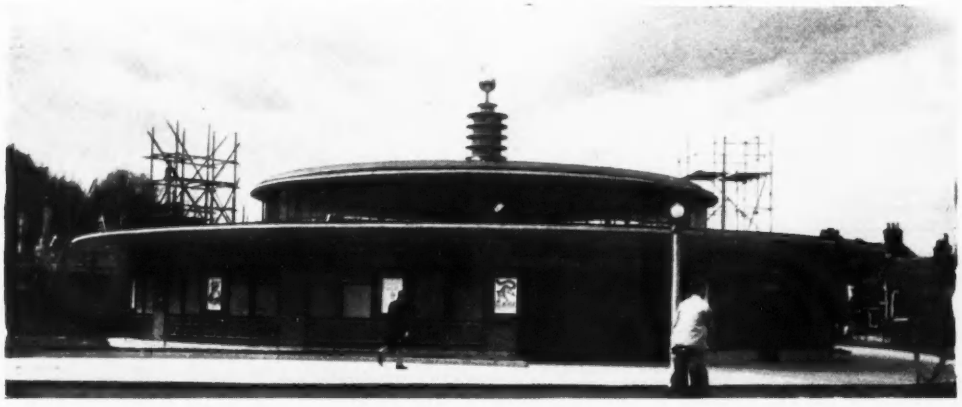
DOMESTIC WORK

In smaller country domestic work, this last year appears to have produced very little. The two houses at Cambridge, by George Checkley, seem the most interesting. Mr. Checkley, I

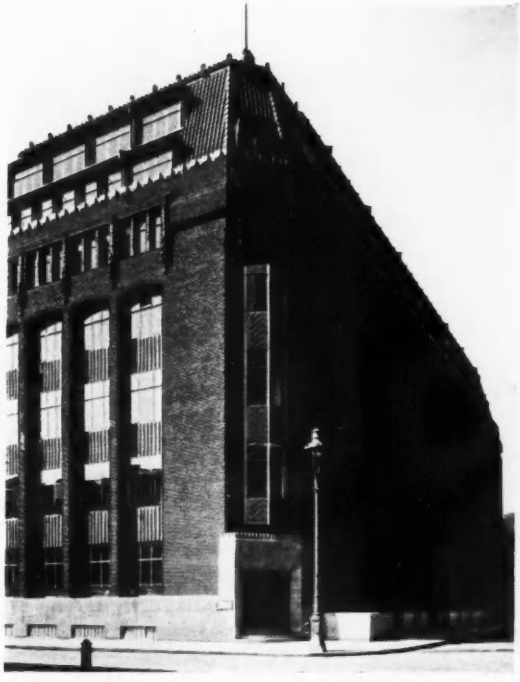


Royal Masonic Hospital, Ravenscourt Park, S.W. By Sir John Burnet, Tait and Lorne. "The ward block is a very fine achievement, well shaped, strong and expressive, and yet eminently functional at the same time. The other blocks suggest a more compromising spirit with regard to the facts and perhaps because of this do not compose quite so satisfactorily."

Electricity Showrooms, Victoria Street, S.W. By Adams, Thompson and Fry. "If modern buildings are going to follow a parallel line of evolution to the motor car, increasing elegance and high finish must be aimed at. This will be found in these showrooms."



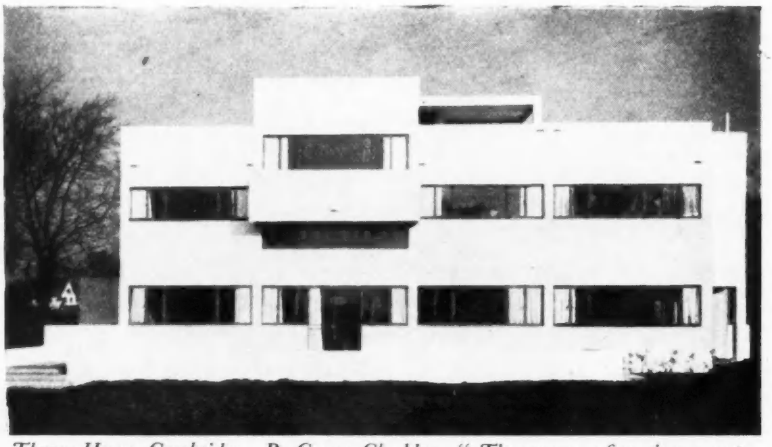
Southgate Underground Station. By Adams, Holden and Pearson. "*The new underground stations, particularly the Southgate one, are among the main architectural events of the year.*"



New Headquarters, Co-operative Wholesale Society, City, E.C. By L. G. Ekins. "*One feels impelled to mention this Society's new building, not because it is a good building, but because it shows that this great concern is at last waking up to its architectural responsibilities. It is yet very far behind its Swedish rival . . .*"

Universal House, Southwark Bridge, S.E. By Joseph Emberton. "*This office building presents the greatest advance towards freeing the sentimental business man from his usual pompous or shamly romantic surroundings. It can be extended in height by several more floors when needed, and will look much better when that has happened.*"

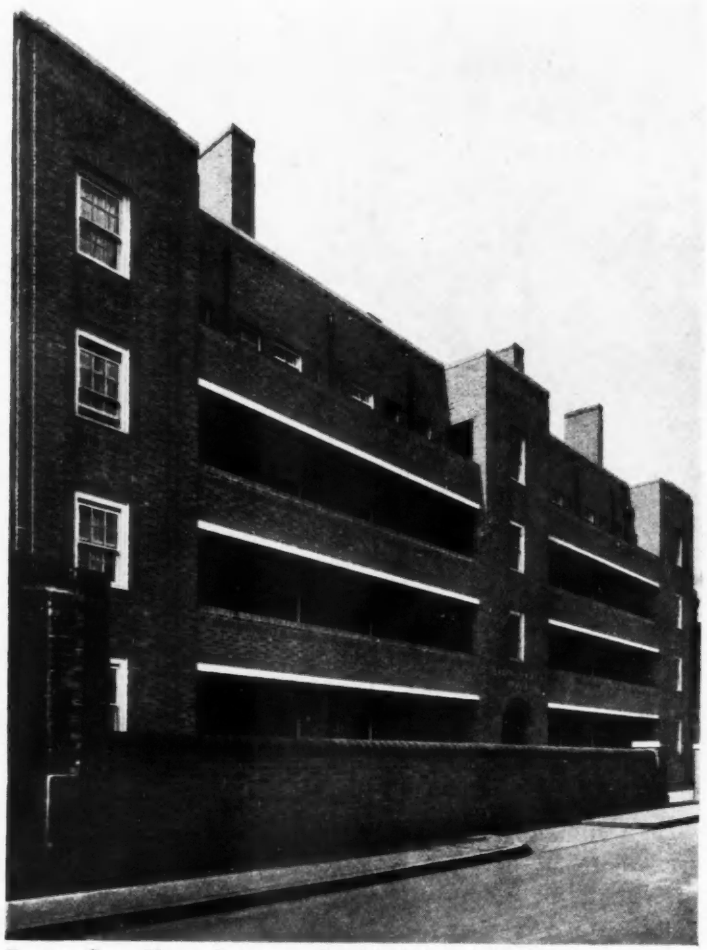
believe, has the honour of being better known in Corbusier circles in Paris than in England. That should be rectified now. His Thurso House seems to me the more interesting of the two. The symmetrical garden front of the other, White House it is called, seems a little forced. The essence of modern country house design is surely its absolute freedom to express the life to be lived within. One might almost say as long as some are masters and some servants, some old and some young, symmetry is impossible.



Thurso House, Cambridge. By George Checkley. "The essence of modern country design is surely its absolute freedom to express the life to be lived within."

FLATS

In great blocks of flats the back of the Frances Gray House, Stepney, by Messrs. Mitchell and Bridgwater is, I am bound to say, in spite of Bridgwater being both my son-in-law and an old Liverpool student (contemporary with Checkley) by far the best piece of design. It has great strength and simplicity. I hope, however, in their next block these architects will not try to combine the long, strong horizontal lines of solid balcony fronts with the traditional vertical Georgian sash windows. It is not that there is anything wrong with the latter, but they seem to imply too much.



Frances Gray House, Stepney. By Mitchell and Bridgwater. "It has great strength and simplicity. However, the strong horizontal lines of solid balcony fronts, with the traditional Georgian sash windows . . . seem to imply too much."

PUBLIC BUILDINGS

I have spent all my space, and have all the great classical buildings of last year (and last century) yet to do. It is admittedly very unfair, but who is fair in matters of love or religion, and architecture to architects should be both. Worthing Town Hall, by Mr. Cowles-Voysey, is elegant and beautifully finished, but so is the Leeds Civic Hall, by Mr. Vincent Harris, and Peterborough Town Hall, by Mr. Berry Webber. This latter, too, has some finely dramatic things in the interior. All these architects stock only the best paraphernalia. Not so Sir Herbert Baker, if one is to judge from Africa House and the Bank of England. He, so it seems to us, is so much happier when he relies most fully on his powers of invention as he did ten years ago at Winchester. Lastly, there is the great Masonic Peace Memorial Building by Messrs. Ashley and Newman, on which a large part of the million pounds it is said to have cost seems to have been expended to remind us of the pomp and melodrama of that false paradise in which we all lived before the war. Mr. Marriott, most discerning of all critics, likened such buildings the other day to a Laocoon group in which style is the serpent struggling with form. If one admits his simile, and it seems to be a good one, the serpent here is a boa-constrictor at least.

Above (left) : Peterborough Town Hall, by E. Berry Webber. Above (right) : Worthing Town Hall, by C. Cowles-Voysey. Below : Leeds Civic Hall, by E. Vincent Harris. "These buildings are elegant and beautifully finished."

Top (left) : South Africa House. By Sir Herbert Baker, R.A., and A. T. Scott. Below : The Bank of England. Architects : Sir Herbert Baker, R.A., and A. T. Scott. Supervising Architect : F. W. Troup. "Sir Herbert Baker, if one is to judge from these buildings, seems much happier when he relies most fully on his powers of invention."

Top (right) : Masonic Peace Memorial. By H. V. Ashley and Winton Newman. "Mr. Marriott likened such buildings to a Laocoon group in which style is the serpent struggling with form. If one admits this simile . . . . the serpent here is a boa-constrictor at least."

THE YEAR'S WORK AT HOME

The south-west wall, Finland Tuberculosis Sanatorium, at Paimio, accepted by many as the outstanding foreign building of the year; a self-contained community in an isolated position. Architect: Alvar Aalto.

THE YEAR'S WORK ABROAD

[*By F. R. S. YORKE, A.R.I.B.A.*]

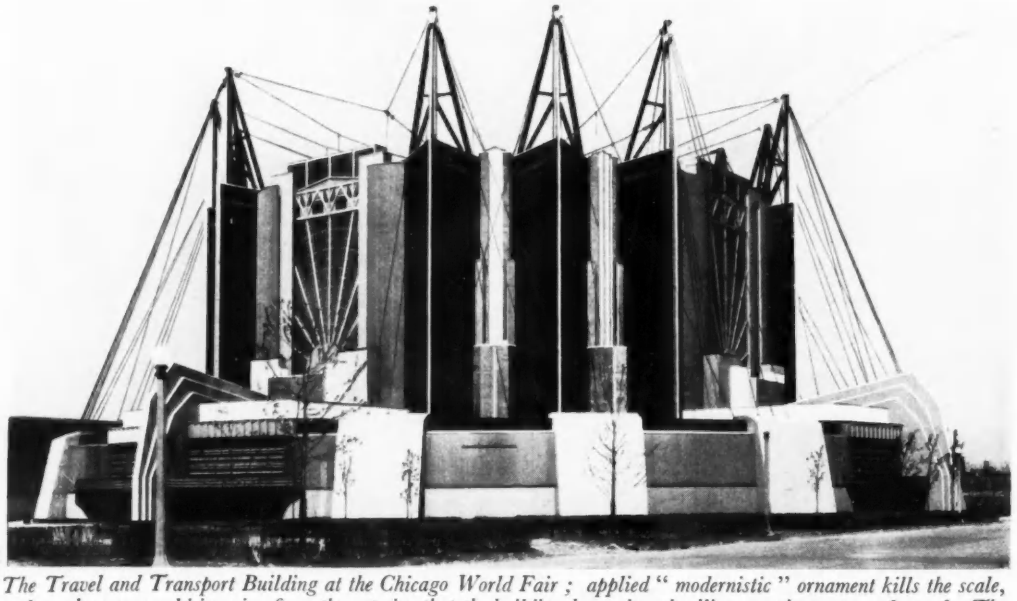
NINETEEN hundred and thirty-three was not a year of building; in the world there was unrest and financial instability; in Europe, especially, uncertainties making men cautious, so that building finance was not to be found easily. Projects were abandoned, and obsolete buildings, that normally would have been demolished, remain standing, ineffectual.

It appears, however, that though the number of buildings erected during the year was less than in preceding years, there is an almost surprising increase in the proportion of buildings that may, in this age, be termed architecture: buildings that are planned and constructed to suit modern needs, and appear to belong to the present time; the decrease is in the number of monumental façades.

In the work from almost every country there is an expression of a new order, of unprecedented requirements, and an appreciation of the new materials for other than their value as aids to the decorator. After a century of impotence—façadism—structure and architecture have again become synonymous. It would seem that architects are now able to view in clear perspective, as a period of sterility, the revivals that have persisted since the inception of the modern machine; and through the realization find at last the real value of traditional principles; are able to learn from traditional work that the architecture of all periods was the outcome of the conception of living in those periods, limited always by the available materials; and are now able to learn from tradition, without imitating details.

They find modern materials and modern sociological requirements are without precedent, and from the plans they devise for modern living, and the materials they employ to make such plans possible, they find a new external expression.

Among the buildings of the year that may be called modern there are, in France, the schools and villas of Lurcat, and Le Corbusier's Salvation Army Building and Pavilion Suisse; in Spain, apartment houses and tenements by Sert, Labayen and Aizpurua,



2 *The Travel and Transport Building at the Chicago World Fair ; applied " modernistic " ornament kills the scale, and no observer would imagine from the exterior that the building has a domed ceiling covering a span of 200 ft. The object of the Fair was the reflection of a " century of progress." Architects : Bennet, Burnham and Holabird.*

and G.A.T.E.P.A.C. ; in Italy, much that was good at the Milan Triennial and the Padua Sample Fair ; houses and schools in Greece ; the Pensions Building by Havlicek and Honzik, Swimming Pool by Fuchs and Talking Film Studios by Urban in Czecho-Slovakia ; in Switzerland, the Crêche by Salvisberg, and Zetthaus by Hubacher ; in Finland, the Sanatorium by Aalto ; in Belgium, houses by de Koninck ; in America, the modern and the modernistic : on one hand the work of Howe and Lescaze, and Neutra, on the other the strange angular ornamentation of the Chicago 1933 Exhibition, condemned by Frank Lloyd Wright as the product of the same electicism that produced the historical stylism from which this Exhibition claimed to break away " the expedient eclecticism of unjust architects sold by ballyhoo to the public in the name of progress."

There is not space here to refer to all the work that has been done, nor space to illustrate all the buildings mentioned. But such buildings as are enumerated above appear in all countries.

In Russia, reported as reactionary, the revolutionary design by the Brothers Wessnin was placed first in the International Competition for a State Theatre at Kharkov.

Lack of technicians, skilled labour, and materials of good quality—preventing good execution, so essential to the appearance of modern building—are the factors that account for the return of the column in the Russian façade, as ornament to conceal defects and shoddy workmanship. But the measure is a temporary one, and cannot be taken as a sign of deep-seated reaction. The ornament is for the " toff " buildings, *poudre aux yeux* for the bourgeoisie of other countries. For workers' clubs, housing blocks, cinemas, all the buildings in fact that present modern problems, the only change is in the further development of the modern Russian standard.

In all these buildings the architects have sought first to discover the essential sociological requirements ; to develop effective plans, organizing the essential elements in accordance with the logical processes of movement both horizontally and vertically through the several floors. Design is from the plan outwards to the exterior, plan and structure are interrelated and structural materials are used economically. It is the solution of the planning problem, rather than a personal expression of the individual, that governs the appearance of the external wall.

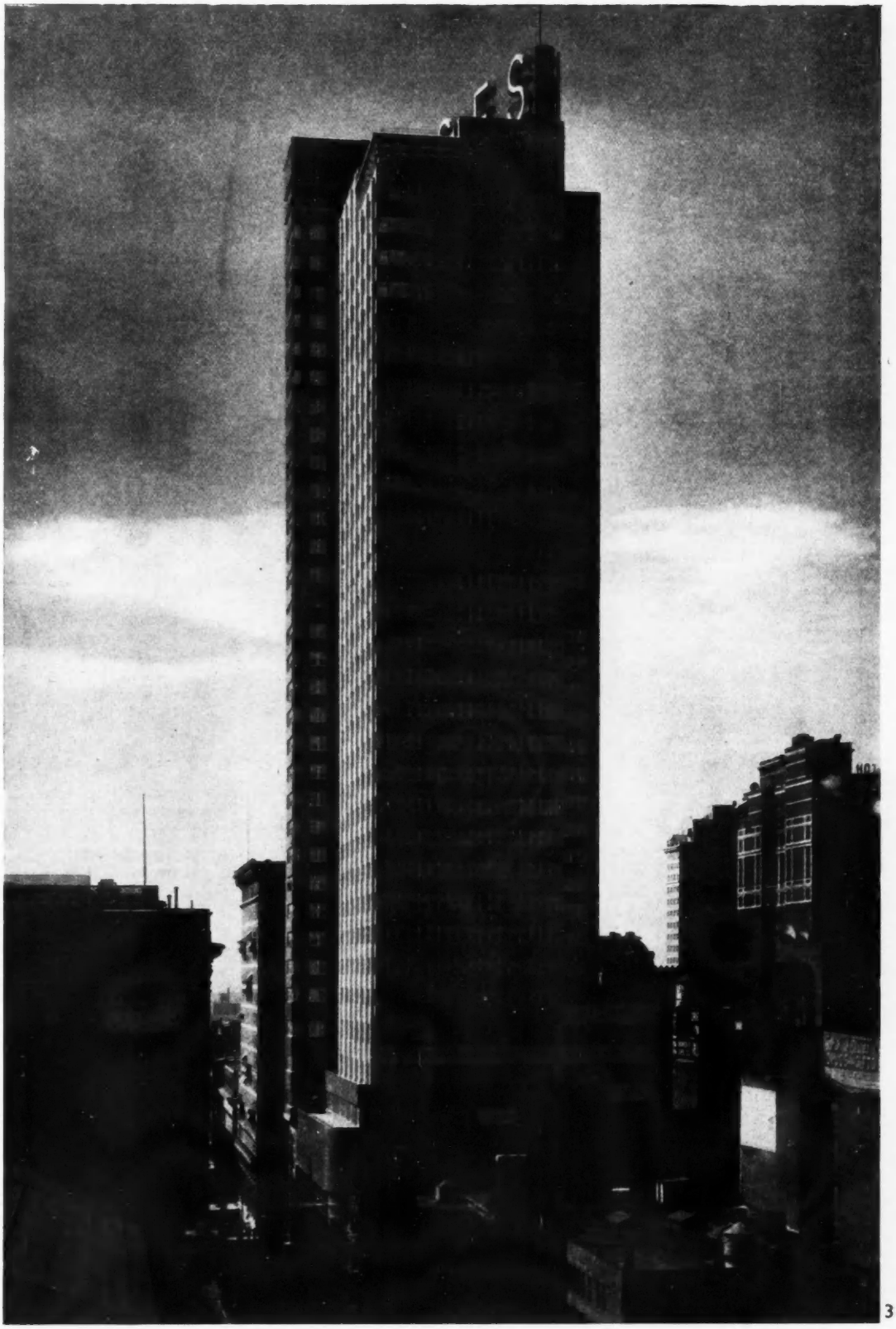
The reactionary work in Germany, following the advent of Hitler and the expulsion or repression of the men who were responsible for the best of the post-War work in the country, cannot be taken as a serious manifestation of present-day requirements—even in Germany. It is merely a political gesture, with no foundation whatsoever in contemporary economic or social conditions, and for that reason contributes nothing towards the solution of modern problems, and is to be deplored.

The appreciation of modern architecture, so apparent during the past year, is a sign that thinking people all over the world are realizing that a machine-made " period " building is as bogus a product as a machine-made " period " chair, and that they can no longer be taken in by fakes. Business men find it absurd to house electric lifts, telephones, typewriters, dictaphones, air-conditioning plant, and other devices of the present age—products without precedent—in buildings that are imitation antiques ; absurd to imagine they can effectively perform their several functions in buildings whose plans are tortured behind stylistic façades.

The building owner realizes that economies in first cost and maintenance, and increased efficiencies in running, follow rational architecture and make a new conception of building inevitable.

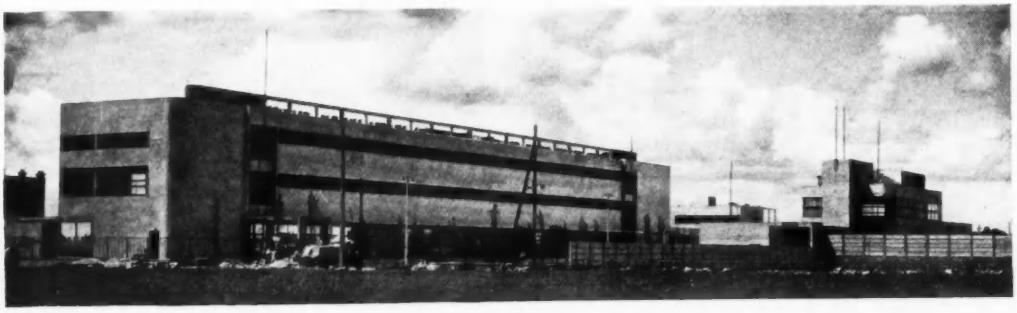
There is a growing demand for modern architecture. A few years ago the modern building was imposed on the client by the revolutionary architect ; it has proved its superiority, and by 1933 clients had begun to expect, for " six per cent.," something more than a dim interior and pretty façade.

It is significant that during the past year, whilst the demand for modern architecture has been increasing, " modernistic " architecture, outside England, has almost disappeared. People are beginning to learn that a new architecture cannot be fashioned by the application of futuristic patterns, and the ornamental use of new materials ; but must grow from the conception of living needs in the present age; that it is not through " art" invented and applied to building, nor through a personal expression of individual taste that we shall find a twentieth-century style, but directly, through the resolution of sociological requirements into building.

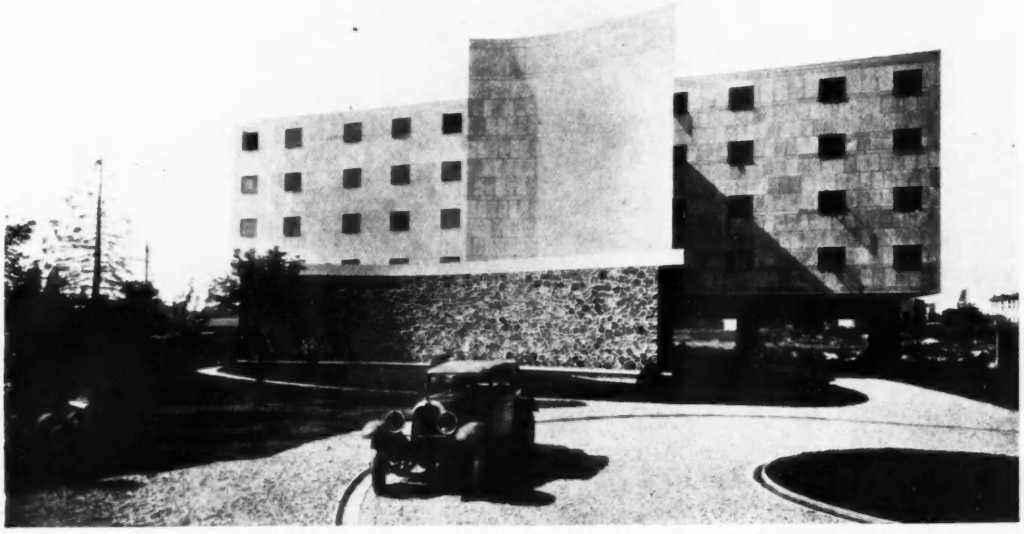


3

A 35-storey skyscraper at Philadelphia, for the Philadelphia Savings Fund Society. Lightness of frame construction is not distorted here by heavy facing materials. Architects: Howe and Lescaze.



4 *A school for the communist municipality of Villejuif, Paris ; constructed with a light reinforced concrete frame, and infilling of pre-cast, hollow, ærated concrete blocks. Architect : André Lurçat.*



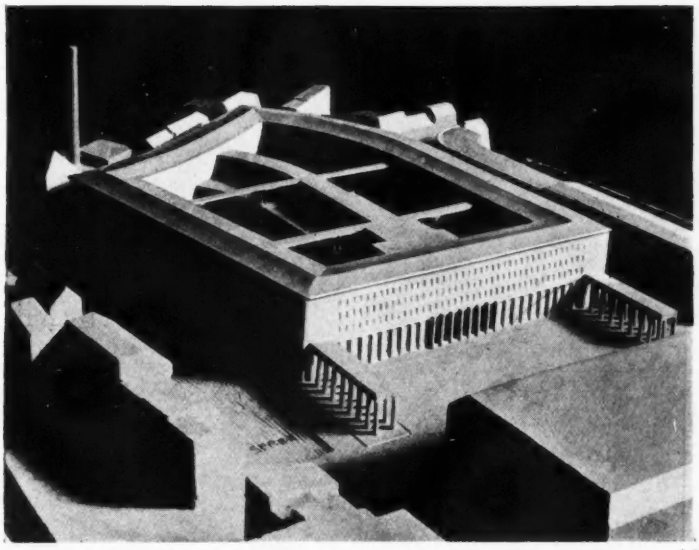
5 *The Pavilion Suisse, Cité Universitaire, Paris. The curved staircase wall is in the foreground and the north wall of the main block, pierced by square windows lighting corridors, beyond. Architects : Le Corbusier and Pierre Jeanneret.*

6 *South wall of the Pavilion Suisse, formed from panels of transparent and translucent glass hung on a steel frame. The frame is cantilevered from a single line of reinforced concrete piles, that extend upwards to first floor level. Architects : Le Corbusier and Pierre Jeanneret.*

School in Athens by Petrocle Karantini. Since 1928, 3,167 schools have been built in Greece ; 330 in towns and the remainder in small villages. The object in every case has been the provision of maximum accommodation for minimum cost.

7

8



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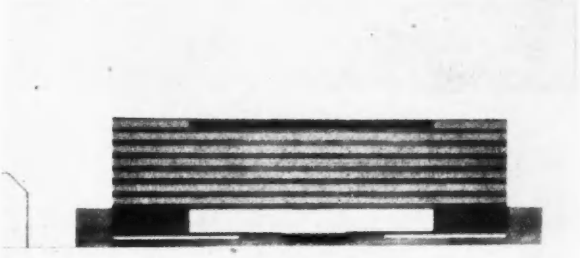

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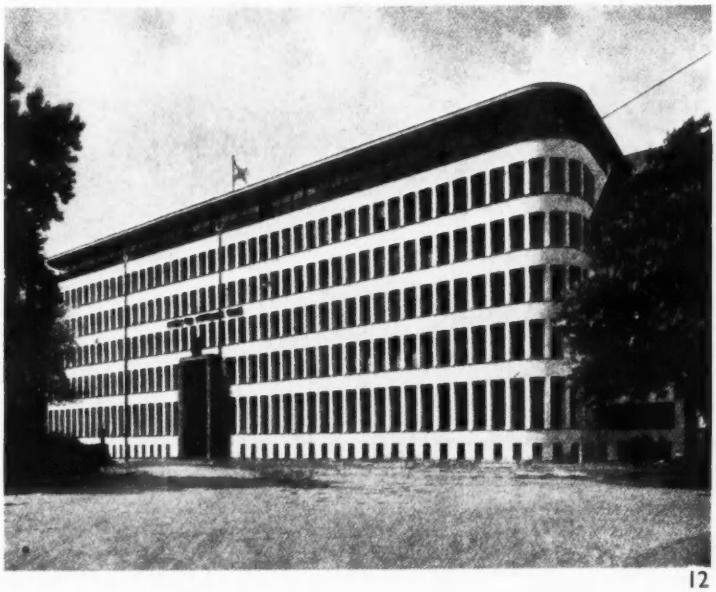


12

8. *Reactionary housing at the German Timber Exhibition, Stuttgart, 1933.*

9. *Housing at the Weissenhofsiedlung, Stuttgart, 1927. "Ironiserende postkarte" reproduced in a recent issue of the German periodical "Baukunst" devoted to illustrations of reactionary housing at the German Timber Exhibition, with the caption "weissenhofsiedlung als Araberdorf."*

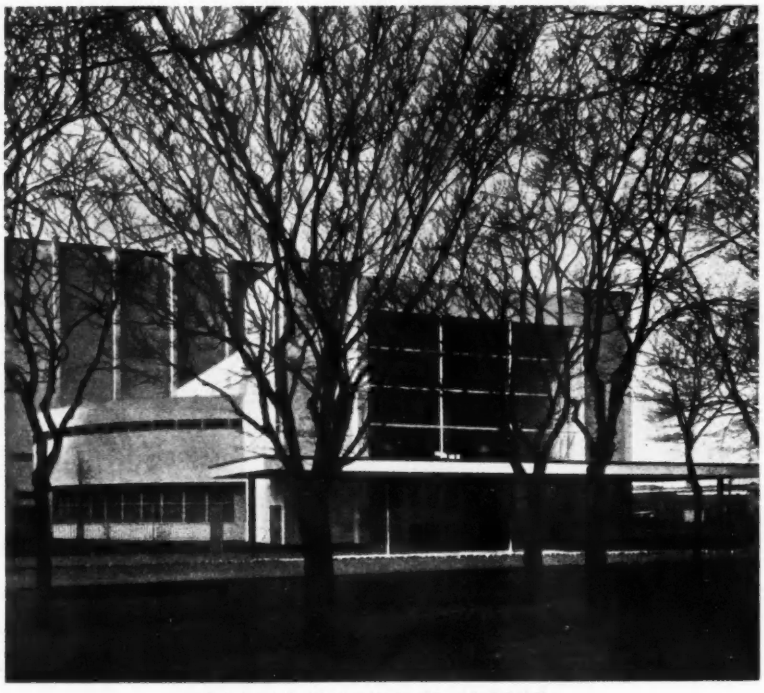
10. *Winning design for the new Reichsbank, Berlin.*

11. *Project submitted in the Berlin Reichsbank competition, by Ludwig Mies van der Rohe.*

12. *The Allianz Building, Cologne, with areas of vertical walling and cornice inserted, apparently in a last minute attempt to destroy any "international" flavour in the design. Architects: Karl Woch and Heinrich Rosskotten.*

13

Concert Hall at Helsingborg, Sweden—a town of 49,000 inhabitants. The exterior seen from the Avenue Drottninggatan. On the ground floor the main building houses a small hall with seating for 525 people ; this will be devoted to chamber music, lectures, etc., and at the moment is being used as a cinema ; in addition there are cloakrooms and a vestibule. Over this small hall is the big concert hall, seating 1,000 people. The southern part of the building has six storeys, containing cloakrooms and foyers for the musicians, rooms for the directors, soloists and conductors, rehearsing hall, and residential quarters for the commissionaires and mechanics. Architect : Sven Markelius.



14

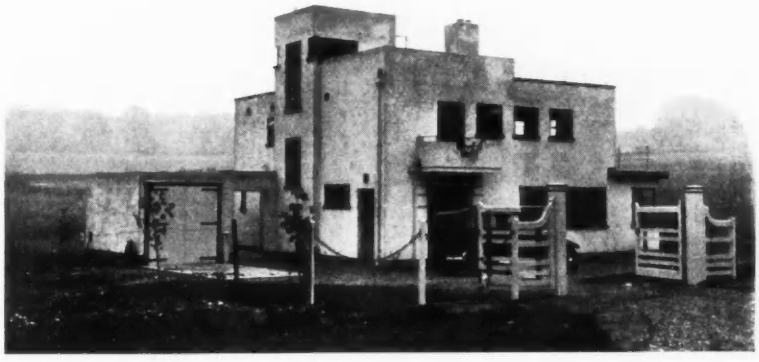
A BANQUET AT THE ROYAL PAVILION, BRIGHTON

A coloured lithograph by Joseph Nash, reproduced from A HISTORY OF EVERYDAY THINGS IN ENGLAND, *Part 3, by Marjorie and C. H. B. Quennell* (*see* BOOKS OF THE YEAR *in this issue*).

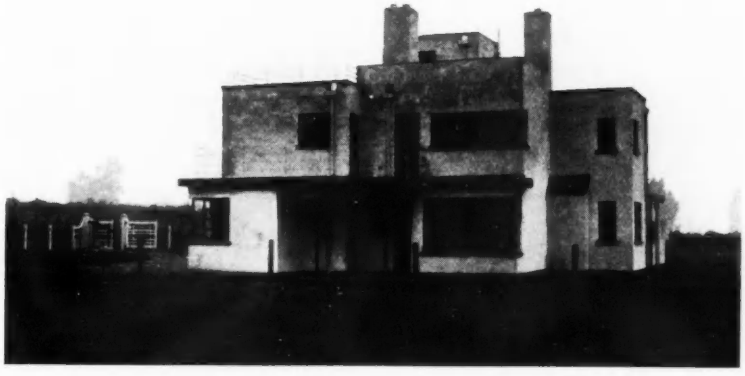
To face page 78.

HOUSE AT ASHSTEAD

This house was designed so that the fine views to the south-east and south could be seen from the roof garden, balcony and loggia, and so that as much sunlight as possible would be obtained in the chief rooms. It was also desired to reduce the cost of upkeep to a minimum, and as little timber as possible was therefore used.

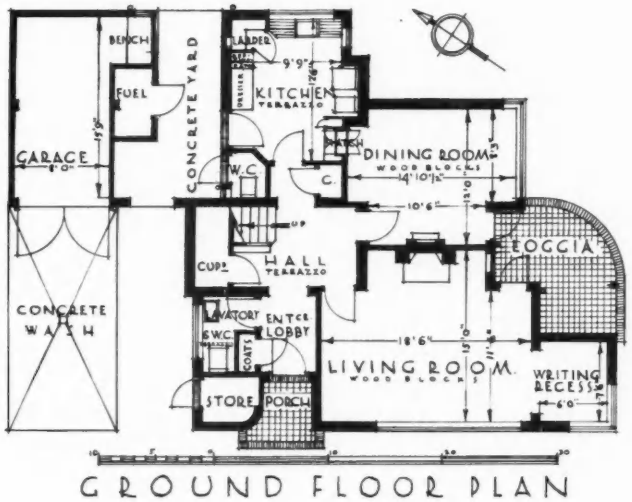


CONSTRUCTION.—*The walls are of brick rendered with cream cement, finished with an uneven surface; and all angles are slightly softened. The first floor and roofs are of patent reinforced hollow block construction; while this was a little more expensive than wooden floors, it allowed more flexibility in planning and enabled spans to be bridged without beams projecting into the rooms below. The concrete balcony is 6 ins. thick, with all beams and cantilever beams in the depth of the slab. Roofs are covered with specially hard asphalt.*

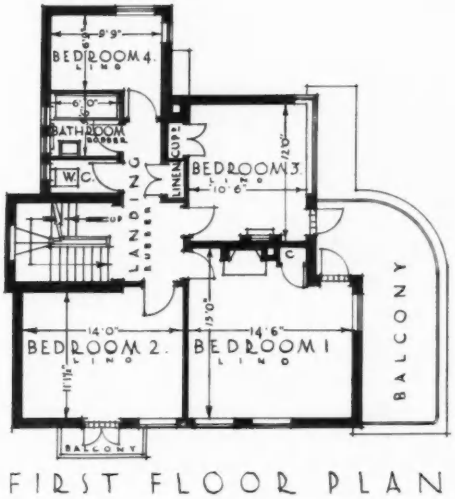


FINISHINGS.—*The windows are standard metal casements, built direct into the brick-work with specially made horizontally sliding frames for the centre portion of the living-room and dining-room windows.*

These two rooms are floored with oak blocks and the rest of the ground floor with jointless flooring. On the first floor, the bedrooms have linoleum floor coverings, and the landing and bathroom have rubber. The walls are distempered, and wood-work painted with glossy paint.



GROUND FLOOR PLAN

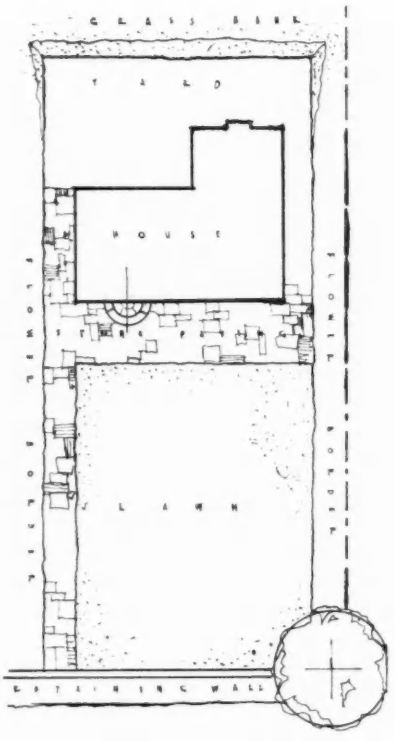


FIRST FLOOR PLAN

DESIGNED BY WALKER AND WESTENDARP

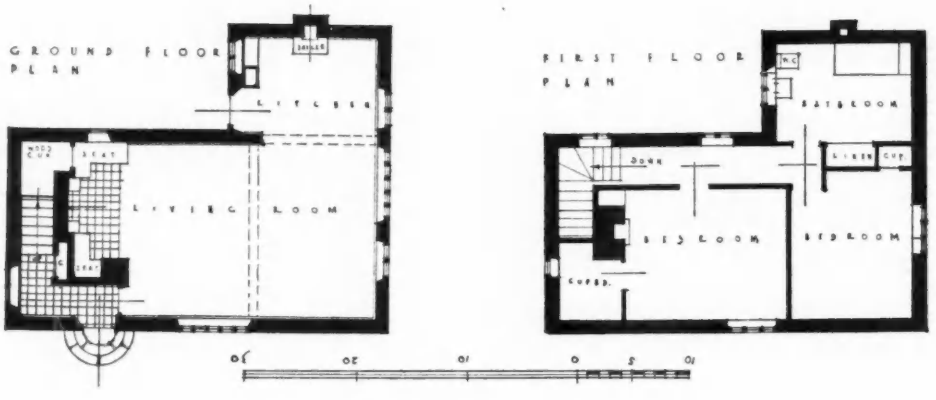
HOUSE AT TODDINGTON

Above: the entrance front from the garden. Below: the rear of the house, with the kitchen entrance.



BLOCK PLAN

This house is in a Cotswold village a few miles from Broadway, and aims at preserving the traditional local character, at the same time as providing modern conveniences. It is constructed of the usual local materials. The ground floor has one large living-room, with open hearth at one end and kitchen annexe at the other. The staircase twists round the back of the main stack in the usual manner of Cotswold cottages.



DESIGNED BY R. F. JORDAN

GLYN MILLS' BANK, LOMBARD STREET, E.C.

The elevation to Lombard Street.

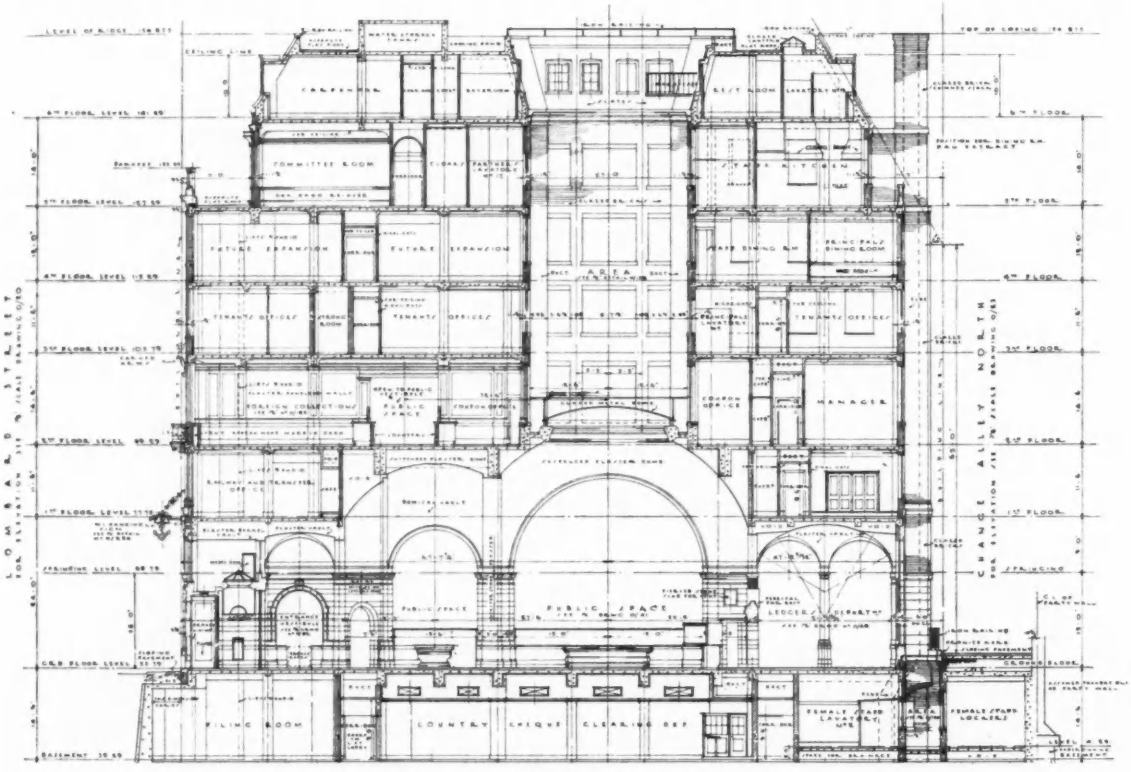
The new building immediately adjoins Martin's Bank, which was designed some years ago by the same architects.

PLANNING.—*The three floors below ground contain the vaults, heating and mechanical services, and filing and storage rooms. The whole area of the ground floor is occupied by the banking hall, which rises in the centre through two floors to a dome. In close communication with the banking hall is the partners' room, with waiting rooms, etc., attached and with private access to all office departments. The first, second, third and fourth floors provide the departmental accommodation and a staff dining room. The partners' private suite (comprising board room, dining room and committee rooms) occupies the fifth floor, together with kitchen and services. On the sixth floor living accommodation is provided for caretaker and housekeeper.*

STRUCTURE.—*The usual form of construction is employed, the steel frame being faced with Portland stone for the ground floor, and with hand-made bricks for all floors above.*

BY SIR HERBERT BAKER, R.A., AND A. T. SCOTT

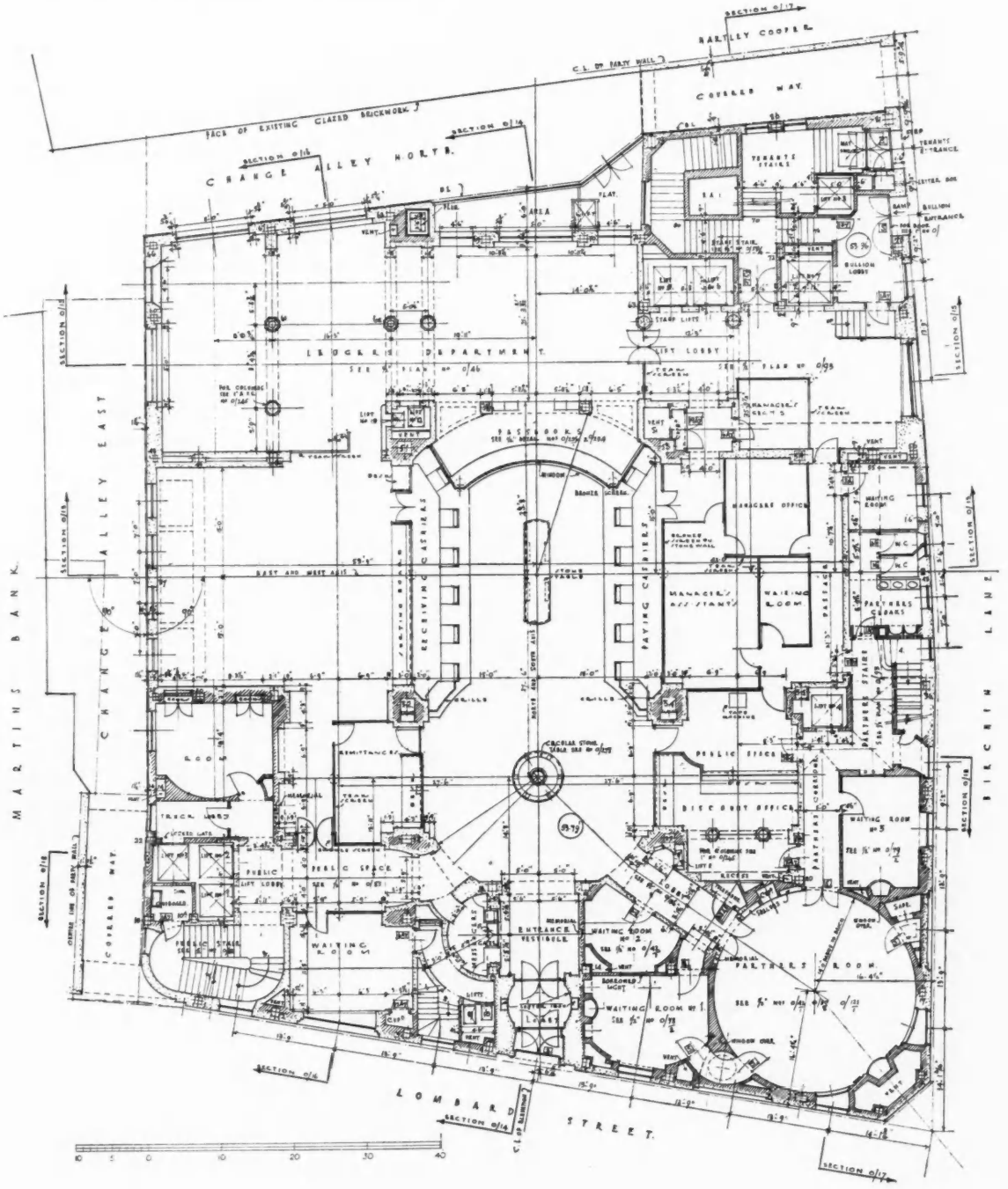
GLYN MILLS' BANK, LOMBARD STREET, E.C.:



SECTION

The banking hall.

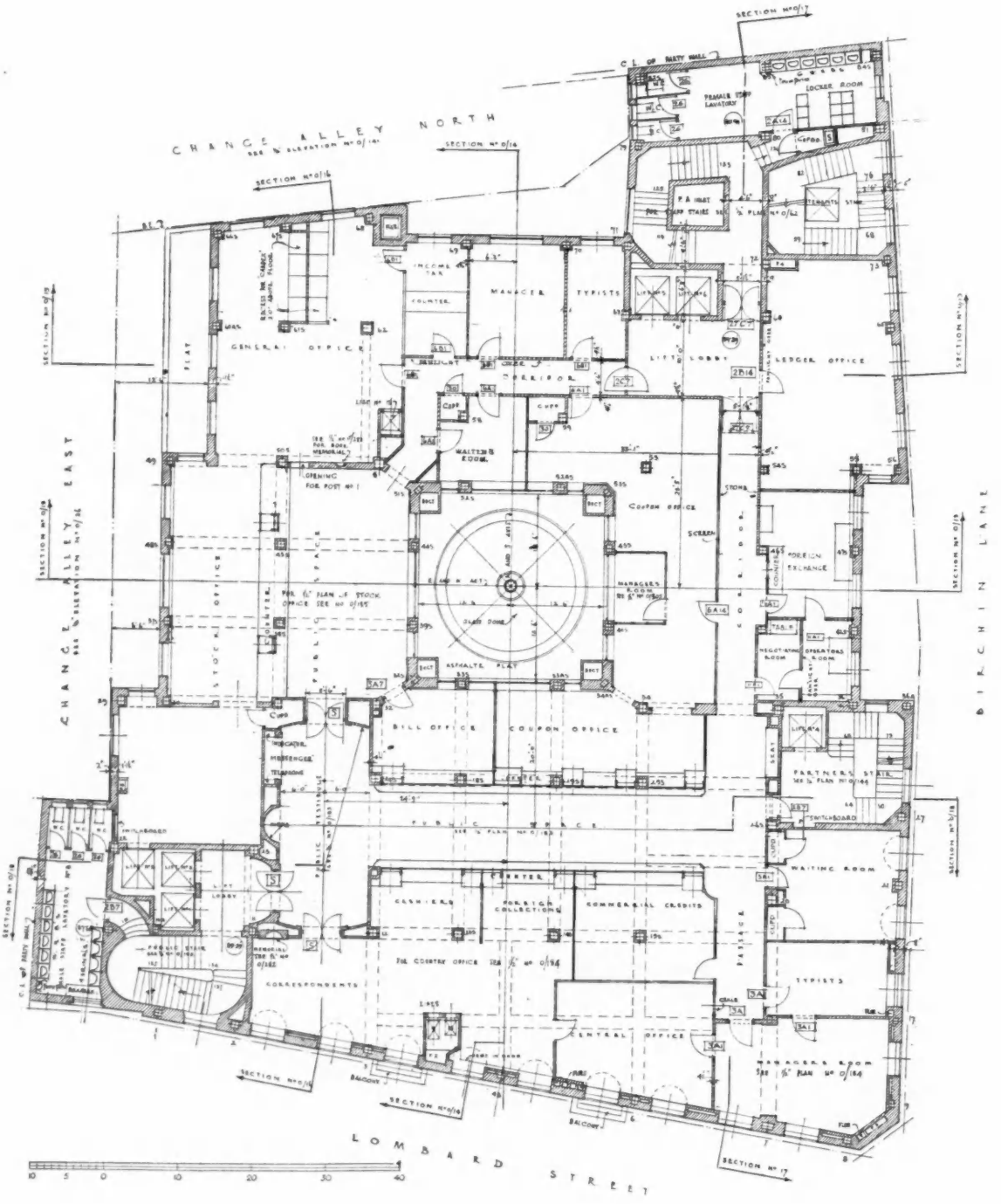
BY SIR HERBERT BAKER, R.A., AND A. T. SCOTT



GROUND FLOOR PLAN

MATERIALS: *The large ground floor windows are in bronze, and all other windows in wood, painted white. In the banking hall the walls are faced with Ancaster stone, and the paving is Hopton Wood. The partners' room, which is circular in form, is panelled in English oak and surmounted by a plaster dome. The private rooms on the fifth floor are also panelled; the board room in plaster with a wood dado, and the partners' dining room in cedar. The ante-hall to these rooms is lined with marble and has an Indian rosewood door.*

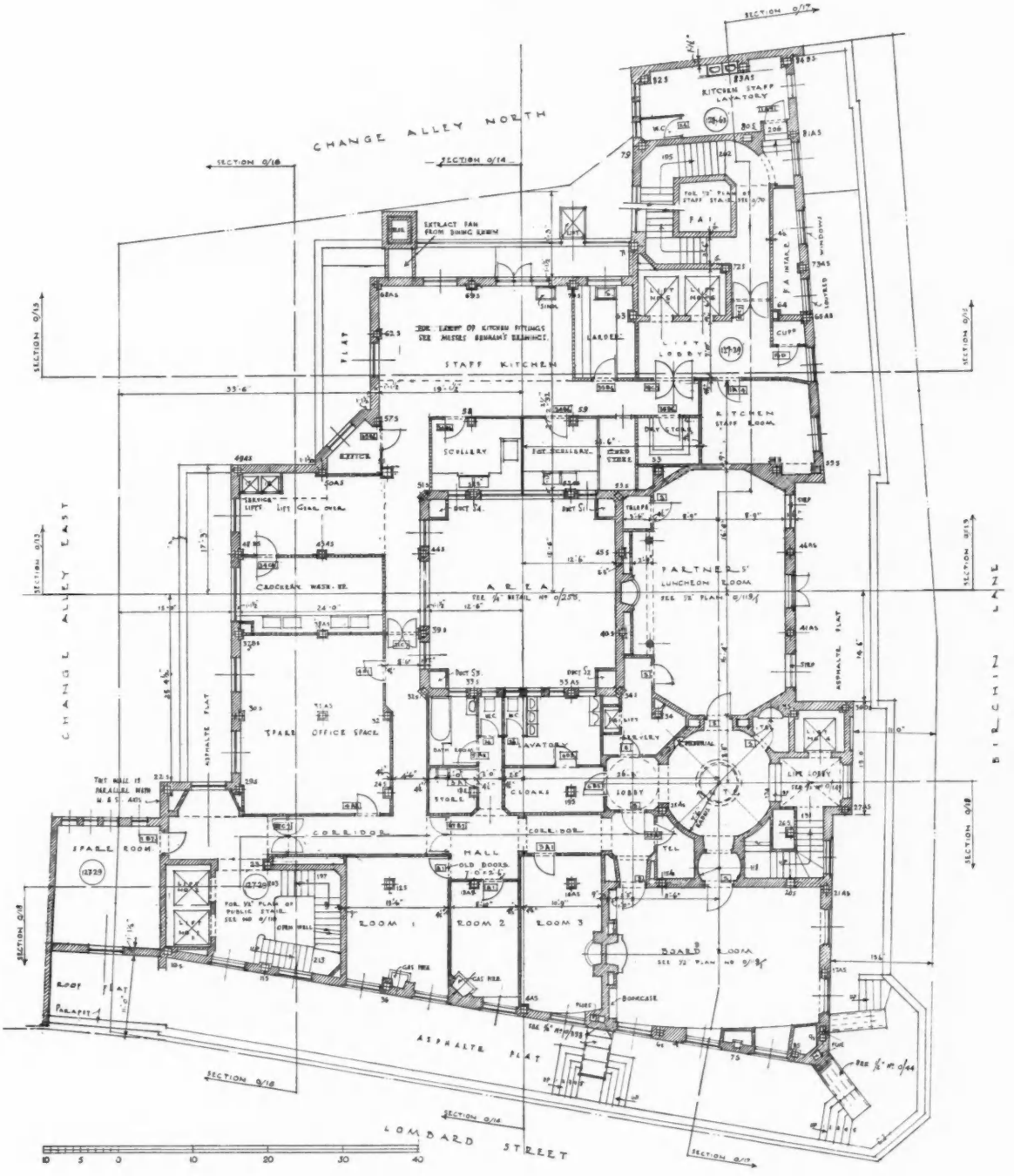
GLYN MILLS' BANK, LOMBARD STREET, E.C.



SECOND FLOOR PLAN

BY SIR HERBERT BAKER, R.A., AND A. T. SCOTT

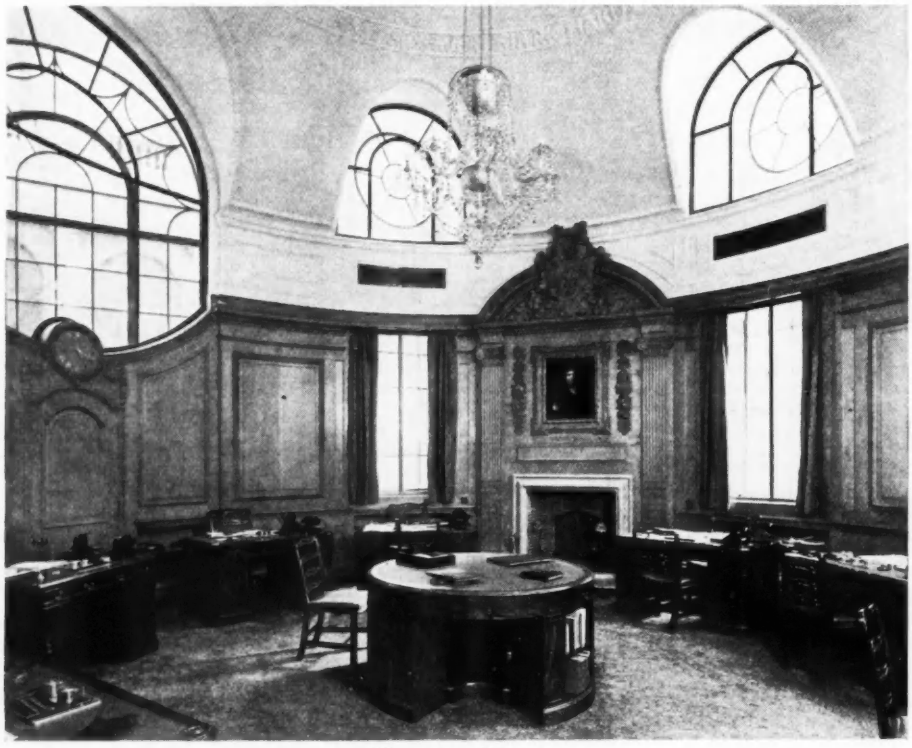
GLYN MILLS' BANK, LOMBARD STREET, E.C.



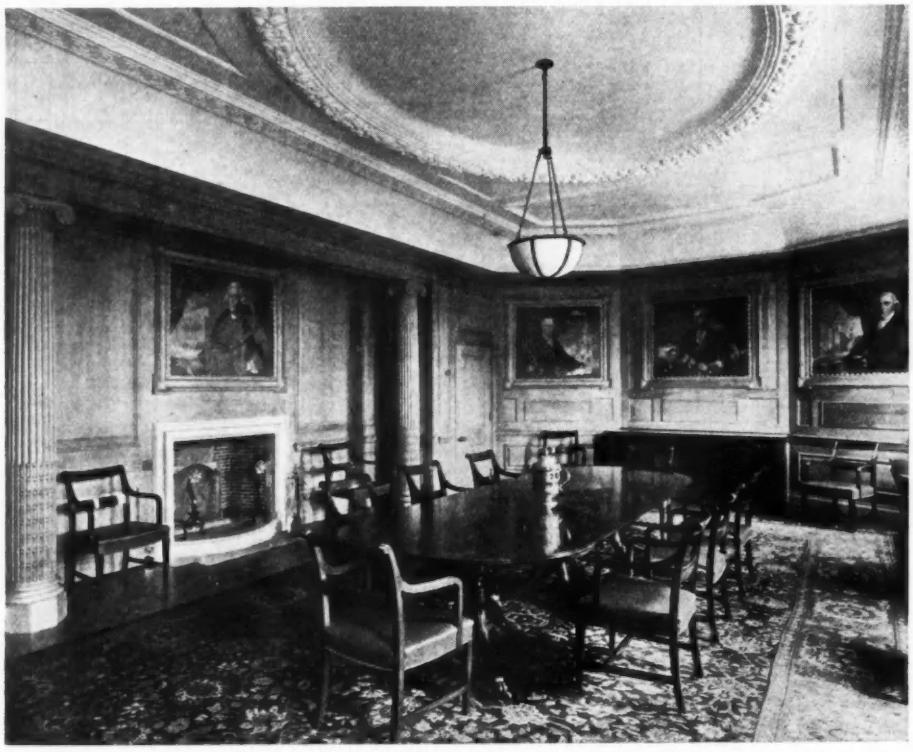
FIFTH FLOOR PLAN

BY SIR HERBERT BAKER, R.A., AND A. T. SCOTT

GLYN MILLS' BANK, E.C.



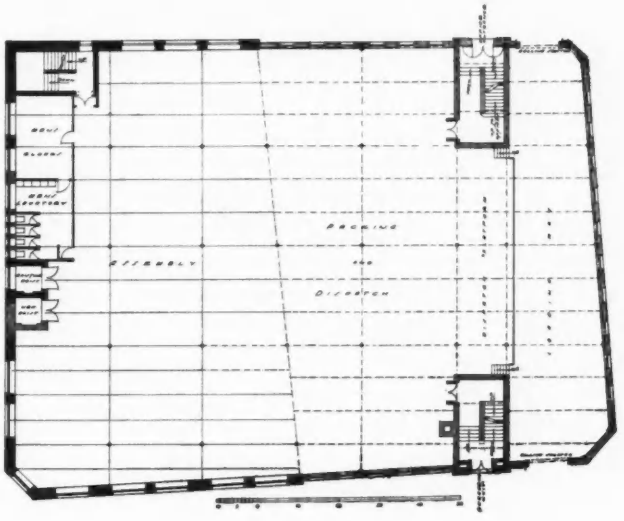
The partners' room.



The partners' dining room.

BY SIR HERBERT BAKER, R.A. AND A. T. SCOTT

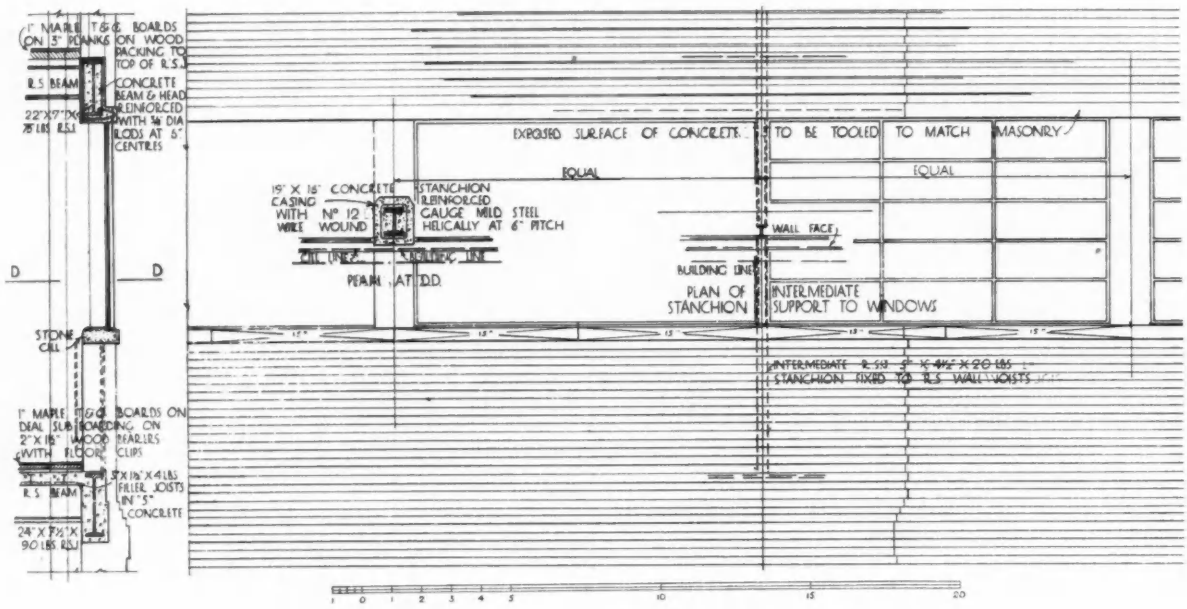
FACTORY AT MANCHESTER



This is an extension to an existing factory for the production of cigarettes and cigars. It is situated in an industrial area, on a site rising sharply from the railway to the Rochdale road, with frontages to three streets, the side street (on the right hand side of the adjoining plan) having a very steep gradient. The main frontage overlooks the electric railway from Manchester to Bury.

DESIGNED BY W. A. JOHNSON

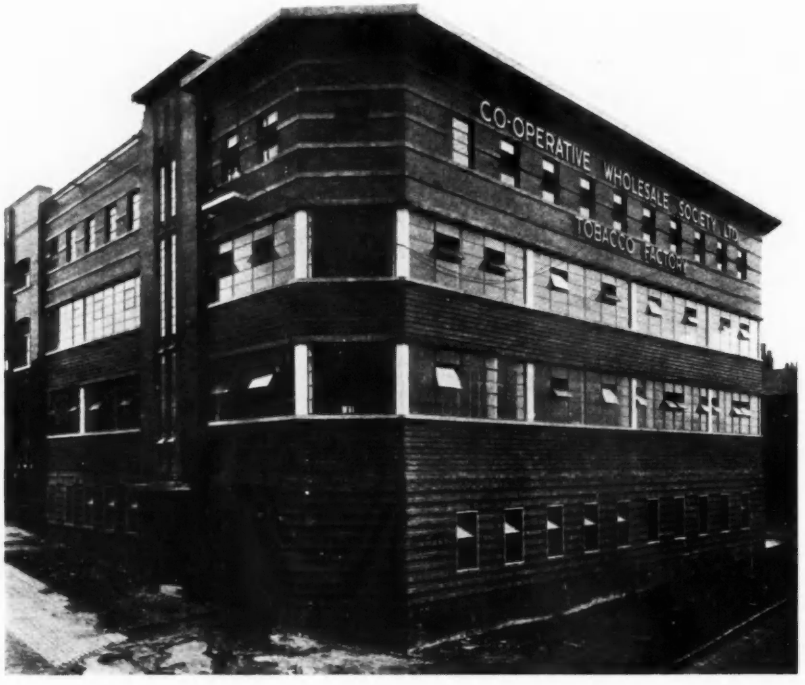
TOBACCO FACTORY AT MANCHESTER



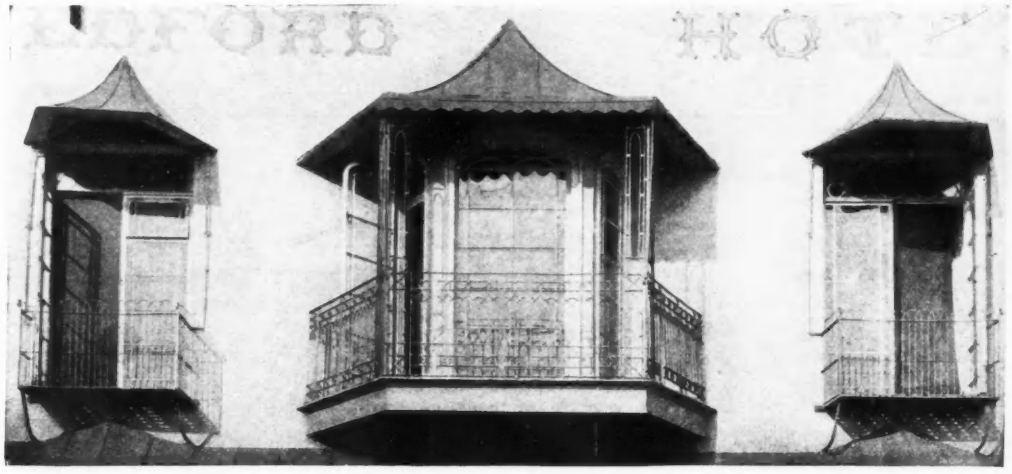
Detail of the external wall construction.

LAY-OUT.—*The factory consists of basement, ground, first and second floors, with a sub-basement connected with the existing buildings by means of a subway. Owing to the gradient of the site the basement floor actually becomes the ground floor of the extension, and forms the point of assembly for the outgoing production of the entire block of buildings. The narrowness of the adjoining street necessitates the provision of an interior loading bay, incorporated in the main block, and giving one-way traffic facilities through the building from one side street to the other.*

MATERIALS.—*Horizontal rusticated bands of red Accrington brickwork alternate on the exterior with continuous bands of window area, above a heavily rusticated brick base, pierced with a line of small window openings lighting the loading bay. The projecting cornice is in concrete, and forms the support for the attachment of a cradle rail for cleaning the large area of window glass.*



DESIGNED BY W. A. JOHNSON



Sidmouth : the architecture of Great Grandmamma, 1820. *From* THE SMALLER ENGLISH HOUSE OF THE LATER RENAISSANCE, *by A. E. Richardson and H. Donaldson Eberlein (Batsford).*

ARCHITECTURAL BOOKS OF THE YEAR

[*By J. M. RICHARDS, A.R.I.B.A.*]

IT ought to be possible to determine, from a list of the architectural books published during any given year, what special aspects of architecture came during that year most into prominence ; for the production of books, like the production of any other kind of merchandise, is subject to the laws of supply and demand, and concentration of interest on a particular subject usually results in various attempts to supply deficiencies in information about that subject, and opinions and instruction as to its application.

During the past year the subjects thus uppermost in the public and professional mind seem to have been three in number—all related in kind, but their prominence provoked by different causes : first there is Town and Regional Planning, together with rural preservation and other ancillary considerations, attention being directed towards it by the opportunities afforded through the coming into operation of the Town and Country Planning Act; secondly there is Industrial Design, coincident with the British Industrial Art Exhibition held at Dorland Hall in the summer ; and thirdly there is the Slum Problem, raised to unprecedented prominence by the general expression of public feeling on the subject, by much unofficial investigation and by the Government's declaration of their intention to apply a remedy.

It has been a poor year economically, but one can at least hope that we are taking advantage of the opportunity this barren period gives us to reconsider our architectural intentions, and study the basic raw material with which architectural design is concerned in a way that is impossible during the rush of busy practice ; for these three subjects have this inspiriting characteristic in common : that they are all primarily concerned with serious contemporary problems and with intentions for the future rather than with excavations into the past.

Beginning with the subject of TOWN PLANNING, the first book that comes to mind is *Town and Countryside*, by Thomas Sharp, which is chiefly notable for its setting forth of the dangers and disadvantages of the Garden City variety of community planning, serving as a useful antidote to the too ready acceptance of the Garden City as the ideal planning solution. The book was badly needed, since the Garden City enthusiast has all the evidence on his side in the shape of good examples with which to point his arguments ; and the solution he offers has the advantage of being in a sense a compromise, and satisfying, therefore, to our national temperament. This book is, from the point of view of format, one of the most pleasing of the year. One of a less controversial nature is Professor Abercrombie's volume on *Town and Country Planning* in the Home University Library. There have been a number of books that explain the application of the Town Planning Act, of which mention should be made of H. Chapman's *Town and Regional Development*, written for the layman's or architect's rather than for legal use. Four small books are of the greatest value in urging the public to a more civilized treatment of their surroundings : a *Cautionary Guide to Dublin*, published by the Royal Institute of the Architects of Ireland, with an introduction by Manning Robertson and illustrated with examples of architectural good and bad manners ; two C.P.R.E. booklets entitled respectively *The Threat to the Peak* and the *Penn Country of Buckingham*, and *Our County and Ourselves*, a piece of constructive local propaganda for Northamptonshire people, by H. R. Surridge and W. Carey Wilson. In helping to raise the standard of small house design, and to justify the universal employment of architects, a new edition of *The Adventure of Building* continues that small book's excellent work.

On the subject of DESIGN, the pamphlet entitled *Design in Modern Life*, issued by the B.B.C. as an introduction to their summer series of broadcast talks, is an excellent example of sound propaganda, with well-chosen illustrations of good and bad, ancient and modern, and British and foreign examples. The year was also notable for the initiation of that lively new periodical—*Design for Today*, which ought to have a powerful influence for good. *Design in the Home*, by Noel Carrington, is a comprehensive anthology of recent achievements in domestic design, encouraging in the quality of the objects illustrated, though a little disturbing in the number of times the same names appear as the designers of them. A spread of modern appreciation beyond the comparatively small circle represented in this book should be the next stage in making good design an automatic economic ambition. *The Studio Year Book of Decorative Art* for 1933 maintained its very high standard of choice and presentation.

In this category also, for the excellent influence they must have in forming a constructive and logical attitude to the design of our common surroundings, particularly in the minds of the young before they

(*Photos : Aerofilms Ltd.*)

can become perverted by any nonsense about applied tastefulness, should be mentioned another volume of Marjorie and C. H. B. Quennell's, *A History of Everyday Things in England*, dealing this time with the rise of Industrialism, and (excellent within its own limitations) Thomas Hibben's *The Carpenter's Tool Chest*.

SLUM was dealt with in a number of books, the most notable of which are Sir E. D. Simon's *The Anti-Slum Campaign*, *Slum* by Howard Marshall and Avice Trevelyan and a number of valuable pamphlets published by various local Housing Associations.

A fourth subject, not strictly architectural, now very much in the public eye—and in the booksellers' windows, is that of British Art, raised by the current exhibition at Burlington House. This, however, belongs to the new year rather than to the old, though a grand spate of books on the subject, of all degrees of scholarship and exhaustiveness, is already appearing.

Apart from the foregoing particular manifestations of public interest, the year has not been rich in architectural book production. There is perhaps only one book (which I shall come to later) that can claim really to have made history in this field. The year has, however, been notable for the re-issue in a new (and in most cases improved) edition of several works that have most certainly made history in the past. These are largely of an antiquarian nature. The most important is, of course, the enlarged and revised edition of Rivoira's great work, *Lombardic Architecture*, the English translation of which, published in 1910, has long been out of print. This work, as those not familiar with it may be unaware, covers far more ground than its title implies. The first volume deals primarily with Italy, but the second is a very complete account of Lombardic derivatives in France, Germany and Italy—of every phase of architecture, in fact, that is usually indicated by the terms Norman and Romanesque. It is a complete analysis of the development of the Mediæval church, from its origins in the early Christian and classic Roman basilica.

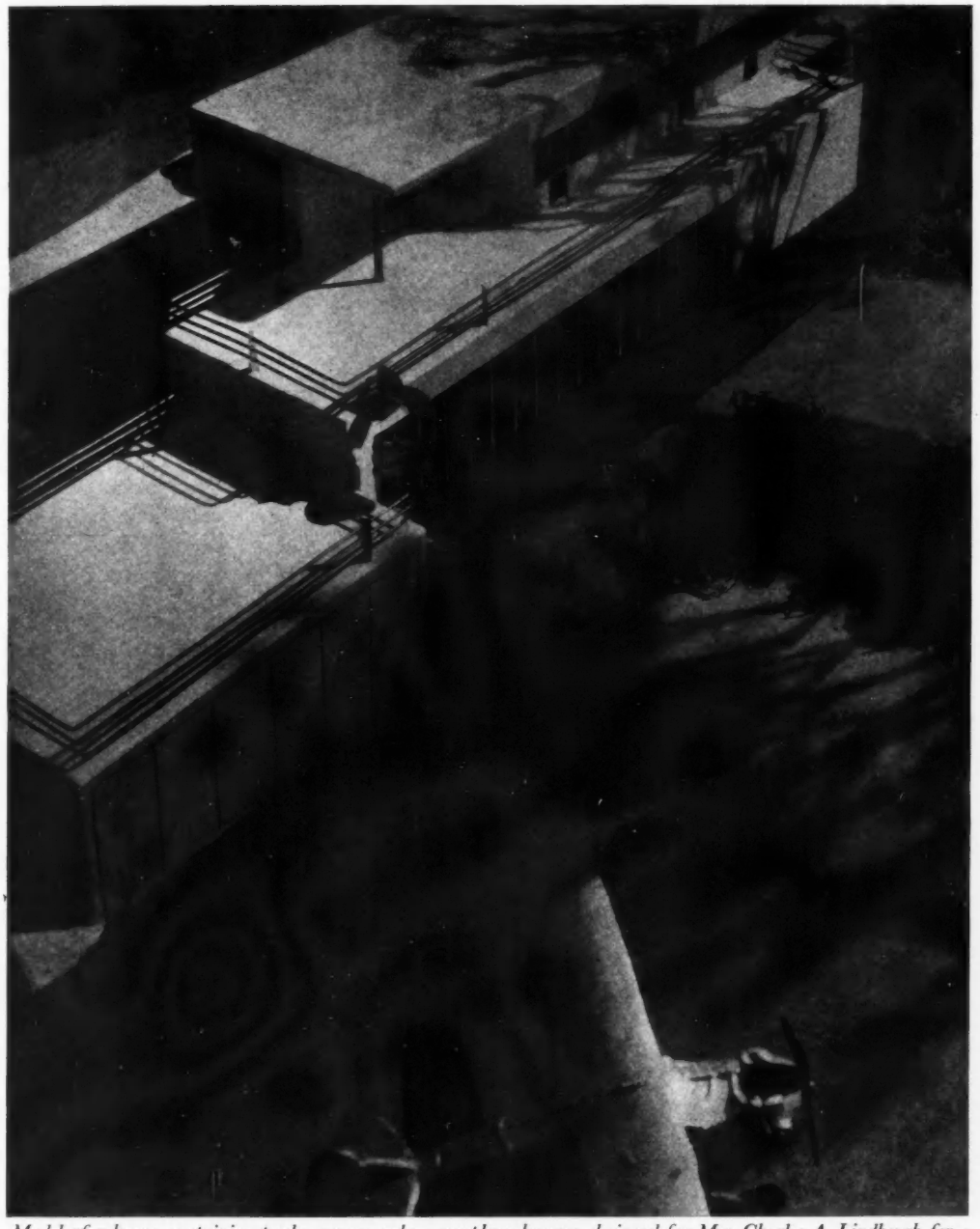
Other works of scholarship that have been re-issued include *The Smaller English House of the Later Renaissance*, by Professor A. E. Richardson and Donaldson Eberlein—familiar to every one as a well-balanced account of the growth of the Regency tradition, *English Church Monuments*, by F. H. Crossley, beautifully illustrated and the standard work on the subject, and J. C.

Three ways of planning, reproduced from the B.B.C.'s pamphlet, DESIGN IN MODERN LIFE.

A : Grandeur on a small scale : the really civilized town. An aerial view of Bath.

B : The strangulation of the town : industry and housing in an unholy alliance that is usually shrouded in a smoke pall.

C : The defence against industrialism : garden city development, or informality run riot, and still no town to live in, and less country to enjoy.



Model of a house, containing twelve rooms and an aeroplane hangar, designed for Mrs. Charles A. Lindbergh for a hill-top site near Princeton, New Jersey. Architects : Clauss and Daub of New York. From THE STUDIO YEAR BOOK OF DECORATIVE ART, 1933.

Cox's *English Church Fittings, Furniture and Accessories*.

In the category of scholarship and research (though not of re-issues) are also found two further volumes of the Wren Society's exhaustive compilation of records and contemporary accounts. These volumes (numbers 9 and 10) deal with the parochial churches, and contain reproductions of some very beautiful drawings.

With these may be classed another volume of the London Survey Committee's series of monograph's—on *Swakeley's, Ickenham* edited by W. H. Godfrey.

Coincident with the architect's present opportunity already referred to of acquiring a new sense of values, which may enable him to take his proper place again in the modern world, we have had in recent years a number of books written especially for the layman, explaining to him what that new sense of values means. This year the number of such books has been added to. The most vigorous of these is Robert Byron's *The Appreciation of Architecture* and the most conscientiously considered for the education of the man in the street is Frederic Towndrow's *Architecture in the Balance*, which, though the author gives it an unsatisfying vagueness by his variable and inexact definitions of such familiar concepts as "art," "beauty," and "function"—by the weakness, that is to say, inherent in philosophic argument expressed in popular language, is a much-needed effort to remove architectural prejudice from the public mind. *How to Look at Buildings* by D'Arcy Braddell ought also to be mentioned.

Turning from the province of popular exposition to that of objective discussion of a specific subject, we find a list of books neither long nor distinguished. The only subject to be excepted from this generalization is that of acoustics ; for we have, all in one year, Knudsen's *Architectural Acoustics*, E. G. Richardson's *Introduction to the Acoustics of Buildings*, C. W. Glover's *Practical Acoustics for the Constructor* and (a small but valuable publication) *The Reduction of Noise in Buildings* by Hope Bagenal and the late P. W. Barnett, four books which (together with Hope Bagenal's earlier and very distinguished work, *Planning for Good Acoustics*) cover between them almost the whole field of a subject that is at last receiving the attention it deserves. Other books that should be mentioned are *The*

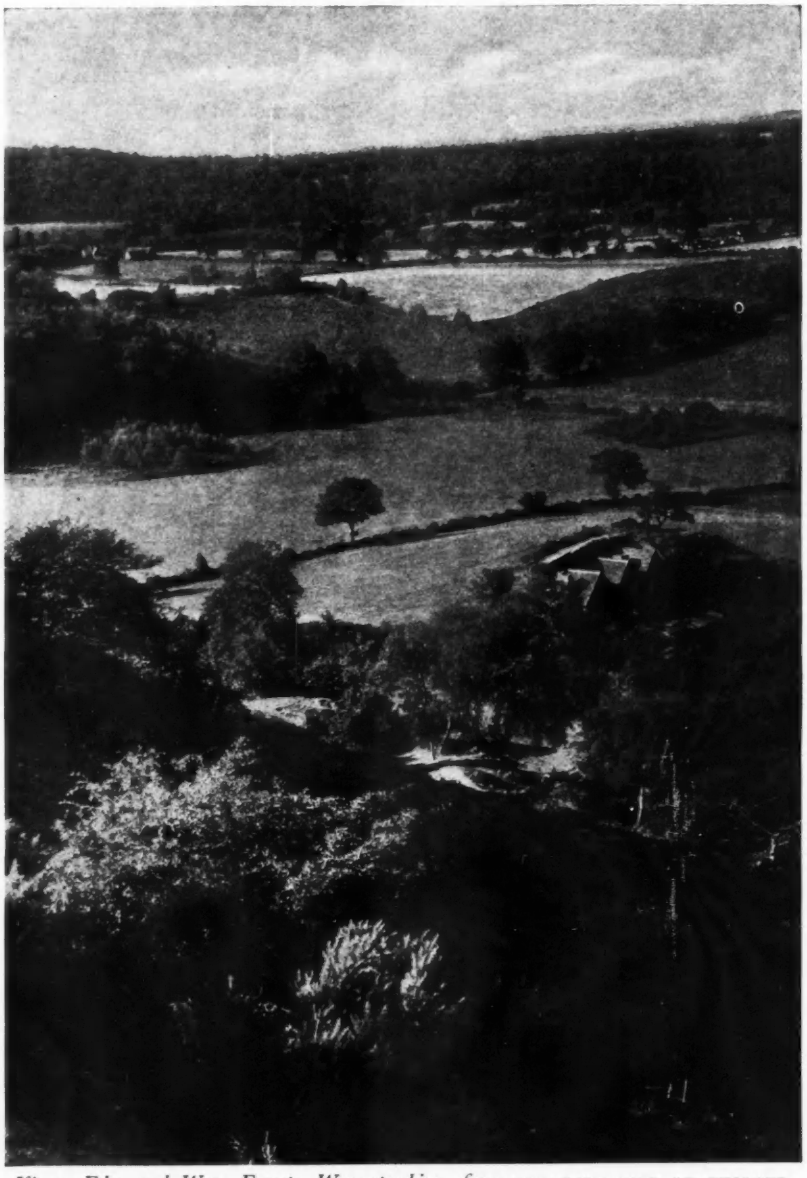
Architecture of Shops, by A. Trystan Edwards, a new edition of Glazier's *Manual of Historic Ornament*, Derek Patmore's *Colour Schemes for the Modern Home* and *Architectural Practice and Administration* by H. Ingham Ashworth.

The subject of architectural practice brings us now to the book I have already referred to as the only one of the year's new publications that can claim to be a permanent landmark in the somewhat level field we have to survey. It can make that claim because it embodies a definite and practical recognition of the demands of contemporary architectural conditions. This book is the *Information Book of Sir John Burnet, Tait and Lorne*, whose collection of information sheets not only answers a present need but anticipates the inevitable future one in presenting practical data in an easily accessible, concise, co-ordinated form.

There are two categories of books remaining to be dealt with. The first is the personal or biographical, of which two small examples deserve notice : *Ebenezer Howard and the Town Planning Movement*, by Dugald MacFadyen, and *Laurence Weaver* by Clough Williams-Ellis. To these may be added a truly monumental compilation and record of achievement, *Houses and Gardens* by M. H. Baillie-Scott and E. Beresford ; a comprehensive anthology of the authors' work in the sympathetic Voysey tradition—work which by its nature falls very aptly under the heading " personal."

The remaining category is the topographical one. On the subject of topography a continuous stream of books seems to flow from the pens of enthusiastic students of the landscape and its growth. Some are apt to overstress the country's sentimental associations, and forget the century in which we live. Two issued this year are exceptions ; they are restrained and descriptive rather than rhapsodic, and are both illustrated by excellent photographs : *The Face of Scotland*, by Harry Batsford and Charles Fry and *The Landscape of England* by Charles Bradley Ford.

One book remains, which I have left till the last because it falls into no category. That it does not do so is perhaps its especial virtue. In *Ghastly Good Taste* John Betjeman has suddenly seen architecture whole, and has inscribed, between elegant covers, his own sensible interpretation of the vision that has been revealed to him. Architecture considered as a whole results, oddly enough, not in abstraction from its human context but in a closer relation to it. The author's emphasis of this relation as the only basis of architectural design makes *Ghastly Good Taste* one of the outstanding books of the year, and his provocative wit and wide range of reference make it quite the most enjoyable.



Kinver Edge and Wyre Forest, Worcestershire, from THE LANDSCAPE OF ENGLAND, *by Charles Bradley Ford (Batsford).*

Right : Only one small piece of Oxford Street ; showing from left to right :

A : Modernity in a furniture store dressed up for Yuletide.

B : An hotel in the British château style with a " tailor of taste " at its base.

C : On the right, a touch of francois premier *with gable.*

From ARCHITECTURE IN THE BALANCE, *by Frederic Towndrow (Chatto & Windus).*

(Photo : Architectural Design and Construction)

REVIEW OF THE YEAR

[*By ASTRAGAL*]

I WELL remember that 1933 started under a cloud that seemed to envelope the earth. The outlook was like the snakes of Ireland : there was no outlook.

It ill behoves those standing on the edge of a volcano to congratulate themselves upon anything at all, and yet, speaking the truth, this year has not been as bad as it might have been. The fortunes of the world have tumbled about in a fashion to alarm even the securest of small nations, and how much more the centre of a far flung Empire. Yet the gods have been kind to us and in our distress have allowed us a glimpse of hope and some hazy sort of reading of a better fate than we felt we had a right to.

*

Now this is particularly true of architecture in England. Architecture is passing through a crisis, the extent of which may perhaps be gauged by the number of exhibitions which have as their basis the reorientation of public taste towards design. Although it is not the fashion in all circles to honour that small hard-working body, the Design and Industry Association, the Government Commission which produced what is known as the Gorrel Report, quite clearly arose from the sustained labours of the D.I.A., and on the Gorrel Report was floated the first really successful exhibition of contemporary British design since the great Exhibition of 1851 staggered the world.

*

I am not going to say that the Dorland Hall Exhibition exactly staggered the world, but it did bring together a varied and beautiful assortment of well-designed objects, produced by English industrialists and craftsmen to the design of artists, designers and architects ; and more importantly than this, it proved the value of a selective exhibition as opposed to the hotchpotch of a trade show. In some senses it failed. There were too many expensive and frivolous things and not enough that was within the pocket of the average person. But it set a standard, and the Royal Academy Exhibition, announced later in the year to take place in January, 1935, an exhibition of a very ambitious nature but similarly based, will be compared with the Dorland Hall show, and must be planned with the same intentions if it is to be successful. The reason why these exhibitions are so extremely important for architecture, lies in the fact that architects, or rather younger architects, have become the designers, not only of the modern house but of its equipment and its furniture ; as witness Mr. Chermayeff's excellent little exhibition, which has become a semi-permanent part of Whiteley's departmental store. The movement towards design has now been given an additional fillip by the formation of a committee to advise the Board of Trade on industrial design, of which Mr. Frank Pick, President of the D.I.A., has accepted the chairmanship.[1]

And while on this subject of exhibitions, I must mention that smallest but not least important show of plywood furniture by the Finnish architect, Alvar Aalto, which was staged by *The Architectural Review* at Fortnum and Mason's. The singular beauty and freshness, combined with the cheapness of this elegantly designed ply-wood furniture, coming after the comparative failure of the short-lived chromium plate, has done already a great deal to reconcile the conservative-minded to modern design. But especially the cheapness.

*

One has only to look through the files of this JOURNAL during the last twelve months to recognize the importance of the slum clearance movement in the events of the year. It is hard to see exactly why this movement should have suddenly burst to life in the earlier part of the year, but however that may have happened, whether on account of lowered building prices or by the accumulation of evidence of the state of the towns suddenly penetrating the last defences of Parliament—however it may have happened, we felt suddenly conscious of a rapid growth of indignation that the slums should continue in our midst. In April the Government issued a circular instructing local authorities to turn from housing to slum clearance. It was a cynical instruction which in effect threw open the profits of ordinary house building to private enterprise, without even the safeguards of standards which the Government had seen fit to impress upon local authorities in the past. An indignant Parliament remedied the worst faults and waited for the Minister of Health's slum clearance programme. This, when it had been fully digested, was pronounced on all sides to be the meagrest assessment of the evil, and THE ARCHITECTS' JOURNAL, among others, was responsible, through Mr. Philip Massey, for setting up better standards of minimum housing and an assessment of housing needs, which made Sir Hilton Young's figures appear as ungenerous as in fact they were. He might not have come in for the tide of criticism which met his proposals if it were not that the Government, afflicted by the fashion for manifestos, declared that they would clear the slums in five years. At the end of the year, public emotion in the matter had abated somewhat. The press was no longer full of slum clearance, and now, and in this new year, appears the time to put into action a clearer, more practical, and much more far-reaching plan, which will include, not only the building of new houses, but the rebuilding of the worst parts of our industrial towns and cities.

*

The year saw the termination of Sir Raymond Unwin's second term of office as President of the R.I.B.A. and we will remember with gratitude how well he fought, not only for the rehabilitation of architects in his fine work for the bringing together of architecture and the building industry, but also for the spade work he did in favour of a national housing corporation. He was to some extent mastered by events when putting this forward, and had not at his command the research data or the essential figures which would have enabled him to sway opinion completely in its favour. But the idea of a centralized housing body suggested by him has grown steadily in favour since then. Lord Moyne's Committee, which even though its terms of reference did not allow it to decide on the question of such a corporation yet, felt called upon to traverse it with criticisms quite unfounded on any good facts, and may yet have to withdraw its opinions in this coming year. The Moyne Report, reviewed now after the passage of six months or more, is seen to be a fairly confused document, laying stress on the value of utility societies, only a few of which are in existence, and proposing methods of purchase which Parliament will nearly certainly never allow. It is a thousand pities that they were not given a clear hand to examine the deeper aspects of the slum clearance problem, and not having been given this, that they did

[1] Names of Committee on p. 36.

not refrain from passing judgment on matters lying outside their terms of reference.

*

Early in the year we had a jolly rumpus over Carlton House Terrace, out of which came very interesting information as to the workings of the Fine Arts Commission and the methods of running Government Departments. Had it not been for the avidity with which public opinion, headed by this JOURNAL, seized upon and worried those responsible for the error of judgment, Carlton House Terrace might quite easily have been lost to the nation and left to Sir Reginald Blomfield to transform into something rich and strange. What happened is typical modern commerce. A firm of paint manufacturers, feeling that Carlton House Terrace would be a good address, bought one of the houses and proceeded to spoil their address by rebuilding it in Portland stone so that it soared above the roof line of the Terrace and destroyed its unity. Like many before him, Sir Reginald thought less of the evil of destroying the long length of the Terrace than of the grand opportunities for re-designing, starting at one end, an important London facade. Worse than this, the Town Planning Committee of the L.C.C., headed by Lord Haddo, felt called upon to carry Sir Reginald's design a stage further by repeating it on each side of the Duke of York's column, and we were shown the grim spectacle of a worthy gentleman with no possible pretensions to architectural skill, and only an amateur's knowledge of town planning, taking upon himself the job of re-designing one of the most important facades in London, the acknowledged masterpiece of a man who transformed the west end of London one hundred years ago. I strongly counsel those who have the beauty of London buildings at heart to investigate the working of this same committee.

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The Adelphi Terrace is unfortunately fated completely to disappear and, one feels in one's heart, for better reasons. But it will be a sad blow to lose the charm and delicacy of a tiny district, gradually being swallowed up by so much that is commercial and brutal and so very very heavy.

*

During the year there have died men widely separated in their work. Walton, who died last month, was "accessory before" Mackintosh, and revered by Continental architects as one of the forerunners of the modern movement. H. Dunbar Smith, who died just a little before Walton, was partner in a firm that designed Messrs. Heal's premises in Tottenham Court Road, the most lastingly successful modern shop design in London. Nathaniel Lloyd will always be remembered for his great and scholarly work on English brickwork, which had a profound bearing upon the work of the last ten or twenty years. And finally, with the death of Sir Frank Baines, we chronicle the passing of a period of magnificence never to be repeated. As a Government architect he was largely responsible for the architectural activities of the Office of Works, both during and after the war, but he is likely to be remembered by those two impressive piles at Millbank which he built for Lord Melchett.

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Finally, work has been resumed on the Loch Ness monster of the shipping world, Cunarder 534, and the architectural zoologists await with trepidation news of its marine interior.

*

Here we are, therefore, at the end of this eventful year. There is no prophesying what will happen. No one knows how Roosevelt's struggle will culminate or what will come up in that country which is driving out some of its brains to take refuge with us. All we see is a slowly rising tide of prosperity and a diminution of unemployment, and we seize upon these with every access of hope.

THE BUILDINGS ILLUSTRATED

Sub-Contractors' List

Following are the names of the general contractors and some of the sub-contractors for the buildings illustrated in this issue :—

Trowbridge Street Tenements, Liverpool (pages 39-44). General contractors, J. Lewis, Sub-contractors :—The Ravenhead Sanitary Pipe and Brick Co., bricks ; Robert Abraham, Ltd., concrete tiles ; Liverpool Artificial Stone Co., artificial stone ; Crittall Manufacturing Co., windows ; E. Wilson & Co. (Collingwood), Ltd., iron railing and balusters ; Walpamur & Co., Ltd., distemper for interior ; The Trussed Concrete Steel Co., Ltd., reinforced concrete work ; A. Monk & Co., Ltd., site works ; J. Stott and Son, electrical installation ; E. H. Smith, roof tiling.

Tobacco Factory, Manchester (pages 87-88). General contractor, C.W.S. Building Dept. C.W.S. Engineering Dept., engineering work, heating and lighting. Sub-contractors :—Redpath, Brown & Co., Ltd., steelwork ; Crittall Manufacturing Co., steel windows ; Venesta, Ltd., Plymax partitions and lavatory cubicles ; Mather and Platt, Ltd., roller shutters.

Dunston Power Station (pages 47-51). Consulting engineers, Merz and McLellan. Sub-contractors :—Babcock & Wilcox, Ltd., boilers ; Clarke, Chapman & Co., Ltd., boilers ; British Insulated Cables, Ltd., cables ; F. W. Brackett & Co., circulating water screen ; Sir Robert McAlpine and Sons, civil engineering ; Tileman & Co., Ltd., chimneys ; Richardson, Westgarth & Co., Ltd., condensers ; Birtley Co., Ltd., conveyors ; Arthur L. Gibson & Co., Ltd., Kinnear Steel Rolling Shutters ; Joseph Booth and Bros., Ltd., cranes ; Davidson & Co., Ltd., fans ; W. H. Heywood & Co., glass ; Cambridge Instrument Co., Ltd., instruments ; Electroflo Meters Co., Ltd., instruments ; Aiton & Co., Ltd., pipework ; Drysdale & Co., Ltd., pumps ; Dorman, Long & Co., Ltd., steel work ; A. Reyrolle & Co., Ltd., switchgear ; Ferranti, Ltd., transformers ; C. A. Parsons & Co., Ltd., transformers ; C. A. Parsons & Co., Ltd., turbo-generators.

Sloane Avenue Mansions, Chelsea (pages 52-55). General contractors, Rice and Son, Ltd. Engineers for reinforced concrete work, L. G. Mouchel and Partners, Ltd. Sub-contractors : Ellis (Kensington) Ltd., plumbing ; Comyn Ching & Co., (London) Ltd., heating ; Drake and Gorham, Ltd., electrical work ; Marryat and Scott, Ltd., lifts ; George Jennings (Lambeth) Ltd., sanitary fittings ; Hitchins Flush Woodwork, Ltd., flush woodwork ; Hoffmann Sprinkler Co., Ltd., sprinklers ; Helical Bar and Engineering Co., Ltd., steel work and floors ; George Wright & Co., (London) Ltd., fire escapes ; G. R. Speaker & Co., Ltd., "Eonit" partitions ; Stic B Paint Sales Ltd., Stic B paint ; W. J. Furse & Co., Ltd., lightning conductor.

Institute of Pathology, Leeds (pages 61-64). General contractors, Wm. Airey and Son (Leeds) Ltd. Sub-contractors, Dorman, Long & Co., structural steelwork, fabrication ; George Depledge & Co., structural steelwork, erection ; Expanded Metal Co., Ltd., concrete reinforcement ; J. A. King & Co., basement lighting ; Geo. Armitage and Sons, Ltd., facing bricks ; Tunstalls Seyssel, and Limmer Rock Asphalte Co., Ltd., asphalt roofing and damp-proof courses ; The Crittall Manufacturing Co., Ltd., steel windows, lantern and dome roof-lights ; Messrs. The Leeds Marble and Heating Works, Ltd., heating and h.w. installation ; J. Lindley, plumbing, building contract ; Geo. Thompson, (Leeds) Ltd., plumbing, fittings contract ; Chance Bros. & Co., Ltd., special glass to museum lights ; The Leeds Fireclay Co., Ltd., sanitary fittings, building contract ; Doulton & Co., Ltd., sanitary fittings, fittings contract ; T. K. Yeates & Co., wood block flooring ; A. Andrews and Sons, dado tiling and tile and terrazzo floors ; Dixon Powner and Sons, wrought and tubular iron railings, lift enclosure ; A. Gallenkamp & Co., Ltd., fume cupboards and special fittings ; Thomas Moore, plasterer ; Messrs. Dearden Bros., Ltd., painter ; Troughton & Young, Ltd., electric light fittings ; Rawlinsons Ltd., electric lift ; Wallis and Watson, electric installation ; The Liverpool Refrigerating Co., refrigeration ; Joseph Kaye and Sons, Ltd., locks, etc. ; James Keith and Blackman Co., Ltd., extract fans ; Turners' Asbestos Cement Co., Ltd., fume duct tubes.

House at Ashstead (page 79). General contractors, Y. J. Lovell and Son, Marlow. Sub-contractors : The Kleine Co., Ltd., reinforced hollow brick floors and roofs ; Val de Travers Asphalte Paving Co., Ltd., asphalt ; Johnson and Tanner, Ltd., electrical installation ; Crittall Manufacturing Co., Ltd., metal casements and doors ; Garton and Thorne, Ltd, metal railings and door furniture ; Monarch Flooring Co., Ltd., wood block and jointless flooring ; Redfern's Rubber Works, Ltd., rubber flooring ; Catesby's, Ltd., linoleum flooring ; Alfred Goslett & Co., Ltd., sanitary fittings, Cement Marketing Co., Snowcrete ; Nautilus Fire Co., Ltd., gas fires ; George Wright (London) Ltd., coal fires ; Beeston Boiler Co., Ltd., boiler ; Mander Bros., paint ; Electrolux Ltd., refrigerator ; W. Lusty and Sons, Ltd., kitchen cabinet ; Ostens (Byfleet) Ltd., serving hatch.

Glyn Mills Bank (pages 81-86). General

contractors, Holloway Bros. (London), Ltd. Sub-contractors: J. Whitehead & Sons, Ltd., marble work; Redpath, Brown & Co., Ltd., structural steelwork; Cement Marketing Co., Ltd., Portland cement and "Ferrocrete"; Moler Products, Ltd., Fosalsil blocks; Ames and Finnis, "Lombardic" tiling and Westmorland slating; Waygood-Otis, Ltd. electric passenger and service lifts; Le Grand, Sutcliffe and Gell, Ltd., artesian well pumps, service pumps and water mains; Rosser and Russell, Ltd., heating, hot water supply and ventilation; Art Pavements and Decorations, Ltd., "Biancola" and terrazzo work, black marble slips; Matthew T. Hall & Co., Ltd., external plumbing work and plumbing and drainage work; H. H. Martyn & Co., Ltd., bronze doors and frames; Henry Hope and Sons, Ltd., steel windows and bronze laylights; Crittall Manufacturing Co., Ltd., bronze windows, skylights, lean-to lights and dome lights; Caston & Co., Ltd., balustrades and grilles, etc., to staircase; Morris-Singer Co., cast bronze frames and sashes and bronze grilles, screens, etc.; Carter and Aynsley, Ltd., polished bronze metal handrail; Tudor Art Metal Co., Ltd., wrought ironwork, staircase balustrading, bronze and steel architraves to lift door openings; James Gibbons, Ltd., bronze butts, bolts and grilles, glazed screens and doors, etc.; Drake and Gorham, Ltd., electrical services; Newalls Acoustic Products, Ltd., "Paxfelt" acoustic felt; Plastering, Ltd., plastering work; W. B. Simpson and Sons, Ltd., red quarry paving, tiles and white glazed tiling to walls; Light Steelwork (1925), Ltd., parapet rail and standards and steel lining to bullion entrance; Chubb and Son's Lock and Safe Co., Ltd., pivot hinges, bolts, locks, etc., to main and bullion entrances and steel dado lining in bullion lobby; Arthur L. Gibson & Co., Ltd. steel cupboards and Kinnear shutters; Nettlefold & Sons, Ltd., ironmongery; A. Goldstein & Co., glass and glazing; Gas Light and Coke Co., gas work and general apparatus; Standard Time Co., Ltd., installation of electric clocks; Siemens Bros. & Co., Ltd., installation of automatic telephone equipment; Higgins and Griffiths, Ltd., electric light fittings; Accordo Blinds, Ltd., "Accordo" blinds; J. W. Gray and Sons, Ltd., lightning conductors.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILE RADIUS)

BARKING. *Schemes.* The Corporation reports that the following schemes are under consideration:—Schools and clinic—£36,000; Western and southern open belts—£23,000; Baths at Becontree—£50,000; River Road reconstruction—£44,000; Gale Street improvement—£6,000; Libraries—£7,500; Isolation hospital section—£37,500; Sewerage, town sewer—£20,000; Conveniences—£5,000; Housing, five years programme—£50,000; Town Hall—£30,000.

BARKING. *Houses and Flats.* The Corporation has approved plans for the erection of 151 houses and flats to complete the Movers Lane housing estate.

BARKING. *Hospitals.* The Corporation is to submit plans for the erection of the second portion of Barking Hospital, at a cost of £34,000, to the Ministry of Health for approval. The Corporation is to obtain tenders for the erection of a maternity hospital at an estimated cost of £10,000.

ENFIELD. *Houses and Works Extension.* Plans passed by the U.D.C.: Five shops, Brimsdown Avenue, for Messrs. French, Buchanan and French; two houses, Allandale Road, for Mr. H. Harvey; 22 houses, Lincoln Way, Ponders End, for Mr. H. Holmes; 12 houses, Goldsdown Close, for Messrs. Woodchild & Co.; cabinet works extensions, Lincoln Road, Ponders End, for Mr. L. G. Ekins; two houses, Cockfosters Road, Hadley Wood, for Mr. A. E. Kingswell.

ENFIELD. *Flats and Garages.* Mr. B. A. T. Hammond has prepared plans for the erection of five blocks of six flats, and 20 garages, at Windmill Hill.

FINCHLEY. *Swimming Pool.* The Corporation is seeking sanction to borrow £7,000 for the construction of a children's open air swimming pool.

FINCHLEY. *Houses and Roads.* Plans passed by the Corporation:—Four houses, Wentworth Avenue, for Mr. C. Evans; roads, Parklands estate, for Mr. E. Waterman; four houses, Chessington Avenue, for Mr. P. J. Preston; three houses, Kingsley Way, for Messrs. Kingstons (Builders) Ltd.; two houses, Kingsley Way, for Mr. L. G. Gibson; two houses, Westbury Road, for Mr. P. Baldwin; six houses, Abbots Gardens, for Messrs. Comben and Wakeling, Ltd.; two houses, Wentworth Avenue, for Messrs. F. W. Bristow and Son, Ltd.; two houses, Widdicombe Way, for Mr. G. S. Smith; two houses, Widdicombe Way, for Mr. A. Reast; three houses, Dunger Place, for Mr. A. Fairchild.

SOUTHALL-NORWOOD. *Re-housing.* The U.D.C. is to purchase 14 acres off Allenby Road, for a re-housing scheme.

SOUTHALL-NORWOOD. *Houses.* Plans passed by the U.D.C.:—Two houses, Tentelow Lane, for Mr. F. P. Winterbotham; nine houses, Sherborne Avenue, for Messrs. Warren and Woods; 115 houses, Brent Road, for General Housing Co.

SOUTHWARK. *Town Hall Extensions.* The B.C. is to urge the L.C.C. to sanction the loan application for £83,500, for the Town Hall extension scheme, in Walworth Road.

SOUTHERN COUNTIES

BLACK NOTLEY. *Sanatorium.* The Essex C.C. has arranged to extend the Black Notley sanatorium at a cost of £63,679 to accommodate an additional 300 patients.

EASTBOURNE. *Bandstand and Shelters.* The Corporation is considering plans for the erection of a bandstand and shelters at Grand Parade at a cost of £29,000.

LAINDON. *School.* The Essex Education Committee is to convert the High Road school at Laindon into a senior school at a cost of £2,040.

OXFORD. Plans passed by the Corporation: 50 houses, off Windmill Road, Headington, for Langley Development Co., Ltd., Slough; four houses, Bowness Avenue, for Great Headley Homesteads, Ltd.; factory extension, Garsington Road, Cowley, for Pressed Steel Co., Ltd.; four houses, Five Mile Drive, and house, Tree Lane, for Messrs. Hinkins and Frewin, Ltd.; factory extension, Botley Road, for Messrs. Hunt and Broadhurst, Ltd.; four houses, Ferry Road, New Marston, for Mr. R. Hedges; 12 houses, Fern Hill Road, Cowley, for Mr. W. H. Taplin; building estate, Florence Park, for Messrs. N. Moss and Son, Ltd.

SEVERALLS. *Cottages.* The Essex C.C. is to erect 54 cottages for the staff at the Severalls mental colony, at a cost of £18,000.

UPMINSTER, ETC. *Schools.* The Essex Education Committee has approved plans for the erection of an elementary school at Upminster at an estimated cost of £36,000, and acquired sites in the South Hornchurch district for the erection of two elementary schools.

SOUTH-WESTERN COUNTIES

CHELTENHAM. *Houses and Flats.* Plans passed by the Corporation:—Two houses, Queen's Road, for Mr. G. A. M. Hall; three houses, Evesham Road, for Mr. W. H. Bowd; two houses, Battledown Approach, for Mr. G. A. Hawkins; conversion into flats, Stanmer House, Lypiatt Road, for Ideal Flats, Ltd.; four houses, Carden Estate, Charlton Kings, for Capt. J. L. Richardson; development, Ewens Farm, Charlton Kings, for Naunton Estate, Ltd.

CHELTENHAM. *Sheds.* The Corporation is seeking sanction to borrow £3,680 for the erection of sheds to houses on the St. Peter's and St. Paul's estates.

CHELTENHAM. *Housing.* The Corporation is to acquire a rehousing site of about nine acres in Tewkesbury Road.

HEREFORD. The Corporation is to extend water mains at a cost of £2,000 in connection with land development at Hinton Lane, where Messrs. Alister Maclennan & Co. are to build 90 houses.

MIDLAND COUNTIES

COVENTRY. *Houses.* The Corporation is to erect 150 houses on the Stoke Aldermoor estate, at a cost of £43,685.

COVENTRY. *Property.* The Corporation is to acquire property in Earl Street at a cost of £18,750 for improvements.

ILKSTON. *Houses.* The Corporation is inviting tenders for the erection of 66 houses on the Nottingham Road estate.

NORTHAMPTON. *Houses.* Plans passed by the Corporation: 28 houses, Headlands estate, for Mr. J. E. Lucas; six houses, Chipsey Avenue, for Messrs. A. Glenn and Sons, Ltd.; two houses, Ardington Road, for Mr. H. G. Sheppard; 68 houses, Penrhyn Road, for Mr. J. C. Wareing; 14 shops and houses, Kettering Road, for Messrs. A. P. Hawtin and Sons, Ltd.; three houses, Ardington Road, for Mr. Leppar; shop, Euston Road, for Messrs. T. Wilson and Son, Ltd.

NORTHAMPTON. *Flats and Houses.* The Corporation reports that the Ministry of Health has approved the erection of seven non-parlour type flats on the handicraft centre site in Dallington Road, and 54 non-parlour type houses on the Abington site for re-housing purposes.

RAWTENSTALL. *Works reconstruction and Houses.* Plans passed by Rawtenstall Corporation: Reconstruction of works, Cowpe Road, Waterfoot, for Mr. G. H. Taylor; lay-out for 50 houses, Lane End Farm, Waterfoot, for Mr. Abel Heap; additions to six houses, Reedsholme, for Messrs. H. Trickett and Son, Ltd.

RAWTENSTALL. *Houses.* The Corporation has received sanction to borrow £14,447 for the erection of 50 houses for aged people.

SMETHWICK. *Houses, Shops, etc.* Plans passed by the Corporation: 19 houses, Grove Lane, for Mr. J. E. Taylor; shop premises, corner High Street and Halford Street, for Mr. W. Dallaway; shop, 306, Queen's Road, for Mr. A. Fenton; shop, 55 Waterloo Road, for Mr. P. King; new premises, Hume Street, for Cape Hill Press, Ltd.; bakery reconstruction, 168 Church Lane, for Mr. J. Walker.

SMETHWICK. *School reconstruction.* The Education Committee is to reconstruct the Crockett Lane School, by direct labour, at a cost of £8,392.

NORTHERN COUNTIES

BLYTH. *Bandstand and Gardens.* The Corporation is to lay out the beach gardens and erect a bandstand, by direct labour, at a cost of £2,000.

BLYTH. *Swimming Pool.* The Corporation is to prepare revised plans for the construction of a swimming pool, to cost not more than £16,000.

BLYTH. *Flats.* Plans passed by the Corporation: Four flats, Wolmer Road, for Mr. J. E. Dover; eight flats, Plessey Road, for Mr. J. W. Tebble; four flats, Alborough Street, for Messrs. Pattisin and Hush; two houses, Wolmer Road, for Mr. Wm. Swann; 16 flats, Louise Road, for Mr. H. Bower.

BOLTON. *Houses and Flats.* The Corporation Housing Director has prepared plans for the erection of 36 houses and flats on a site in Compton Way, and is to obtain tenders for the erection of 26 houses on the Hall Wood estate.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I	II
			s. d.	s. d.
A_1	ABERDARE ..	S. Wales& M.	1 5	1 0½
A_1	Abergavenny ..	S Wales & M.	1 5	1 0½
A_3	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1¼
A_3	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1½
A	Airdrie ..	Scotland	*1 5½	1 1½
C	Aldeburgh ..	E. Counties	1 1½	10½
A	Altrincham ..	N.W. Counties	1 5½	1 1½
B_2	Appleby ..	N.W. Counties	1 2	10½
A	Ashton-under-Lyne	N.W. Counties	1 5½	1 1¼
A_2	Atherstone ..	Mid. Counties	1 4	1 0
B_2	Aylesbury ..	S. Counties	1 2½	11
B_1	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_2	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1½
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow ..	N.W. Counties	1 5½	1 1½
A	Barry ..	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke ..	S.W. Counties	1 3	11½
A_2	Bath	S.W. Counties	1 4	1 0
A	Batley ..	Yorkshire	1 5½	1 1½
A_2	Bedford ..	E. Counties	1 4	1 0
A_2	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_2	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	*1 7	1 2½
A	Birmingham	Mid. Counties	1 5½	1 1½
A_1	Bishop Auckland	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1½
A	Blackpool ..	N.W. Counties	1 5½	1 1½
A	Blyth ..	N.E. Coast	1 5½	1 1½
B_2	Bognor ..	S. Counties	1 2½	11
A	Bolton ..	N.W. Counties	1 5½	1 1½
A	Boston ..	Mid. Counties	1 4	1 0
A	Bournemouth ..	S. Counties	1 4	1 0
B_2	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1½
A_1	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M.	1 5½	1 1½
B_1	Bridgwater ..	S.W. Counties	1 3	11½
A_1	Bridlington ..	Yorkshire	1 5	1 0½
A	Brighouse ..	Yorkshire	1 5½	1 1½
A_3	Brighton ..	S. Counties	1 4	1 0
A	Bristol ..	S.W. Counties	1 5½	1 1½
B_2	Brixham ..	S.W. Counties	1 2	10½
A_2	Bromsgrove ..	Mid. Counties	1 4½	1 0½
C	Bromyard ..	Mid. Counties	1 1½	10½
A	Burnley ..	N.W. Counties	1 5½	1 1½
A	Burslem ..	Mid. Counties	1 5½	1 1½
A	Burton-on-Trent	Mid. Counties	1 5½	1 1½
A	Bury ..	N.W. Counties	1 5½	1 1½
A_1	Buxton ..	N.W. Counties	1 5	1 0½
A_2	CAMBRIDGE ..	E. Counties	1 4½	1 0½
B_2	Canterbury ..	S. Counties	1 2½	11
A	Cardiff ..	S. Wales & M.	1 5½	1 1½
A	Carlisle ..	N.W. Counties	1 5½	1 1½
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Carnforth ..	N.W. Counties	1 5½	1 1½
A	Castleford ..	Yorkshire	1 5½	1 1½
B	Chatham ..	S. Counties	1 3½	11½
B	Chelmsford ..	E. Counties	1 3½	11½
A_1	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester ..	N.W. Counties	1 5½	1 1½
A	Chesterfield ..	Mid. Counties	1 5½	1 1½
B_2	Chichester ..	S. Counties	1 2½	11
A	Chorley ..	N.W. Counties	1 5½	1 1½
B_2	Cirencester ..	S. Counties	1 2½	11
A	Clitheroe ..	N.W. Counties	1 5½	1 1½
A	Clydebank ..	Scotland	1 5½	1 1½
A	Coalville ..	Mid. Counties	1 5½	1 1½
A_2	Colchester ..	E. Counties	1 4	1 0
A	Colne ..	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_1	Consett ..	N.E. Coast	1 5	1 0½
A	Conway ..	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1½
A_2	Crewe	N.W. Counties	1 4½	1 0½
A_3	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1½
A	Darwen ..	N.W. Counties	1 5½	1 1½
A_2	Deal	S. Counties	1 2½	11
A_3	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby ..	Mid. Counties	1 5½	1 1½
A	Dewsbury ..	Yorkshire	1 5½	1 1½
B	Didcot ..	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1½
B_2	Dorchester ..	S.W. Counties	1 2½	11
A_3	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley ..	Mid. Counties	1 5½	1 1½
A	Dundee ..	Scotland	1 5½	1 1½
A	Durham ..	N.E. Coast	1 5½	1 1½
A_3	EASTBOURNE ..	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1½
A_1	E. Glamorganshire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter ..	S.W. Counties	*1 4½	1 0½
B_1	Exmouth ..	S.W. Counties	1 3	11½
A_2	FELIXSTOWE ..	E. Counties	1 4	1 0
A_3	Filey	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1½
B_2	Folkestone ..	S. Counties	1 2½	11
A	Frodsham ..	N.W. Counties	1 5½	1 1½
B_2	Frome	S.W. Counties	1 2½	11
A	GATESHEAD ..	N.E. Coast	1 5½	1 1½
B	Gillingham ..	S. Counties	1 3½	11½
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole	Yorkshire	1 4½	1 0½
A	Gosport ..	S. Counties	1 4	1 0
A_3	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0½
A	Greenock ..	Scotland	*1 5½	1 1½
A	Grimsby ..	Yorkshire	1 5½	1 1½
B_1	Guildford ..	S. Counties	1 3	11½
A	HALIFAX ..	Yorkshire	1 5½	1 1½
A	Hanley ..	Mid. Counties	1 5½	1 1½
A	Harrogate ..	Yorkshire	1 5½	1 1½
A	Hartlepools ..	N.E. Coast	1 5½	1 1½
B	Harwich ..	E. Counties	1 3½	11½
B_2	Hastings ..	S. Counties	1 2½	11
A_3	Hatfield ..	S. Counties	1 4	1 0
B	Hereford ..	S.W. Counties	1 3½	11½
A_3	Hertford ..	E. Counties	1 4	1 0
A	Heysham ..	N.W. Counties	1 5½	1 1½
A	Howden ..	N.E. Coast	1 5½	1 1½
A	Huddersfield ..	Yorkshire	1 5½	1 1½
A	Hull ..	Yorkshire	1 5½	1 1½
A	ILKLEY ..	Yorkshire	1 5½	1 1½
A	Immingham ..	Mid. Counties	1 5½	1 1½
A_3	Ipswich ..	E. Counties	1 4	1 0
B_2	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1½
A	KEIGHLEY ..	Yorkshire	1 5½	1 1½
B	Kendal ..	N.W. Counties	1 3½	11½
B	Keswick ..	N.W. Counties	1 3½	11½
A	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster	Mid. Counties	1 4½	1 0½
B_2	King's Lynn ..	E. Counties	1 2½	11
A	LANCASTER ..	N.W. Counties	1 5½	1 1½
A_1	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester ..	Mid. Counties	1 5½	1 1½
A	Leigh ..	N.W. Counties	1 5½	1 1½
B_3	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln ..	Mid. Counties	1 5½	1 1½
	Liverpool ..	N.W. Counties	*1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly ..	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12-15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1½
A	Loughborough	Mid. Counties	1 5½	1 1½
A_3	Luton	E. Counties	1 4	1 0
A	Lytham ..	N.W. Counties	1 5½	1 1½
A_1	MACCLESFIELD	N.W. Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11½
A_3	Malvern ..	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1½
A	Mansfield ..	Mid. Counties	1 5½	1 1½
B_1	Margate ..	S. Counties	1 3	11½
A	Matlock ..	Mid. Counties	1 4	1 0
A_1	Merthyr ..	S. Wales & M.	1 5	1 0½
A	Middesbrough	N.E. Coast	1 5½	1 1½
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1 2½	11
A	Morecambe ..	N.W. Counties	1 5½	1 1½
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson ..	N.W. Counties	1 5½	1 1½
A	Newcastle ..	N.E. Coast	1 5½	1 1½
A	Newport ..	S. Wales & M.	1 5½	1 1½
A	Normanton ..	Yorkshire	1 5½	1 1½
A_1	Northampton ..	Mid. Counties	1 5	1 0½
A	North Staffs ..	Mid. Counties	1 5½	1 1½
A	North Shields ..	N.E. Coast	1 5½	1 1½
A_2	Norwich ..	E. Counties	1 4½	1 0½
A	Nottingham ..	Mid. Counties	1 5½	1 1½
A	Nuneaton ..	Mid. Counties	1 5½	1 1½
A_2	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham ..	N.W. Counties	1 5½	1 1½
A_2	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford ..	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	*1 5½	1 1½
B_3	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth ..	Scotland	*1 5½	1 1½
A_2	Peterborough ..	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	*1 5½	1 1½
A	Pontefract ..	Yorkshire	1 5½	1 1½
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_3	Portsmouth ..	S. Counties	1 4	1 0
A	Preston ..	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate ..	S. Counties	1 3½	11½
A_3	Retford ..	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A_2	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1½
B	Rochester ..	S. Counties	1 3½	11½
A_1	Ruabon ..	N.W. Counties	1 5	1 0½
A	Rugby ..	Mid. Counties	1 5½	1 1½
A_3	Rugeley ..	Mid. Counties	1 4	1 0
A	Runcorn ..	N.W. Counties	1 5½	1 1½
A_2	ST. ALBANS ..	E. Counties	1 4½	1 0½
A	St. Helens ..	N.W. Counties	1 5½	1 1½
B_3	Salisbury ..	S.W. Counties	1 2	10½
A_1	Scarborough ..	Yorkshire	1 5	1 0½
A	Scunthorpe ..	Mid. Counties	1 5½	1 1½
A	Sheffield ..	Yorkshire	1 5½	1 1½
A	Shipley ..	Yorkshire	1 5½	1 1½
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton ..	Yorkshire	1 4½	1 0½
A_3	Slough ..	S. Counties	1 4	1 0
A_2	Solihull ..	Mid. Counties	1 4½	1 0½
A_2	Southampton ..	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport ..	N.W. Counties	1 5½	1 1½
A	S. Shields ..	N.E. Coast	1 5½	1 1½
A_2	Stafford ..	Mid. Counties	1 4½	1 0½
A	Stockport ..	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud ..	S.W. Counties	1 3½	11½
A	Sunderland ..	N.E. Coast	1 5½	1 1½
A	Swadlincote ..	Mid. Counties	1 5½	1 1½
A	Swansea ..	S. Wales & M.	1 5½	1 1½
A_3	Swindon ..	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton ..	S.W. Counties	1 3½	11½
A	Teesside Dist. ..	N.E. Counties	1 5½	1 1½
A_3	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1½
A_1	Torquay ..	S.W. Counties	1 5	1 0½
C	Truro	S.W. Counties	1 1½	10½
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall ..	Mid. Counties	1 5½	1 1½
A	Tyne District ..	N.E. Coast	1 5½	1 1½
A	WAKEFIELD	Yorkshire	1 5½	1 1½
A	Walsall ..	Mid. Counties	1 5½	1 1½
A	Warrington ..	N.W. Counties	1 5½	1 1½
A_1	Warwick ..	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid. Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby ..	Yorkshire	1 4½	1 0½
A	Widnes ..	N.W. Counties	1 5½	1 1½
A	Wigan	N.W. Counties	1 5½	1 1½
B_1	Winchester ..	S. Counties	1 3	11½
A_3	Windsor ..	S. Counties	1 4	1 0
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_2	Worksop ..	Yorkshire	1 4	1 0
A_1	Wrexham ..	N.W. Counties	1 5	1 0½
A_2	Wycombe ..	S. Counties	1 4	1 0
B_1	YARMOUTH ..	E. Counties	1 3	11½
B_1	Yeovil	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	1 1½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	£ s. d.
Bricklayer . . . . . per hour	1 7
Carpenter . . . . . ,,	1 7
Joiner . . . . . ,,	1 7
Machinist . . . . . ,,	1 8
Mason (Banker) . . . . . ,,	1 7
,, (Fixer) . . . . . ,,	1 8
Plumber . . . . . ,,	1 7
Painter . . . . . ,,	1 6
Paperhanger . . . . . ,,	1 6
Glazier . . . . . ,,	1 7
Slater . . . . . ,,	1 7
Scaffolder . . . . . ,,	1 3
Timberman . . . . . ,,	1 3
Navvy . . . . . ,,	1 2¼
General Labourer . . . . . ,,	1 2¼
Lorryman . . . . . ,,	1 5
Crane Driver . . . . . ,,	1 6
Watchman . . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£ s. d.
Grey Stone Lime . . . . per ton	2 2 0
Blue Lias Lime . . . . ,,	1 16 6
Hydrated Lime . . . . ,,	3 0 9
Portland Cement . . . . ,,	2 6 0
Rapid Hardening Cement . . . ,,	2 13 6
White Portland Cement . . . ,,	8 15 0
Thames Ballast . . . . per Y.C.	6 3
¾" Crushed Ballast . . . ,,	6 9
Building Sand . . . . ,,	7 3
Washed Sand . . . . ,,	8 3
2" Broken Brick . . . . ,,	8 0
¾" ,, ,, . . . ,,	10 3
Pan Breeze . . . . ,,	6 6
Coke Breeze . . . . ,,	8 9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

		4" s. d.	6" s. d.
Straight Pipes	per F.R.	0 9	1 1
Bends	each	1 9	2 6
Taper Bends	,,	3 6	5 3
Rest Bends	,,	4 3	6 3
Single junctions	,,	3 6	5 3
Double ,,	,,	4 9	6 6
Straight channels	per F.R.	1 6	2 6
¾" Channel bends	each	2 9	4 0
Channel junctions	,,	4 6	6 6
Channel tapers	,,	2 9	4 0
Yard gullies	,,	6 9	8 9
Interceptors	,,	16 0	19 6

IRON DRAINS:

Iron drain pipe	per F.R.	1 6	2 6
Bends	each	5 0	10 6
Inspection bends	,,	9 0	15 0
Single junctions	,,	8 9	18 0
Double junctions	,,	13 6	30 0
Lead wool	lb.	6	—
Gaskin	,,	5	—

BRICKLAYER

	£ s. d.
Flettons . . . . . per M.	2 18 0
Grooved do. . . . . ,,	3 0 0
Phorpres bricks . . . . ,,	2 18 0
Stocks, 1st quality . . . ,,	4 11 0
,, 2nd ,, . . . ,,	4 2 6
Blue Bricks, Pressed . . . ,,	8 17 6
,, Wirecuts . . . ,,	7 17 6
,, Brindles . . . ,,	7 0 0
,, Bullnose . . . ,,	9 0 0
Red Sand-faced Facings . . ,,	6 18 6
Red Rubbers for Arches . . ,,	12 0 0
Multicoloured Facings . . ,,	7 10 0
Luton Facings . . . . ,,	7 10 0
Phorpres White Facings . . ,,	3 17 3
Phorpres Rustic Facings . . ,,	3 12 3
Midhurst White Facings . . ,,	5 0 0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:	
Stretchers . . . . . ,,	21 0 0
Headers . . . . . ,,	20 10 0
Bullnose . . . . . ,,	27 10 0
Double Stretchers . . . ,,	29 10 0
Double Headers . . . . ,,	26 10 0
Glazed Second Quality, *Less* . . ,,	1 0 0
,, Buffs and Creams, *Add* . ,,	2 0 0
,, Other Colours . . . ,,	5 10 0
2" Breeze Partition Blocks . . per Y.S.	1 7
2½" ,, ,, ,, . . . ,,	1 10
3" ,, ,, ,, . . . ,,	2 1
4" ,, ,, ,, . . . ,,	2 6

MASON

	s. d.
The following d/d F.O.R. at Nine Elms:	
Portland stone, Whitbed . . F.C.	4 4½
,, ,, Basebed . . ,,	4 9
Bath stone . . . . . ,,	2 11
York stone . . . . . ,,	6 6
,, ,, Sawn templates . . ,,	7 6
,, ,, Paving, 2" . . . F.S.	1 8
,, ,, ,, 3" . . . ,,	2 6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£ s. d.
24" × 12" Duchesses . . . per M.	28 17 6
22" × 12" Marchionesses . . ,,	24 10 0
20" × 10" Countesses . . ,,	19 5 0
18" × 10" Viscountesses . . ,,	15 10 0
18" × 9" Ladies . . . ,,	13 17 6
Westmorland green (random sizes) . per ton	8 10 0
Old Delabole slates d/d in full truck loads to Nine Elms Station:	
20" × 10" medium grey per 1,000 (actual)	21 11 6
,, green ,, ,,	24 7 4
Best machine roofing tiles . . ,,	4 10 0
Best hand-made do. . . . ,,	5 0 0
Hips and valleys . . . . each	9½
,, hand-made . . . ,,	10
Nails, compo . . . . lb.	1 4
,, copper . . . . ,,	1 6

CARPENTER AND JOINER

	s. d.
Good carcassing timber . . F.C.	2 2
Birch . . . . as 1" F.S.	9
Deal, Joiner's . . . ,, ,,	5
,, ,, 2nds . . ,, ,,	4
Mahogany, Honduras . . ,, ,,	1 3
,, African . . ,, ,,	1 1
,, Cuban . . ,, ,,	2 6
Oak, plain American . . ,, ,,	1 0
,, Figured ,, . . ,, ,,	1 3
,, Plain Japanese . . ,, ,,	1 2
,, Figured ,, . . ,, ,,	1 5
,, Austrian wainscot . . ,, ,,	1 6
,, English . . . ,, ,,	1 11
Pine, Yellow . . . ,, ,,	1 0
,, Oregon . . . ,, ,,	4
,, British Columbian . . ,, ,,	4
Teak, Moulmein . . . ,, ,,	1 3
,, Burma . . . ,, ,,	1 2
Walnut, American . . ,, ,,	2 3
,, French . . . ,, ,,	2 3
Whitewood, American . . ,, ,,	1 1
Deal floorings, ⅜" . . . Sq.	18 6
,, ½" . . . ,,	1 1 6
,, 1" . . . ,,	1 2 0
,, 1½" . . . ,,	1 5 0
,, 1¼" . . . ,,	1 10 0
Deal matchings ⅜" . . . ,,	14 0
,, ½" . . . ,,	15 6
,, 1" . . . ,,	1 4 0
Rough boarding ⅜" . . . ,,	16 0
,, 1" . . . ,,	18 0
,, 1½" . . . ,,	1 6 0

Plywood, per ft. sup.

Thickness	¼"			½"			¾"			1"		
Qualities	AA.	A.	B.	AA.	A.	B.	AA.	A.	B.	AA.	A.	B.
	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.
Birch	4	3	2	5	4	3	7½	6	4½	8½	7	6
Alder	3½	3	2	5	4	3	6½	5½	4½	8	7	6
Gaboon Mahogany	4	3	3	6½	5½	4½	9½	7½	–	1/0½	10	–
Figured Oak 1 side	8½	7	–	10	8	–	11½	–	–	1/6	–	–
Plain Oak 1 side	6½	6	–	7½	7	–	9½	–	–	1/–	–	–
Oregon Pine	5	4	–	5½	5	–	6	–	–	–	–	–

	d
Scotch glue . . . . . lb.	8

SMITH AND FOUNDER

Tubes and Fittings:

(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	¼"	⅜"	½"	¾"	1"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9
,, 3"-11½" long ,,	7	9	1/3	1/8	3/–
Long screws, 12"-23½" long ,,	11	1/3	2/2	2/10	5/3
,, ,, 3"M-1½" long ,,	8	10	1/5	1/11	3/6
Bends . . . . ,,	8	11	1/7½	2/7½	5/2
Springs not socketed . ,,	5	7	1/1½	1/11½	3/11
Socket unions . . ,,	2/–	3/–	5/6	6/9	10/–
Elbows, square . . ,,	10	1/1	1/6	2/2	4/3
Tees . . . . ,,	1/–	1/3	1/10	2/6	5/1
Crosses . . . ,,	2/2	2/9	4/1	5/6	10/6
Plain Sockets and nipples ,,	3	4	6	8	1/3
Diminished sockets . ,,	4	6	9	1/–	2/–
Flanges . . . ,,	9	1/–	1/4	1/9	2/9
Caps . . . . ,,	3½	5	8	1/–	2/–
Backnuts . . . ,,	2	3	5	6	1/1
Iron main cocks . ,,	1/6	2/3	4/2	5/4	11/6
,, ,, with brass plugs ,,	—	4/–	7/6	10/–	21/–

Discounts:

TUBES.

	Per cent.		Per cent.
Gas . . .	65	Galvanized gas .	52½
Water . . .	61½	,, water	47½
Steam . . .	57½	,, steam	42½

FITTINGS.

Gas . . .	57½	Galvanized gas .	47½
Water . . .	52½	,, water	42½
Steam . . .	47½	,, steam	37½

SMITH AND FOUNDER—*continued*

	s. d.
Rolled steel joists cut to length . . . cwt.	10 9
Mild steel reinforcing rods, ⅜" . . ,,	8 6
,, ,, ½" . . ,,	8 3
,, ,, ⅝" . . ,,	8 0
,, ,, ¾" . . ,,	7 6
,, ,, ⅞" . . ,,	7 6
,, ,, 1" . . ,,	7 6
,, ,, 1¼" . . ,,	7 6
,, ,, 1½" . . ,,	7 6

	3" s. d.	4" s. d.
Cast-iron rain-water pipes of ordinary thickness metal . F.R.	8	10
Shoes . . . . each	2 0	3 0
Anti-splash shoes . . ,,	4 6	8 0
Boots . . . . ,,	3 0	4 0
Bends . . . . ,,	2 7	3 9
,, with access door . ,,	—	6 3
Heads . . . . ,,	4 0	5 0
Swan-necks up to 9" offsets . ,,	3 9	6 0
Plinth bends, 4½" to 6" . ,,	3 9	5 3
Half-round rain-water gutters of ordinary thickness metal . F.R.	5	6
Stop ends . . . . each	6	6
Angles . . . . ,,	1 7	1 11
Obtuse angles . . . ,,	2 0	2 6
Outlets . . . . ,,	1 9	2 3

PLUMBER

	£ s. d.
Lead, milled sheets . . . cwt.	1 0 6
,, drawn pipes . . ,,	17 6
,, soil pipe . . . ,,	1 0 6
,, scrap . . . ,,	11 0
Solder, plumbers' . . . lb.	10
,, fine do. . . . ,,	1 0
Copper, sheet . . . ,,	8½
,, tubes . . . ,,	11

		3" s. d.	4" s. d.	6" s. d.
L.C.C soil and waste pipes: Plain cast	F.R.	1 0	1 2	2 6
Coated	,,	1 1	1 3	2 8
Galvanized	,,	2 0	2 6	4 6
Holderbats	each	3 10	4 0	4 9
Bends	,,	3 9	5 3	10 3
Shoes	,,	2 10	4 4	9 6
Heads	,,	4 8	8 5	12 9

PLASTERER

	£ s. d.
Lime, chalk . . . . per ton	2 5 0
Plaster, coarse . . . ,,	2 10 0
,, fine . . . ,,	4 15 0
Hydrated lime . . . ,,	3 0 9
Sirapite . . . . ,,	3 6 0
Keene's cement . . . ,,	5 0 0
Sand, washed . . . Y.C.	11 6
Hair . . . . lb.	6
Laths, sawn . . . bundle	2 4
,, rent . . . ,,	3 9
Lath nails . . . lb.	3½

GLAZIER

	s. d.
Sheet glass, 21 oz., squares n/e 2 ft. s. F.S.	2⅝
,, ,, 26 oz. ,, ,, ,, ,,	3¾
Arctic glass, white . . . ,,	7
Cathedral glass, white, dbl.-rolled, plain, hammered, rimpled, waterwite, ,,	6½
¼" Hartley's rough rolled . ,,	7
¼" ,, wired cast . ,,	10
¼" Georgian wired cast . ,,	11

		†7½ to ‡1 0
¼" Polished plate, n/e 1 ft.		†10 ,, ‡1 3½
,, ,,	2	†1 4½ ,, ‡1 10
,, ,,	3	†1 11 ,, ‡2 4
,, ,,	4	†2 3 ,, ‡2 7½
,, ,,	6	†2 5 ,, ‡3 0½
,, ,,	8	†2 10 ,, ‡3 3½
,, ,,	12	†3 3½ ,, ‡3 9
,, ,,	20	†3 6½ ,, ‡4 0½
,, ,,	45	†3 11½ ,, ‡4 4
,, ,,	65	†4 4 ,, ‡4 9
,, ,,	90	†4 6 ,, ‡4 11
,, ,,	100	
Vita glass, sheet, n/e 1 ft.		1 0
,, ,, ,, ,,	2	1 3
,, ,, ,, over	2	1 9
,, ,, plate, n/e 1 ft.		1 6
,, ,, ,,	2	3 0
,, ,, ,,	5	4 0
,, ,, ,,	7	5 0
,, ,, ,,	15	6 0
,, ,, ,, over	15	7 6
Putty, linseed oil . . . lb.		3

†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

	£ s. d.
White lead . . . . cwt.	2 8 0
Linseed oil . . . . gall.	2 2½
Boiled oil . . . . ,,	2 4½
Turpentine . . . . ,,	4 1½
Patent knotting . . . ,,	14 0
Distemper, washable . . cwt.	2 6 0
,, ordinary . . . ,,	2 0 0
Whitening . . . . ,,	4 0
Size, double . . . firkin	3 0
Copal varnish . . . gall.	13 0
Flat varnish . . . ,,	14 0
Outside varnish . . . ,,	16 0
White enamel . . . ,,	1 15 0
Ready-mixed paint . . ,,	13 6
Brunswick black . . . ,,	7 6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR

		£ s. d.
Digging over surface n/e 12" deep and cart away	Y.S.	2 9
" to reduce levels n/e 5' 0" deep and cart away	Y.C.	8 6
" to form basement n/e 5' 0" deep and cart away	"	9 0
" " 10' 0" deep and cart away	"	9 6
" " 15' 0" deep and cart away	"	10 0
If in stiff clay	add	2 6
If in underpinning	"	4 0
Planking and strutting to sides of excavation	F.S.	1 0
" " to pier holes	"	5
" " to trenches	"	5
" " extra, only if left in	"	3
Hardcore, filled in and rammed	Y.C.	10 0
Portland cement concrete in foundations (6-1)	"	1 6 0
" " (4-2-1)	"	1 12 6
underpinning	"	1 16 0
Finishing surface of concrete, spade face	Y.S.	7

DRAINLAYER

		4" s. d.	6" s. d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1 6	2 3
Extra, only for bends	Each	2 8	3 9
" junctions		3 9	4 6
Gullies and gratings	"	16 6	18 0
Cast iron drains, and laying and jointing	F.R.	4 9	6 9
Extra, only for bends	Each	10 6	15 6

BRICKLAYER

	£ s. d.
Brickwork, Flettons in lime mortar	Per Rod 27 10 0
" " in cement	" 28 15 0
" Stocks in cement	" 35 0 0
" Blues in cement	" 52 0 0
Extra only for circular on plan	" 2 0 0
" backing to masonry	" 1 10 0
" raising on old walls	" 2 0 0
" underpinning	" 5 10 0
Fair Face and pointing internally	F.S. 1½
Extra over fletton brickwork for picked stock facings and pointing	" 8¼
" " " red brick facings and pointing	" 11
" " " blue brick facings and pointing	" 1 4
" " " glazed brick facings and pointing	" 3 6
Tuck pointing	" 7
Weather pointing in cement	" 3½
Slate dampcourse	" 10
Vertical dampcourse	" 1 1

ASPHALTER

	s. d.
½" Horizontal dampcourse	Y.S. 4 6
½" Vertical dampcourse	" 6 9
½" paving or flat	" 4 0
1" paving or flat	" 5 6
1" × 6" skirting	F.R. 1 0
Angle fillet	" 2
Rounded angle	" 2
Cesspools	Each 5 0

MASON

	s. d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C. 17 9
Bath stone and do., all as last	" 13 6
Artificial stone and do.	" 13 0
York stone templates, fixed complete	" 10 6
" thresholds	" 13 6
" sills	" 1 0 6

SLATER AND TILER

	£ s. d.
Slating, Bangor or equal, laid to a 3" lap, and fixing with compo nails, 20" × 10"	Sqr. 3 10 0
Do., 18" × 9"	" 3 7 0
Do., 24" × 12"	" 3 17 0
Westmorland slating, laid with diminished courses	" 6 0 0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course	" 3 0 0
Do., all as last, but of machine-made tiles	" 2 16 0
20" × 10" medium Old Delabole slating, laid to a 3" lap (grey)	" 4 6 0
" " " " " " (green)	" 4 15 0

CARPENTER AND JOINER

	£ s. d.
Flat boarded centering to concrete floors, including all strutting	Sqr. 2 5 0
Shuttering to sides and soffits of beams	F.S. 8
" to stanchions	" 8
" to staircases	" 1 8
Fir and fixing in wall plates, lintols, etc.	F.C. 3 9
Fir framed in floors	" 4 6
" " roofs	" 6 6
" " trusses	" 7 6
" " partitions	" 8 6
¾" deal sawn boarding and fixing to joists	Sqr. 1 14 6
1" " " " "	" 1 17 6
1½" " " " "	" 2 3 0
2" × 2" fir battening for Countess slating	" 9 6
Do. for 4" gauge tiling	" 12 0
Stout feather-edged tilting fillet	F.R. 4½
Patent inodorous felt, 1 ply	Y.S. 2 3
" " " 2 "	" 2 9
" " " 3 "	" 3 3
Stout herringbone strutting to 9" joists	F.R. 10½
1" deal gutter boards and bearers	F.S. 1 2
1½" " " " "	" 1 6
2" deal wrought rounded roll	F.R. 8
1" deal grooved and tongued flooring, laid complete, including cleaning off	Sqr. 2 1 0
1¼" do.	" 2 10 0
1½" do.	" 2 17 0
1" deal moulded skirting, fixed on, and including grounds plugged to wall	F.S. 1 6
1¼" do.	" 1 9

CARPENTER AND JOINER—*continued*

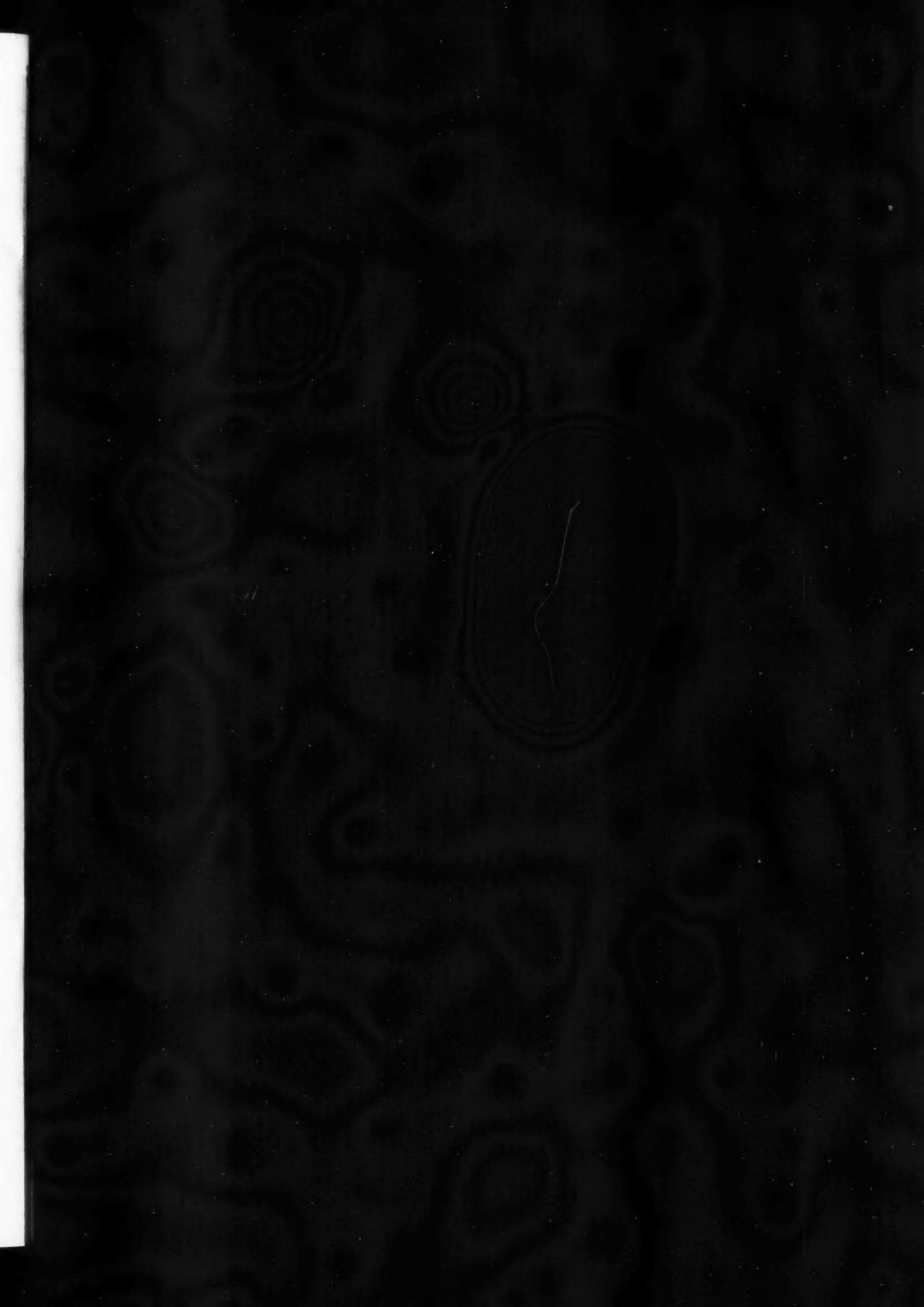
		s. d.
1¼" deal moulded sashes of average size	F.S.	1 9½
2" " " "	"	1 11½
1½" deal cased frames double hung, of 6" × 3" oak sills, 1¼" pulley stiles, 1¼" heads, 1" inside and outside linings, ¾" parting beads, and with brass faced axle pulleys, etc., fixed complete	"	3 7
2" " " " "	"	3 10
Extra only for moulded horns	Each	6
1¼" deal four-panel square, both sides, door	F.S.	2 0
2" " " " "	"	2 8
1¼" " but moulded both sides	"	2 4
2" " " " "	"	3 0
4" × 3" deal, rebated and moulded frames	F.R.	1 0
4½" × 3½" " " "	"	1 4
1¼" deal tongued and moulded window board, on and including deal bearers	F.S.	1 9
1¼" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	"	2 6
1¼" deal moulded wall strings	"	2 1
1½" " outer strings	"	2 4
Ends of treads and risers housed to string	Each	1 9
3" × 2" deal moulded handrail	F.R.	1 3
1" × 1" deal balusters and housing each end	Each	2 0
1½" × 1½" " " "	"	2 9
3" × 3" deal wrought framed newels	F.R.	1 3
Extra only for newel caps	Each	6 0
Do., pendants	"	6 0

SMITH AND FOUNDER

	£ s. d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt. 15 6
Riveted plate or compound girders, and hoisting and fixing in position	" 19 6
Do. stanchions with riveted caps and bases and do.	" 19 0
Mild steel bar reinforcement, ½" and up, bent and fixed complete	" 17 6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S. 11
Wrot-iron caulked and cambered chimney bars	Per cwt. 1 10 0

PLUMBER

| | | £ s. d. | | |



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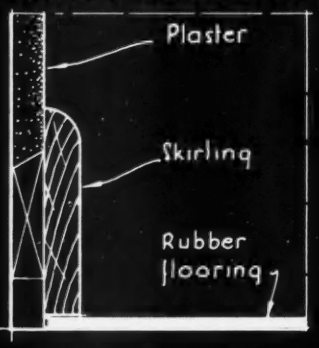
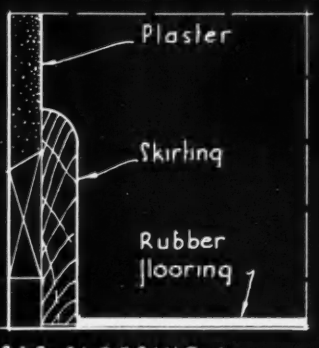
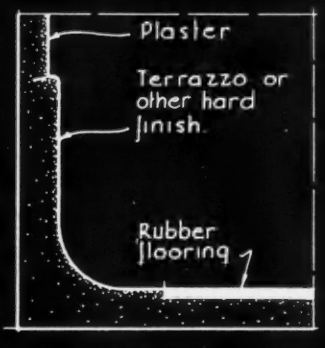
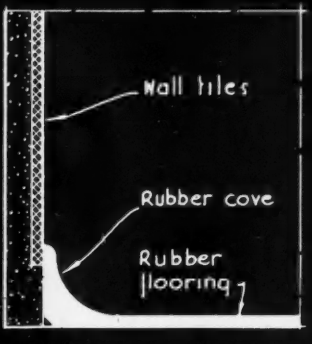






RUBBER FLOORING :
THICKNESS,
for light service, household use, etc. 1/8" & 3/16"
for Public offices, stairs, etc. 3/16" & 1/4" or 3/8"
according to volume of traffic.

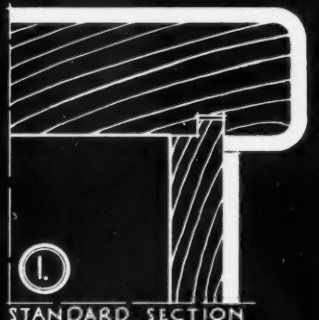
SUB-FLOORS,
May be Concrete, Composition, or wood. It is essential that these should be level, smooth & dry. WOOD should be thoroughly seasoned & free from movement due to shrinkage. CONCRETE should be levelled up with 3:1 cement screed at least 1" thick. Where concrete sub-floor is direct on earth, a screeding of approved rock-asphalt or other suitable damp course is essential to ensure against dampness.



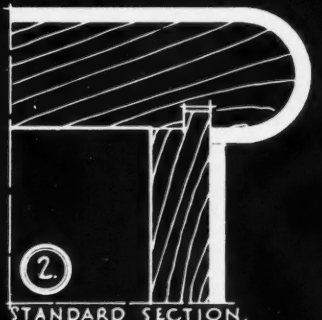
VARIOUS METHODS OF FINISHING RUBBER FLOORS AGAINST WALLS.

VARIOUS TYPES OF DUNLOP RUBBER STAIR TREADS & NOSINGS

Scale: Half full size.

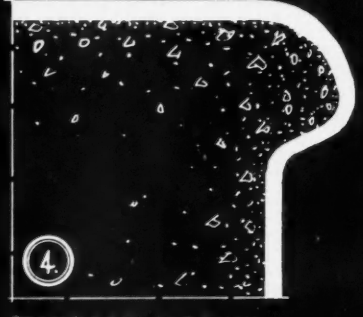


STANDARD SECTION
Tread & nose moulded in one piece.

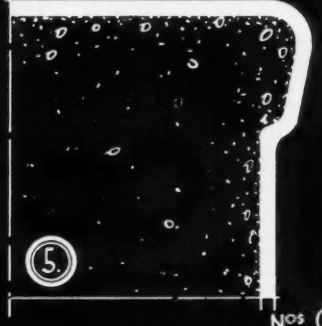


STANDARD SECTION.
Tread & nose moulded in one piece.

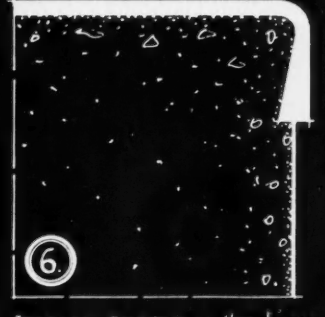
STANDARD SECTION.
Tread, nose & riser in one piece.



STANDARD SECTION
Tread, riser & nose in one piece.



Nos (5) & (6) SPECIAL SHAPES of this type in one piece require a special steel mould and are consequently more costly.



Information from the Dunlop Rubber Co Ltd.

INFORMATION SHEET : VARIOUS TYPES OF DUNLOP RUBBER FLOORS & STAIRS.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.I.

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INFORMATION SHEET
• 69 •

(Continuation of Sheet No. 64)

FLOORS (RUBBER)

Name of Product : Dunlop Rubber Floors

Description :

This sheet shows :

1. Methods of fixing Rubber Floors against wall.
2. Various types of Rubber Stair Treads and Nosings.

Standard sections 1–4 and special shapes 5—6 are manufactured to fit each individual stair.

Prices for Stair Treads : Supplying, fitting and fixing :

$\frac{3}{16}$ in. thick . . . 3/- per square foot
$\frac{1}{4}$ „ „ . . . 3/6 „ „ „

NOTE. As these prices are only approximate, it is advisable to obtain definite quotations for each particular job.

Name of Manufacturers : Dunlop Rubber Co. Ltd. (General Rubber Goods Division)

Addresses :

Manchester	Cambridge Street
London	Rubber House, Brooke's Market E.C.1
Birmingham	Livery Street, 3
Glasgow	46/70 North Wallace Street

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PAROPA ROOFING

USES :
Flat roof coverings, paving to courtyards, pavements, basements, etc.

FINISHES :
any grade of surface from non-slip to terrazzo finish.
Designs in squares, rectangles or diamonds.

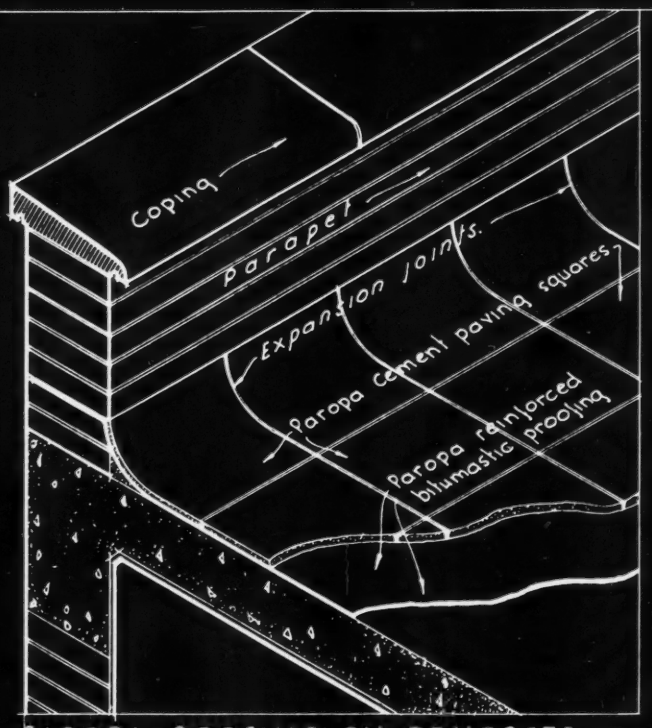
Maximum size of units 30" x 30"

LAYING :
Laid in situ on :
Stone,
brick,
wood,
concrete,
or any other material.

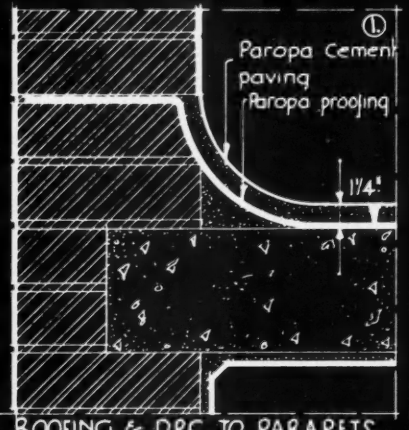
METHOD :
1. Priming of Paropa Bitumastic Priming.
2. Layer of bitumen.
3. Layer of hessian reinforcement.
4. Layer of bitumen
5. Layer of 1" Paropa cement paving divided into squares with V joints.
6. Joints primed & filled with bituminous Elastic jointing

FALL : 1½" in 10'0"

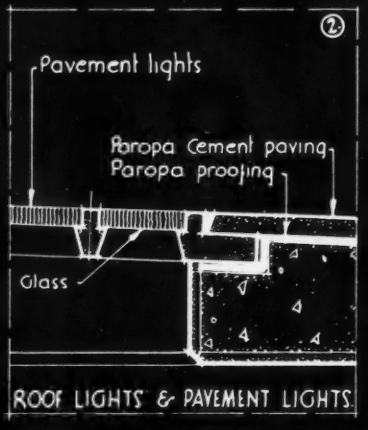
WEIGHT : 12 lbs per sq. foot



PAROPA ROOFING ON CONCRETE, SHOWING TREATMENT AGAINST A BRICK PARAPET.

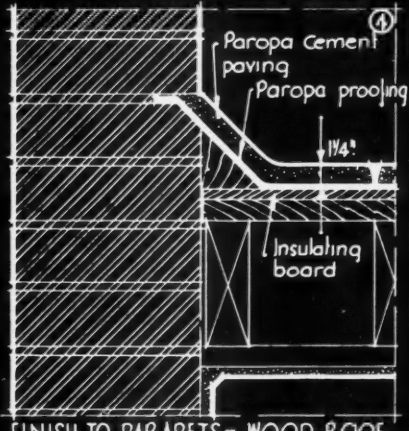


ROOFING & D.P.C. TO PARAPETS.

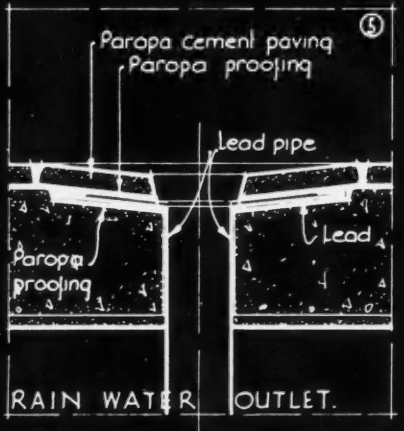


ROOF LIGHTS & PAVEMENT LIGHTS.

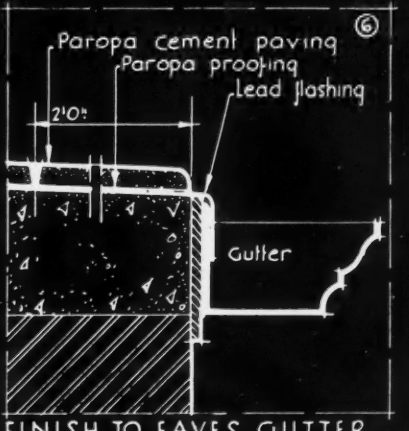
RAIN WATER OUTLET.



FINISH TO PARAPETS,- WOOD ROOF.



RAIN WATER OUTLET.



FINISH TO EAVES GUTTER.

Information from Frazzi Limited.

INFORMATION SHEET : DETAILS OF PAROPA ROOF COVERING.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.1.

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INFORMATION SHEET

• 70 •

ROOFING

Name of Product: Paropa Roofing
Type Illustrated: Flat Roofs

Description:

This system of Roofing is equally adaptable to old or new roofs of wood, concrete or asphalte. The surface is first primed with bituminous paint, followed by two layers of pure petroleum bitumen reinforced with jute or hessian. This waterproof mass is designed to ensure adherence to the base beneath. On this impermeable covering is laid a coat of special cement mortar of the strength dictated by the use to which the roof or floor is to be put, and usually 1 in. thick; well rammed and floated, and then divided into a series of panels by means of special tools. These dividing channels are cut to the bitumen below to form expansion joints. When the mortar has hardened sufficiently the expansion joints are well primed and filled with asbestised bitumen. The expansion joints can be cut in squares, rectangles, diamonds, or radiated to form patterns without in any way affecting the waterproofness of the base or the utility of the surface covering. The light finish reflects the sun's rays which, together with the texture and thickness of the covering, provides good insulation.

Name of Manufacturers: Frazzi, Limited
Address: Lennox House, Norfolk Street, Strand, W.C.2
Telephone: Temple Bar 5371

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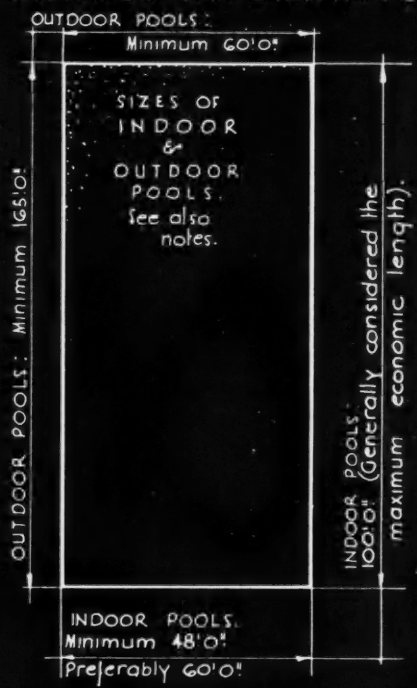


LENGTH :

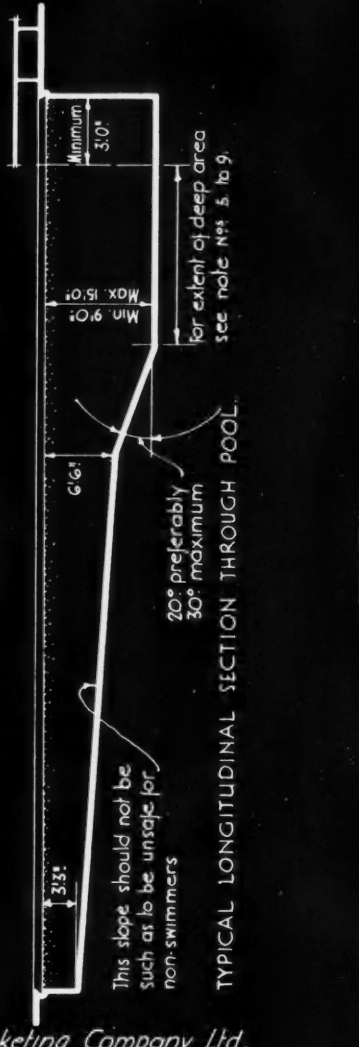
1. Generally it is not economic to provide in Indoor baths a greater length than 100'0"
2. For greater accommodation a second smaller bath of uniform depth for children & non-swimmers may be advantageous & sufficient.
3. For Outdoor baths 165'0" should be provided whenever possible.
4. This provides sufficient space for swimmers, beginners, divers & water polo players.
5. The revenue capacity of the 165'0" is proportionately much greater than that of the 100'0" bath.
6. The Amateur Swimming Association rules provide that :
   Championships up to 500 yards must be held in baths of not less than 75'0" in length.
   Championships over 500yards must be held in baths of not less than 165'0" in length
7. Preference is always given by the A.S.A. to,
   a/ Indoor, baths of not less than 100'0" length
   b/ Outdoor, baths of standard 165'0" length.
8. Water Polo Length between goals : maximum 90'0"
   : minimum 57'0"
   Matches, English Club championship finals, bath not less than 75'0" long
   A.S.A., for International & other important matches, insist upon a pitch having a length of 90'0"
9. It is essential that the length, 100'0" or 165'0" should measure exactly from wall to wall, projections & overhangs being ignored, in attempts on swimming records an even unit of length is essential.

WIDTH :

1. No bath Indoor or Outdoor should, if possible, be designed with less width than 48'0"
2. Outdoor bath should, if possible, be 60'0" wide (max. width of field of play for water polo).
3. The A.S.A. will not permit any polo final to be played in a bath of less width than 27'0", and give preference to baths providing the greatest width.
4. The number of competitors able to start in a race is determined by the width of the bath free from steps or other obstructions.
   The A.S.A. recommends :
   in a width of 15'0" to 24'0", 4 competitors may start.
   " " " " 25'0" to 29'0", 5 " " " .
   " " " " 30'0" to 35'0", 6 " " " .
   " " " " 36'0" to 41'0", 7 " " " .
   " " " " 42'0" to 48'0" 8 " " " .

DEPTH :

1. Depth for beginners & children.. up to 3'3"
2. Depth for Water Polo, rules require a minimum depth of 3'0"
   , but the game cannot be played advantageously if the minimum depth is less than 4'6"
   , whenever possible the minimum depth should be 6'0"
3. The A.S.A. give preference to baths with a polo pitch of minimum depth 6'0"
4. Depth for diving, generally allow depth equal to ½ the height of the board above water level. Minimum depth, 9'0" Maximum, 15'0"
5. Greatest depth should be at a point immediately below the end of that running board which projects farthest over the water & should be continued back to the wall of the bath, & forward thus:
   a/ where only springboards are provided, the distance forward should be from 10'0" to 15'0"
   b/ for a 5 metre board, from 15'0" to 20'0"
   c/ for a 10 metre board, from 25'0" to 30'0"
6. Slope up from deep area to normal should be 20° approx. (Max. 30°).
7. Change of slope should occur where a bather is out of his depth i.e. approx. 6'6"
8. Deep area should be carried across full width of baths 40'0" wide.
9. In wider baths, deep area should extend at least 8'0" on each side of diving stage, with the slope up approx. 20° (Max 30°).



TYPICAL LONGITUDINAL SECTION THROUGH POOL.

Information from The Cement Marketing Company Ltd.

INFORMATION SHEET : SIZES ETC. OF SWIMMING POOLS.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.1.

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INFORMATION SHEET

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CONCRETE SWIMMING POOLS

Description :

Although there has been a great increase in the number of swimming bath schemes, the improvement in the standard of British diving and swimming has not been evident, except to those directly concerned with the sport.

This improved standard is, however, of vital importance to the swimming bath designer, for on him lies the responsibility of designing a bath which will allow all types of modern swimming and diving to be enjoyed with absolute safety. The data given on this Sheet has been prepared after full consultation with the Secretary of the Amateur Swimming Association and the Highgate Diving Club and provides swimming bath designers with a full knowledge of the requirements of the present day water polo player, speed swimmer and springboard and high diver.

The range of materials available provides for four distinct treatments in concrete for the walls and floors of swimming baths. Each treatment produces a surface possessing different characteristics. The following briefly describes the methods :—

(A). Building the walls and floor of the bath with polished pre-cast units of Cullamix—coloured cements and a special aggregate—and backing them with mass or reinforced concrete. In this way the unit largely takes the place of the inner shuttering which normally would be required for building the *in situ* wall.

(B). Building an *in situ* wall with a backing of grey concrete and a facing of Snowcrete Mixture so that the two different mixes are monolithic. This is carried out by means of a sliding shutter.

(C). Applying a rendering of Cullamix—fine grading—to walls and floor, having first made provision for the necessary key.

(D). Spraying or brushing Tintocrete—a patent cement wash in white or colour—direct on to the plain concrete walls and floor.

Information supplied by The Cement Marketing Company, Ltd.
Selling Organisation of The Associated Portland Cement Manufacturers, Ltd., and The British Portland Cement Manufacturers, Ltd.
Address Portland House, Tothill Street, London, S.W.1
Telephone Whitehall 2323

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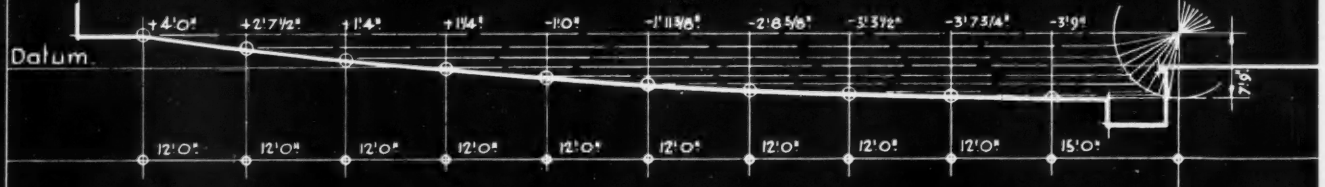
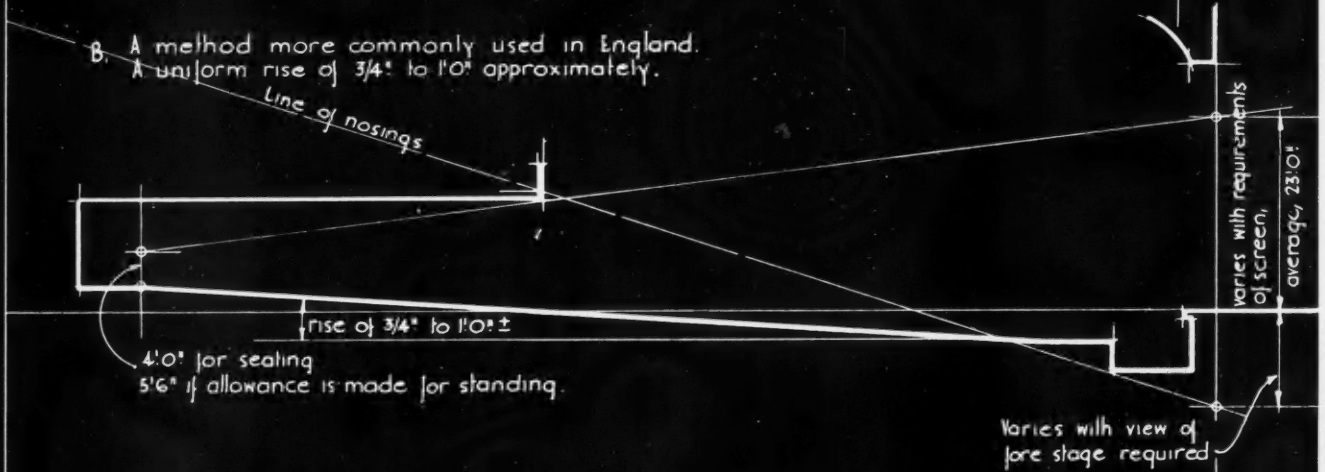
A. A method of setting-out from a quadrant, most suitable for a theatre without gallery. The limiting factor for the radius used is that the slope of the aisle in the last section (at the back of theatre) should not become greater than the maximum permissible.

The maximum slope may be fixed by regulation or by the nature of the floor material in the aisles. A greater slope may be used with thick carpet than with harder or more slippery coverings.

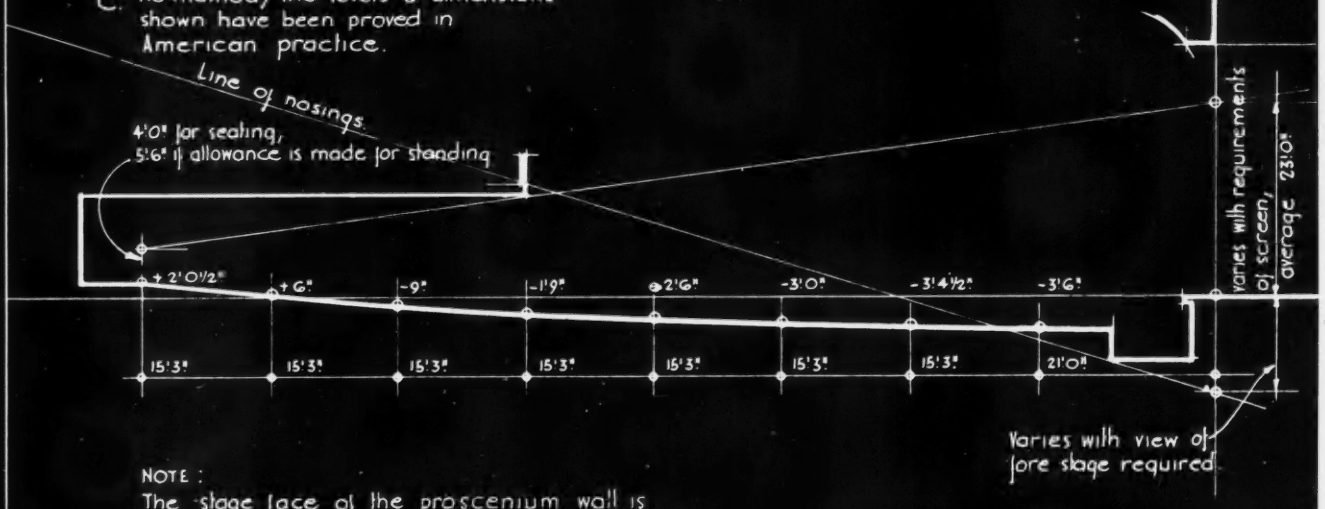
The levels given are those which were obtained by this method for a particular case.



B. A method more commonly used in England. A uniform rise of 3/4" to 1'0" approximately.



C. No method, the levels & dimensions shown have been proved in American practice.



NOTE:
The stage face of the proscenium wall is usually taken as datum for all dimensions into the auditorium.

INFORMATION SHEET: VARIOUS METHODS OF SETTING OUT AUDITORIUM FLOORS IN CINEMAS.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.I.

Supplement to THE ARCHITECTS' JOURNAL for January 11, 1934

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

• 72 •

CINEMAS

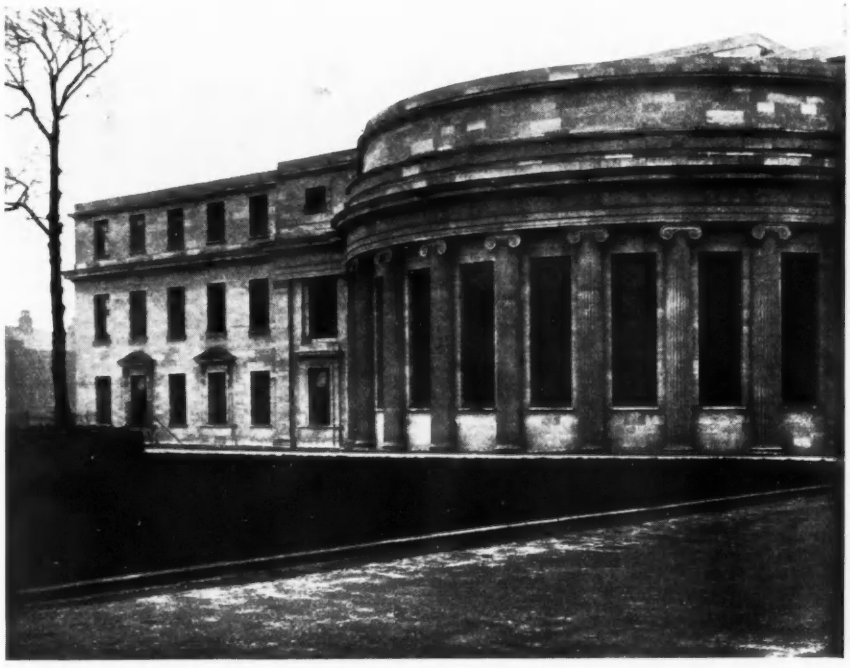
(AUDITORIUM FLOORS)

Description :

There are various methods in use in different offices for arriving at the slope of the auditorium floors in cinemas ; some of these are geometrical and some purely arbitrary, but all must in the end be proved in actual practice. The method shown in this Sheet has been used in architects' offices in England and in America. In general, it may be said that American practice is to work within closer limits than in England, leading to more complicated setting out. This is particularly noticeable in the American practice of slightly raising the ends of the rear rows and lowering the ends of the front rows of seats in the galleries towards the side walls ; a practice seldom, if ever, used in England.

OPENED LAST FRIDAY

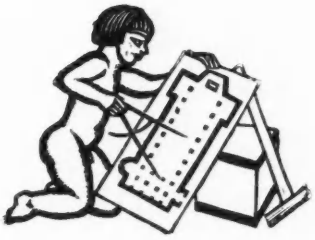
NEW CHEMISTRY BUILDING AT LEEDS



THE new Chemistry Building for the University of Leeds, designed by H. V. Lanchester, of which the above is a photograph of the north wing, was opened last Friday, January 12, by Sir Frederick Gowland Hopkins, President of the Royal Society.

BEDFORD SQUARE

Surveyors were observed last week in Bedford Square, measuring up the pavements for the purpose, it is said, of placing the standards that will carry the overhead wires for the proposed trolley-bus service. But the opposing camp has also been busy; a number of petitions were lodged yesterday, January 17, at the House of Commons against the introduction of trolley-buses into the Square: a combined petition from the London Borough Councils, and three separate petitions from respectively the Bedford Estate, the Trustees of the British Museum and the recently formed Bedford Square Tenants' Association.



THE PANELS: A GRAVE DANGER TO THE PROFESSION

ALL architects are familiar with the principle, now being widely established, of a system of Advisory Panels, working throughout the country, whose duty it is to examine plans for houses in their neighbourhood and report on their desirability from the point of view of design. Doubtless they approve of the principle, and are grateful to those who are undertaking the work of organizing it; but few have studied its actual method of application, as it affects their own practice and their own professional status. It is as well now to examine it from that angle, while it is still in its infancy, and while there is still time for the profession to protest against any probable results of the Panel system, of which it, as a profession, must disapprove.

The joint committee of the C.P.R.E. and the R.I.B.A., which has been organizing the Panel system, meets next month to present its final report; and, though the subject for that reason may be in a sense *sub judice*, it is important that the profession shall be alive when the report is published to any threats the system may bring to its well-being, so that it will be prepared to present a solid front in the discussion of the system that is sure to follow. For the Panel system—excellent in intention as it unquestionably is, and necessary as are the reforms it aims to bring about—presents, in the shape which up till now it has taken, one very real danger both to the profession's prestige and its effectiveness.

This is the danger of putting a committee which is dominated by an architect in any position where it may have to pass opinions on another architect's designs, and may have power to label a fellow-architect's work as undesirable.

Under the existing panel machinery the local authority, whose business it is to examine all plans for buildings within its area, continues to pass all those that it thinks fit; the duty of the Panel being only to re-examine plans about which the authority is uncertain, and pronounce an expert opinion. It is only consulted, that is to say, in cases of doubt. Now though local authorities in some cases may be sufficiently enlightened to make the proper use of the Panel as a means of controlling the speculative builder's jerry-planned villa and the sham-Tudor or mock William Morris monstrosities, whose defilement of the countryside we are so anxious to prevent, there is also a natural tendency, local authorities having the taste and prejudices of their kind and being constituted as they are, for them to accept the kind of elevation to which they are accustomed, and pass on to the Panel for consideration the designs that appear in their eyes strange or unusual—the architect-designed houses; and the danger then arises that we have here to emphasize. The Panel becomes an occasion for the expression, however conscientious, of individual likes and dislikes. And this danger is not a conjectural one; instances have already occurred in localities where the Panel system is established, of the architect member of the Panel publicly pronouncing disapproval of his fellow-architect's work. An unseemly wrangle of stylistic prejudice has resulted, with architects on the Panel feeling bound by their position to condemn the designs of their fellow-practitioners that do not happen to conform to their own æsthetic opinions.

The perpetuation of this practice will bring the whole profession into ridicule. *It is unthinkable that a group of doctors should examine another doctor's patient and publicly pronounce upon the skill with which he is being treated;* yet that is exactly, in the parallel architectural world, what the existing Panel system encourages the architect to do. The doctors may meet collectively to combat an epidemic or to expose an example of quackery; but when a patient puts himself in a qualified doctor's hands, that case is sacrosanct from all interference. So is the fulfilment of a qualified architect's commission.

If the Panel system is to continue, one principle must be firmly established: the architectural profession must maintain absolute solidarity. The professional status is based on the assumption that each qualified member, while performing his own tasks in his own way, has proved to the satisfaction of his fellow-members that he has the necessary qualifications which will exempt him from their disapproval. This being so, no architect member of a Panel, whatever his personal opinions, can feel justified in repudiating the work of another qualified member of his profession. *Public repudiation of one member by another can only lead to complete disintegration of the whole professional structure.*

The Architects' Journal
9 Queen Anne's Gate
Westminster, S.W.1
Telephones: Victoria
9212-7
Telegrams:
Buildable
Parl
London

NOTES & TOPICS

THE CONCRETE CODE

THERE has just been issued by H.M. Stationery Office the suggestions for a new code of practice for reinforced concrete,[1] which is the result of researches carried out by the Building Research Board's Committee on Reinforced Concrete Structures.

*

This is a document of enormous importance, for it will form the basis of future practice for London and the country generally, and apply to an increasing proportion of building, with especial reference to urban housing.

*

The report does for reinforced concrete what the similar code prepared by the Steel Structures Research Committee did for steel framework construction, and there is a saving of from 5 per cent. to 10 per cent. involved.

*

One is reminded that if the L.C.C. adopt this code modern practice will jump years ahead—but leave a hundred other clauses of the Building Act as out-of-date and as obstructive as ever they were.

TALKS ON BRITISH ART

The first of a series of six talks on British Art was given on Sunday in the National B.B.C. Programme. The talks are by Mr. R. M. Y. Gleadowe, formerly Slade Professor of Fine Art at Oxford. They are topical, and unlike so many talks on art are in touch with the realities of the present day.

*

Details of the programme are given in what is by far the best B.B.C. pamphlet that has yet been published. Entitled *British Art* and sold at sevenpence, it is a booklet to send for immediately and to keep. It has eighty-five half-tone illustrations, a synopsis of each of the talks, and an introduction by Professor W. G. Constable.

*

There is an adequate list of books at the end, although one or two omissions weaken the part of the list devoted to building. Robert Byron's *Appreciation of Architecture* and John Betjeman's *Ghastly Good Taste* are missing, and under furniture (Talk VI) the books of that most able writer on the subject, Mr. R. W. Symonds, find no place. Surely the compiler of the pamphlet must be familiar with his *English Furniture from Charles II to George II.*

*

Still, these are quibbles. It is a first-class pamphlet and a promising programme of talks. It might help to improve the complexion of our towns and the face of our land if the B.B.C. again arranged some talks that dealt with architecture and town planning, on the lines of that stimulating series : " Design in Modern Life."

" TRANSPORT "—AND THE TROLLEY-BUS.

" Influential people " are sometimes apt (though with the kindest intentions) to do quite a lot of harm.

*

Last week there appeared in *The Times* a letter, which dealt (rather effetely) with the Bedford Square trolley-bus question. It was signed by a dozen or so well-known people, some of whom are not only directly interested, but must, too, be clear minded and well informed.

*

The others, for all I know, may also be both, or one or the other ; but their names seemed to stand out as a mere challenge to the L.P.T.B. They introduced the legal-and-political threatening attitude, which, in matters of this sort, is strongly to be avoided—especially when, after all, you are dealing with a nationalized concern.

*

Shall I be accused of being lukewarm over the matter if I say that, on the one hand, the L.P.T.B. has not fundamentally at heart the determination to devastate one of London's most beautiful squares ? That, on the other, the controversy will not be settled over sentiment ?

*

The letter in *The Times* was effete because, under the guise of talking of practical things, it really meant to tickle our emotions—and did nothing else to me.

*

That is not the way to achieve the sympathetic co-operation of the body which, always superbly practical and economic, has done more than any other industrial concern in this country to acknowledge æsthetics and preserve amenities.

*

It is absurd to assume that any standards erected would be ugly. The history of the Underground Group refutes the idea ; they would more likely be quite beautiful in themselves. The fact that remains is that practically and ultimately and fundamentally standards are wrong. Very well. Use *that* argument, and drive it home.

*

Or, if you like, suggest some alternative to Bedford Square—Fitzroy Street and Charlotte Street, for example. Or, again, make it purely a question of town planning and

[1] The Report is reviewed on page 117.

traffic organizations ; but, in that case, get the letter signed by experts.

*

The only really useful part of the letter was Sir Ambrose Heal's signature. It must have taken some wind out of the sails of the other less enlightened Tottenham Court Road shopkeepers.

ECONOMY IN BIRKENHEAD

The Birkenhead Town Council, after deliberations protracted to a degree that reserve them some shreds of credit, have decided that the local purse is too empty to employ an architect capable of tackling a good job of work that wants doing, and have decided that their local officials can be put on to it.

*

This in spite of the strongest recommendations from their Estates Committee to seek the services of a properly trained architect.

*

The reason given for the decision is familiar enough, namely, that the public purse is a primary consideration. As a matter of fact, one may trade the birth of this penny-wise policy from Mr. MacDonald's broadcast at the time of the crisis. It is panic expediency still rampant.

THE FINANCE OF THE LABORATORY

The annual report of the Department of Scientific and Industrial Research, which was published on Saturday, proves in pounds, shillings and pence that planned thinking pays. For example, annual savings of approximately £1,000,000 have resulted from the investment of £80,000 for electrical research. Money is talking, and for once its speech is intelligent. But, then, a laboratory is not a bank.

*

5,000 firms support the Department and contribute £170,000 yearly to enable research work to be continued. There are 5,000 good reasons, therefore, why British industry may once again lead the world.

*

The State contributes £65,000 per annum to the upkeep of the Department. It would be difficult to name any State expenditure that is wiser or more productive or more far-sighted. It is the State's nearest approach to planning.

CHURCH DESIGNED FOR A NOVELIST

The parish church of Fenchurch St. Paul has been designed by Mr. W. J. Redhead for a new Lord Peter Wimsey detective story by Dorothy Sayers called *The Nine Tailors*.

*

A plan of the church occupies a page in the book, and a perspective sketch of it and details of the roof appear in the frontispiece. Great attention has been given to architectural detail by Miss Sayers, and it is difficult after reading this yarn to believe that Fenchurch St. Paul is not one of the famous marshland churches.

*

I wonder if this habit of getting architects to reinforce the realism of a story with a specially designed edifice will spread among novelists. Will the next cathedral tale by Mr. Hugh Walpole be accompanied by some noble vision in stone from the pencil of Sir Giles Gilbert Scott ; and will Mr. Belloc or Mr. Chesterton when next they write about the splendour of good fellowship in some hearty pub. call in Clough Williams-Ellis to design the background ?

What does this mean? It is an engraved tablet, uncovered recently at Nottingham, during the demolition of some old property to make way for a new car park.

INDUSTRIAL INJECTIONS FOR ART SCHOOLS

In a stimulating though somewhat discursive paper given recently before the Royal Society of Arts, Mr. Harold W. Sanderson dealt with the relationship of the art school to industry. If there is any hope of these flaccid institutions contributing anything to industry in the future, it can only materialise if the sort of constructive advice given by Mr. Sanderson is followed.

*

" Every art master should be an art-business man," said Mr. Sanderson, and he underlined the responsibility of directors of art schools to industry. They should know every manufacturer in their district. They should be able salesmen of the idea of good design. They should recognize propaganda as part of their job.

*

I have met art masters who accept this responsibility, but they are in a tiny minority. I knew one, now director of design in a big and prosperous business, who said most of his students came with the idea of learning how to paint a couple of water colours for wall decoration, and they usually left when these little masterpieces were sufficiently far advanced to justify framing.

*

A wise government would, of course, close every art school that did not train students in design. Only architectural schools appear to do that.

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

If the L.C.C. adopt the concrete code modern practice will jump years ahead 102

Berlin is now the quietest capital in Europe 105

"This arrangement presents various drawbacks, such as the inclined floors in the rooms (the beds must have feet of different length)" 120

Often the builder is sociologically of much more value than the client 121

"Probably all architects have always thought that what they proposed to erect was preferable to what they proposed to destroy" 125

THE ARCHITECTS' DIARY

Thursday, January 18

INSTITUTION OF STRUCTURAL ENGINEERS. *(Yorkshire Branch.) At the Hotel Metropole, Leeds. "The London Building Act of 1930 and its Effect on Structural Design." By W. C. Cocking, M.I.Struct.E.* 7 p.m.

INSTITUTION OF ELECTRICAL ENGINEERS. *At the Institution, Savoy Place, Victoria Embankment, W.C.2. "Some Aspects of the Electrical Transmission of Power by means of Super-Tension Direct Current." By H. Rissik, B.Sc.(Eng.).* 6 p.m. *(Irish Centre.) At the Physical Laboratory, Trinity College, Dublin. "The Application of Automatic Voltage and Switch Control to Electrical Distribution Systems." W. Kidd and J. L. Carr, B.Sc.* 7.45 p.m.

Friday, January 19

INSTITUTION OF WELDING ENGINEERS. *(Midlands Branch.) At the James Watt Memorial Institute, York House, Great Charles Street, Birmingham. "Fusion Welding of Copper." By H. Martin.*

INSTITUTION OF STRUCTURAL ENGINEERS. *(Western Counties Branch.) At the Merchant Venturers' Technical College, Bristol. "The Design of Welded Structures." By C. Helsby.* 7.15 p.m.

Saturday, January 20

ARCHITECTURAL ASSOCIATION. *Exhibition of Photographs by Members. At 36 Bedford Square, W.C. Closing date.*

Monday, January 22

R.I.B.A. *At 9 Conduit Street, W.1. President's Address to Students and presentation of Medals and Prizes, 1934.*

INSTITUTION OF ELECTRICAL ENGINEERS. *(Mersey and North Wales (Liverpool) Centre.) At the University, Liverpool. "Electrical Developments in the U.S.S.R." By A. Monkhouse.* 7 p.m. *(North-Eastern Centre.) At Armstrong College, Newcastle-on-Tyne. "Some Aspects of the Electrical Transmission of Power by means of Direct Current at Very High Voltages." By H. Rissik, B.Sc. (Eng.).* 7 p.m. *Also at Glasgow, January 23.*

Tuesday, January 23

INSTITUTION OF ELECTRICAL ENGINEERS. *(North-Western Centre.) At the Midland Hotel, Manchester. Annual Dinner.*

Wednesday, January 24

ROYAL SOCIETY OF ARTS. *At John Street, Adelphi, W.C.2. "Modern International Practice in Factory Design." By Hal Williams, M.I.Mech.E., M.I.E.E., M.I.Struct.E.* 8 p.m.

BRITISH WOOD PRESERVING ASSOCIATION. *At the Auctioneers' and Estate Agents' Institute, 29 Lincoln's Inn Fields, W.C.2. "The Development of Decay in the Standing Tree." By W. R. Day, B.Sc.* 6 p.m.

L.C.C. CENTRAL SCHOOL OF ARTS AND CRAFTS. *At Southampton Row, W.C.1. "English Mediæval Architecture: XV. 2. Interiors, Exteriors, Openings." By Sir Banister Fletcher, F.S.A., P.P.R.I.B.A.* 6 p.m.

ART AND INDUSTRY COUNCIL

A letter, published in *The Times* on Tuesday, has been sent by a number of prominent industrialists to the President of the Board of Trade, criticizing the composition of the recently appointed Art and Industry Council.

The letter was addressed from the offices of the Federation of British Furnishing Textile Manufacturers, Ltd., Newgate Street, E.C., and signed by :

Ernest W. Goodale, president, Federation of British Furnishing Textile Manufacturers, Ltd. : Edmund J. Archer, treasurer of the same federation : R. H. Garton, president, Wholesale Furnishing Textile Association : Edward H. Symonds, president, British Fashions and Fabrics Bureau ; H. Tomkinson, chairman, Carpet Manufacturers' Association : Henry G. Dowling, president, Incorporated Institute of British Decorators : Frank J. Farrell, president, Silk Association of Great Britain and Ireland, Inc.

Following are some extracts :

"We have most carefully considered the list which appeared in *The Times* of the 4th inst., and we cannot help feeling that co-operation between art and industry is not likely to be advanced very much more under their guidance. Many industries are nominally represented, but there are only two or three members who may be regarded as definitely associated with the design and manufacture of furniture and house decoration generally, which, after all, are among the most obvious media of appeal to the public taste.

"There can be no doubt that if art is to enter into a genuine alliance with industry and not merely to take up an attitude of tolerant and pitying superiority with regard to it, there must be a far more genuine understanding of industry's requirements than exists at the moment. It is no use having artists fulminating from the heights of their æsthetic consciousness ; they must come right down to earth and study the matter-of-fact details of industries they hope to help.

"We feel that far too much stress has been laid not only on the retail distribution side, but also on the purely art and æsthetic side, while those representing that branch of industry which has to convert the artist's design into a marketable product—surely as important a function as any—are hardly represented.

"We have always understood that, apart from the heavy industries—iron and steel, coal, ship-building, engineering, etc.—the most important industry in this country is the textile industry—admittedly one in which art plays the most prominent part. By whom can it be said that the textile industry (including dress and furnishing textiles and carpets) is represented on the new council? Another serious omission, in our view, is that no terms of reference to the council have been announced."

"THE YORKSHIRE POST" HOUSING AND BUILDING TRADES EXHIBITION

The above exhibition is now being held in the Fenton Street Drill Hall, Leeds.

The importance of this exhibition is greatly enhanced by the programme for rehousing which is likely to be put into operation in the near future. Although the exhibits are mainly of interest to members of the building industry, there are also a number of stands which should prove very attractive to members of the general public. In addition to examples of working machinery, building materials, lighting, heating and sanitation, there is a comprehensive display of the city's town-planning activities, *The Yorkshire Post* photographs illustrating the progressive stages of central street and property improvement (with special reference to the birth and ultimate growth of the Headrow), demonstrations of the work of the West Riding Rural Community Council, and a representative selection of the work of students of the Leeds School of Architecture. The special Housing and Building Supplement published by the *Yorkshire Post* in connection with the exhibition has a cover in four colours specially designed by members of the staff of this School.

The exhibition, which was opened yesterday by Sir John Eagleson, President of the Leeds Chamber of Commerce, will remain open until January 27.

FACULTY OF ARCHITECTS AND SURVEYORS

The second annual dinner and dance of the Faculty of Architects and Surveyors (London and Home Counties Branch) is to be held at St. Ermins, Caxton Street, Westminster, S.W.1, on Wednesday, February 7, at 7.15 p.m. Mr. E. G. Lynde (chairman) is to preside.

SOUTH-EASTERN SOCIETY OF ARCHITECTS

On Wednesday, January 10, the monthly social evening of the Guildford Chapter of the above Society was held at Ayre's Hall, Guildford. Mr. T. R. Clemence, F.R.I.B.A., presided.

Mr. Howard Robertson, F.R.I.B.A., gave an address on "Design and Purpose," which which was enjoyed by an excellent attendance of members and students. A general discussion followed.

We are asked to state that members of the public are cordially welcome at these functions, which continue on the second Wednesday of each month until the summer recess.

BIRMINGHAM AND FIVE COUNTIES ARCHITECTURAL ASSOCIATION

At a meeting of the Birmingham and Five Counties Architectural Association held on January 5, Mr. Thomas Sharp lectured on "Town Planning and Architecture."

The President, Mr. W. T. Benslyn, F.R.I.B.A., occupied the chair.

Mr. Sharp traced the course of town development in the nineteenth century from the eve of the industrial revolution, when the average English town was a compact urban nucleus, with continuously built-up streets having dignity and the sense of enclosure proper to a town.

Mr. Sharp dealt in detail with the garden city idea from the two aspects of economics and æsthetics. He considered that it failed under both heads. The maximum density of twelve houses to the acre was not based on scientific considerations, but on an out-worn back-to-the-land policy. A much greater density would give satisfactory results from the point of view of light and air, and the almost universal semi-detachment of the houses was wasteful in building costs, as well as in costs of road making and sewering. From the æsthetic point of view, open development was no more satisfactory. The important thing in a modern housing estate seemed to be not the houses, but the gaps between them. Also this system of lay-out gave unpleasant views of the backs of houses from important windows.

Mr. Sharp considered that it was most necessary that town planning should regain its connection with architecture, and that the romantic ideals of the garden city movement should be replaced by a realistic architectural attitude to the subject.

A vote of thanks was proposed by Mr. W. A. Eden and seconded by Major W. H. D. Caple.

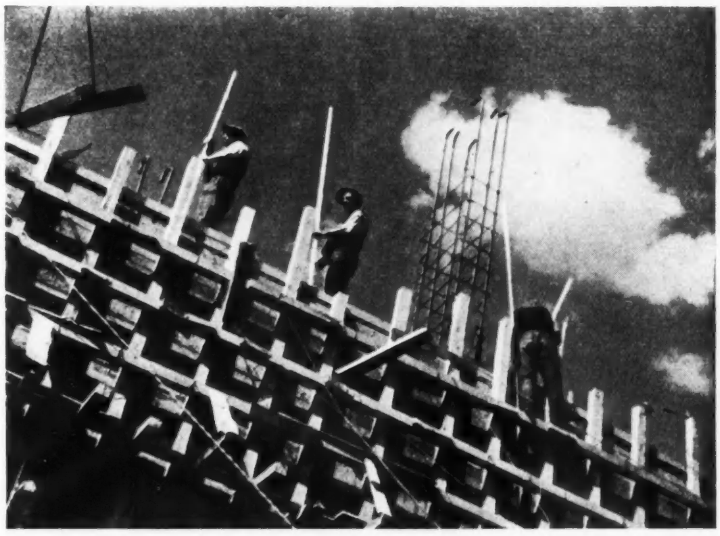
LIGHTING IN LANDSCAPE ARCHITECTURE

Speaking to members of the Institute of Landscape Architects at the Royal Horticultural Hall, Westminster, last week, Mr. R. O. Sutherland, A.R.I.B.A., dealt extensively with the subject of illumination in landscape architecture, a new field for lighting which had been explored hardly at all. He stressed the importance of formulating a policy and investing what has up to now been merely temporary with a sense of permanency to make lighting a new factor in the art of outdoor design, and thereby to associate it with other similar considerations of æsthetic and academic interest.

"There are horticulturists, architects, and illuminating engineers," he said, "who would gladly sponsor a movement for co-operation, so that each in his interest may have the benefit of the other's knowledge and experience." He claimed that the artificial illumination of landscapes should form a factor in the inspiration of the lay-out and should receive early consideration, occupying the same importance at night as is accorded to light by day.

ANNUAL REVIEW OF WAGES IN THE BUILDING INDUSTRY

The National Joint Council for the Building Industry last week carried out the Annual Review of Wages in the industry. After examining the cost-of-living index figures published monthly by the Ministry of Labour during the past year, the Council decided that no change was due to be made in the current standard rates of wages applying in the various grades of towns throughout the country. Numerous changes were made, however, in the grading of various places in the lower grades, as a result of which the wages in these places will be relatively higher in comparison with the Grade A towns, where the wages remain unchanged. These changes are to take effect on and from February 1 next.



A "still" from the Czech film BUILDING *showing concretors at work on the new Pensions Building in Prague, by Havlicek and Honzik. The film was financed by building contractors and shows the processes of modern building construction, from the removal of turf over the virgin site to the installation of services and the application of surface finishes.*

NOISE

The most recent noise measurements show that Berlin is now the quietest capital in Europe.

Expressed in the unit of noise known as the "decibel," Berlin registers only 58 against 70 for London and 80 in the centre of Paris.

BUILDING MATERIALS

Sir Samuel Roberts, M.P., Chairman of the Inter-Departmental Committee appointed to survey the prices of building materials, has just issued his report for the period to November, 1933.

He states that so far as bricks are concerned, during the earlier months of last year there was a somewhat unexpected increased activity in building for which manufacturers of bricks were not prepared, and in some parts of the country common bricks were for a time difficult to obtain. This led to a hardening of prices, but the shortage has now been overtaken, and, with few exceptions, "prices do not now show any increase over the prices obtaining before the period of stimulated demand."

In recent months there has been an advance in several districts in the prices of carcassing timber, the increase varying from 5s. to £2 per standard. There has also been some increase in the prices of joinery and flooring timber. Generally, however, timber prices are lower than two years ago.

Lead has gone up during the last few months, but the price is again falling. The present price is substantially lower than before the war.

Reports, he concludes, in most instances, indicate that the price of glass has fallen.

R. I. B. A.

PRESIDENT'S ADDRESS TO STUDENTS

On Monday next, January 22, at 8.30 p.m., Sir Giles Gilbert Scott, R.A., will deliver his address to architectural students. The address will be followed by the annual presentation of the prizes and studentships in the award of the R.I.B.A.

Evening dress will *not* be worn on this occasion.

The designs and drawings submitted in competition for the prizes and studentships are now on exhibition in the R.I.B.A. Galleries until January 27, during the hours of 10 a.m. and 8 p.m. (Saturdays 5 p.m.).

ELECTION OF MEMBERS

At a recent Council meeting of the Institute, the following members were elected :—

As Hon. Corresponding Member (1) : Werner Pfister.

As Fellows (9) : Messrs. H. R. Chanter, A. Graham, H. J. Marshall, S. Moss,

L. A. Prichard, E. S. Smith, C. E. Tebbs, A. W. Blomfield, C. W. Tomlinson.

As ASSOCIATES (23) : Messrs. J. R. Baxter, A. C. Bennett, G. P. Botterell, A. H. Branson, G. L. Cadell, A. B. Chatwin, J. G. Davidson, P. A. D'Avoine, W. A. Guttridge, (Miss) E. E. Hansford, R. F. Henniker, E. H. Hickton, (Mrs.) E. M. Kenyon, J. W. Kidd, (Miss) J. Knowles, J. A. Naylor, C. E. Plews, O. Pryce Lewis, (Miss) M. J. Ryder, L. S. Smith, E. M. Sodersteen, H. Waddington, R. G. Will.

As LICENTIATES (9) : Messrs. K. Anns, L. Bennett, D. C. Cameron, A. D. Colverson, L. K. Dyer, J. W. Green, A. T. Marsh, R. A. Thomas and B. Widdows.

STATUTORY EXAMINATIONS OF OFFICE FOR BUILDING SURVEYOR.

The R.I.B.A. Statutory Examination for the office of district surveyor under the London Building Act, and the examination for the office of building surveyor under local authorities, will be held at the R.I.B.A., London, on April 25, 26 and 27.

The closing date for receiving applications for admission to the examinations, accompanied by the fee of £3 3s., is April 4.

Full particulars of the examinations and application forms can be obtained from the Secretary, R.I.B.A., 9 Conduit Street, W.1.

TITE PRIZE AND VICTORY SCHOLARSHIP, 1934

The attention of intending competitors is called to the fact that the Preliminary Competitions for the Tite Prize and the Victory Scholarship will be held in London and at centres in the provinces on Thursday, March 1, and Friday, March 2, respectively.

Forms of application for admission to the preliminary competitions may be obtained at the R.I.B.A., 9 Conduit Street, W.1. The closing date for the submission of forms of application is Friday, February 9.

THE EXAMINATIONS

The Final Examination qualifying for candidature as Associate R.I.B.A. was held in London and Edinburgh from December 6 to 14, 1933.

Of the 179 candidates examined 85 passed (20 in Part 1 only) and 94 were relegated.

The successful candidates are as follows :— A. Akeroyd (*Part 1 only*), C. Bacon, B. Bates, J. Bent, C. Betts, H. Braun, H. Brewster, P. Brodrick, C. Brown, (Miss) K. Carroll, J. Catchpole (*Part 1 only*), G. Chantrey, A. Cooper, A. Couch (*Part 1 only*), L. Cremer (*Part 1 only*), J. Curry (*Part 1 only*), G. Dadarker, A. Dannatt (*Part 1 only*), N. Davison (*Part 1 only*), B. Day, J. Deleuse, G. Denbigh, H. Doe, M. Dumville, J. Dunton, E. Edwards, G. Fardell, E. Firmin, A. Gasson, A. Goffey, K. Graham, S. Greenwood, A. Hardcastle (*Part 1 only*), J. Hardwick, R. Harley-Smith, B. Haward, G. Hay, W. Hemmings, L. Hodges (*Part 1 only*), W. Howard, J. Howe (*Part 1 only*), L. Israel, C. Jackson (*Part 1 only*), H. Jarratt, J. Jones, S. McCall, W. Marsden (*Part 1 only*), J. Mason, D. Massie (*Part 1 only*), (Miss) K. Maynard, C. Munro, A. Neave, L. Page (*Part 1 only*), J. Peat, C. Pike (*Part 1 only*), A. Priest, J. Prior, G. Ratcliffe, R. Rennie, K. Rose, W. Rule, E. Salter, M. Sanders, J. Seabright, L. Sherrard, U. Sherwin, G. Siddall (*Part 1 only*), J. Smith (*Part 1 only*), P. Smith, W. Smith, A. Soden, F. Sudbury, E. Taberner (*Part 1 only*), G. Thomas, G. Todd, H. Upton (*Part 1 only*), R. Walden, N. Wallace, G. Watt (*Part 1 only*), G. Williams, T. Winterburn, F. Winward, J. Womersley, J. Wood, and E. Wormald.

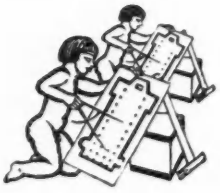
The Special Final Examination : The Special Final Examination qualifying for candidature as Associate R.I.B.A. was held in London from December 6 to 12 and in Edinburgh from December 6 to 14, 1933.

Of the 21 candidates examined 7 passed (1 in Part 1 only and 1 in Part 2 only) and 14 were relegated.

The successful candidates are as follows :— H. Barrett, W. Clunie (*Part 1 only*), D. Doyle, C. Evans, S. Gregson, V. Johnson, and W. Laurie (*Part 2 only*).

The Examination in Professional Practice for Students of Schools of Architecture recognized for exemption from the R.I.B.A. Final Examination.—The Examination was held in London and Edinburgh on December 12 and 14, 1933. Of the 21 candidates examined 18 passed and 3 were relegated. The successful candidates are as follows :— (Miss) K. Arthur, W. Ashcroft, J. Browning, F. Clark, J. Defries, C. Ferguson, C. Hansom, A. Hopkinson, (Miss) M. James, N. Johnston, S. Kilgour, A. Ledoyen, J. Patterson, J. Potter, W. Ramsay, R. Scott, A. Warland and W. Wilson.

COMPETITION



NEWS

BEXHILL COMPETITION

Two hundred and thirty designs were submitted in the competition for the proposed entertainments hall, Bexhill. It is expected that the award of the assessor, Mr. T. S. Tait, F.R.I.B.A., will be announced within the next fortnight.

STOCKHOLM COMPETITION

We understand that it is expected that the authors (Ake Virgin and Thure Bergentz) of Plan No. 145, one of the three selected for a prize in the above competition, will be disqualified, as one of the authors is in the Town Planning Office of the Stockholm City Council. It is probable that Plan No. 233, by Messrs. Wolf Richter, of Dresden, and Brolin, of Stockholm, which was selected for purchase, will be promoted to the prize class, and that Plan No. 100 will be promoted to the purchase class.

Our special correspondent, who reviewed the competition in our issue for January 4 last, writes : Plan No. 100 expresses the same idea as that submitted by Messrs. C. H. Platt, W. Platt, G. Platt and J. M. Cates, of New York (No. 295), namely, an interior extension of Gustaf Adolfs Torg, but in this case it is carried right back to a central traffic place, north of the Telegraph Building, which would be destroyed, although listed in the competition replies as a building to which the greatest possible consideration should be paid. *Qua* traffic, this plan is better than 295, but is perhaps too ruthless.

MENTAL COLONY, STOKE-ON-TRENT

At a meeting of the Stoke-on-Trent Corporation Mental Deficiency Committee, with reference to the proposed mental colony, the town clerk reported that he had received a communication from the Royal Institute of British Architects, and in consequence it would be necessary to revise the terms and conditions laid down. Revised terms and conditions were submitted and considered by the Committee. It was agreed that premiums amounting to £350 be offered in separate amounts of first, £200 ; second, £100 ; and third, £50 ; that a list of assessors be obtained from the R.I.B.A., and that the Corporation appoint an assessor therefrom at a fee not exceeding £100.

GIDEA PARK COMPETITION

We are informed that the premiated design in the above competition (Class B) attributed to Mr. I. Schultz, A.R.I.B.A., was prepared by Mr. T. A. L. Concannon, and submitted in collaboration with Mr. Schultz.

Competitions Pending

Proposed New Council Offices to be erected at Salt Hill for the Slough U.D.C. Assessor : H. S. Goodhart-Rendel, F.R.I.B.A. Premiums : £150, £100 and £50. Conditions have not yet been drawn up.

Proposed Extensions to the Town Hall, Swindon. Assessor : Professor A. B. Knapp-Fisher, F.R.I.B.A. Conditions have not yet been drawn up.

Proposed Municipal Sanatorium and Craymount Children's Hospital, Belfast. Premiums : 500 guineas, 300 guineas, and 100 guineas. Limited to architects practising in Northern Ireland. Assessor : R. S. Wilshere, A.R.I.B.A.

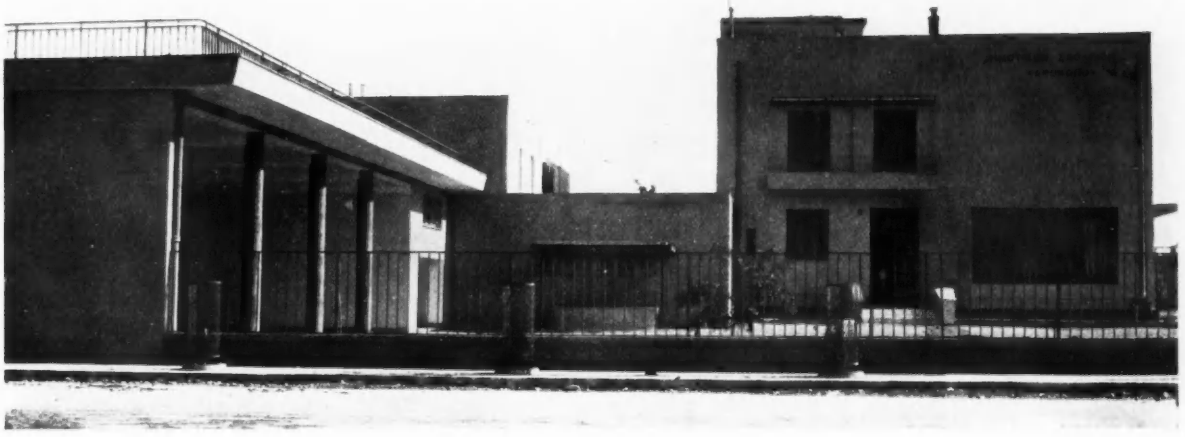
Announcements

Mr. Erich Mendelsohn has entered into partnership with Mr. Serge Chermayeff, F.R.I.B.A. They will practice under the title of "Erich Mendelsohn and Serge Chermayeff, F.R.I.B.A., Architects" at the Pantheon, 173 Oxford Street, W.C. Telephone No. : Gerrard 5969.

Messrs. T. R. Clemence, F.R.I.B.A., and G. H. Murrell, F.S.I., of St. Mary's House, Guildford, have taken into partnership Mr. Norman Peace, A.R.I.B.A. (as from January 1 last). The name of the firm is Clemence and Co. and the practice is being carried on at the above address. Telephone No. : Guildford 295.

Correction

We are asked by Messrs. Drytone, Ltd., to correct an error in their advertisement on page xlix of our New Year issue, in which the Infants' Hospital, Vincent Square, was attributed to Messrs. Stanley Hall and Easton and Robertson, FF.R.I.B.A., when it was, in fact, by Mr. C. S. Peach, F.R.I.B.A., and Mr. Stanley Hall, F.R.I.B.A., Messrs. Easton and Robertson not being concerned ; and to apologise on their behalf for the error.



THE NEW STATE SCHOOLS IN GREECE

[*DESIGNED BY P. KARANTINOS*]

The new system of State schools, that has been established by the Greek Government to cover the whole country with a series of modern schools on a basis standardized as much as climatic and other variation allows, is now on its way to completion. The schools have been designed by Petrocle Karantinos, School Buildings Architect to the Ministry of Public Education.

This article, contributed by the architect, describes the methods of design and construction employed; and is followed by illustrations of two typical schools.

UNTIL recently, with very few exceptions, the State did not possess special premises for public education. It was generally obliged to rent various private houses, built for a purpose quite different from that of a school, badly lighted, badly ventilated, where teaching could only be carried on under the worst possible conditions. Their number, moreover, was quite inadequate, as compared with the number of pupils.

In 1928 the Ministry of Public Education decided to introduce improvements, and the question was then raised simultaneously and as a whole, and a scheme was got out covering practically the whole of the country, including large towns as well as small villages. Up till the present time building has been started on 3,167 schools, and most of them are already completed. These include 330 schools holding several classes for towns, the remainder being small village schools, some with only a single classroom.

One primary condition was specified for the construction of these new school buildings: to provide for the largest possible number of pupils, at the lowest possible cost, while endeavouring to fulfil the most essential and urgent needs of education. It will be noted from this that the task set to the architects was well defined and within very narrow limits.

In studying the problem, the School Building Department, bearing in mind the climatic conditions of the country, decided to adopt two distinct types of school:

1: For districts exposed to damp, cold, and strong and frequent winds, preference was given to the usual type of school, with closed passages turned towards the north.

2: In dry and mild climates, where southern winds do not prevail, schools were built where passages are in the open air and turned towards the south.

METHOD OF CONSTRUCTION.—Preference has been given to simple types of construction lending themselves to rapid and economic execution, and requiring the least amount of upkeep. In view of the abundance of stone in Greece, in most cases the walls have been built of stone bound with lime and sand mortar, and the floors on the various storeys (girders, balconies, stairs and slabs) of reinforced concrete. A fairly large number of buildings consist of a reinforced concrete frame with spaces filled with two hollow brick walls, half a brick thick, leaving an empty space between them.

This system was almost exclusively applied in the seismic regions of the country, to comply with the additional security prescribed by the anti-seismic regulations, issued by the Ministry of Public Works. Generally speaking, pitched roofs have been avoided by covering the buildings with reinforced concrete slabs, thus providing large terraces, from which the pupils can sometimes enjoy magnificent views.

PROTECTION AGAINST COLD AND HEAT.—As regards stone masonry walls, it has been thought in this connection that the thickness of the walls (0·60 m. on the ground floor and 0·50 m. on the others) was sufficient. In the case of buildings entirely composed of reinforced concrete, the same difficulty did

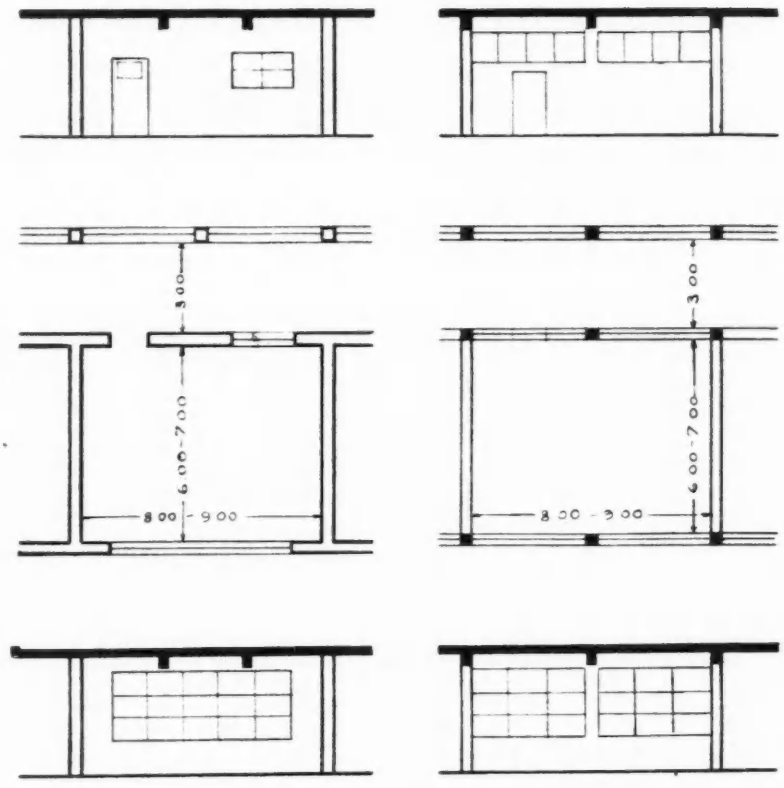
not arise, owing to the empty space formed between the brick walls of the filling masonry; for the climate is quite temperate and does not show great extremes of temperature.

In horizontal direction, the coping slab (thickness 0·15 m., cast according to the Zoellner method) has been insulated by means of a course of volcanic earth (from the Satorine Island), applied in the dry state, well pressed down by means of cast iron rollers, and forming surfaces with the necessary fall for draining rain water, and of an average thickness, after rolling, of 0·15 m. On this course, there has been laid a second one, 0·05 m. thick, consisting of a mortar composed of lime, sand, volcanic earth and coal clinker.

On this second course, embedded in hydraulic lime mortar, are placed slabs measuring 0·50×0·50 m. and from 0·03 to 0·04 m. thick, sawn from soft blocks originating from the Island of Malta. After a few days, the joints which are from 0·015 to 0·02 m. wide, are filled with a rich cement and sea sand mortar, on which is applied a coating of iron oxide oil paint. The whole surface is then given one or two coats of boiled linseed oil.

INTERIOR FLOORS.—These are made in mosaic; that is to say, a mixture of marble chips of various colours and of cement, likewise mixed with a certain amount of colouring matter. After being wetted, this mixture is spread in layers 0·03 m. thick, and well rolled with heavy cast iron rollers. When perfectly hard, the surface is rubbed with a block of very hard stone, which brings out the marble chips, until they are quite smooth, after which it is coated with linseed oil and polished with wax. Fillets can be inserted to form a design, and filled with a finer material of a different colour.

PLASTER WORK.—The outer and inner rendering of the walls and ceilings is of lime and sand mortar, with the exception of the first layer, in which the sand is replaced by marble ground to powder, which gives very smooth and spotless surfaces, due to the fine sea sand usually employed. This plaster work is then washed with lime, in which a colouring matter, usually very light, has been added. For the purpose of cleanliness, all the inside walls (rooms, passages, etc.) up to a height of 1·40 m. above the floor, are painted with oil paint. Soft colours have been selected for the rooms, and brighter ones for the passages and halls. Usually, the outside of the building, up to a height of from 1·00 m. to 1·50 m. from the ground level, is finished off with an imitation stone cement mortar, composed of a mixture of small marble chips and cement in the proportion of 2 to 1. To this is added the desired colour. When hardened, the surface is scraped with suitable tools, to give a monolithic appearance. Sometimes, joints are cut at regular intervals.



The standard classroom unit for all schools where the corridor is placed on the north side: left, when constructed in masonry; right, when constructed in reinforced concrete.

WINDOWS.—The metal window industry being non-existent in Greece use has been made of wood windows. The Department recommended two types: windows sliding horizontally and windows sliding vertically. Metal windows have been used in a few rare cases, but the practice has been discontinued, owing to their very high prices, as they have to be supplied from abroad.

DOORS.—Doors are of the ordinary type. The outside ones (main gates, yard terrace, etc.) are of iron, and the inside doors are of wood, usually single-leaf and from 1·15 m. to 2·60 m. in size. In each school, three teaching rooms inter-communicate through double doors, so that they can be turned into a large hall. These are necessary for various school activities; as, for reasons of economy, special halls for entertainments, etc. could not be provided, except in the case of a few groups of schools.

ORIENTATION, HEATING, VENTILATION.—The teaching rooms face south, so that during the winter the sun shines on them, while in the summer it is avoided.

In a certain number of schools central heating has been installed. Where this is not provided, heating is by wood or coal stoves. In the latter case, however, provision has been made for the necessary space for installing central heating, which is not installed at present for reasons of economy.

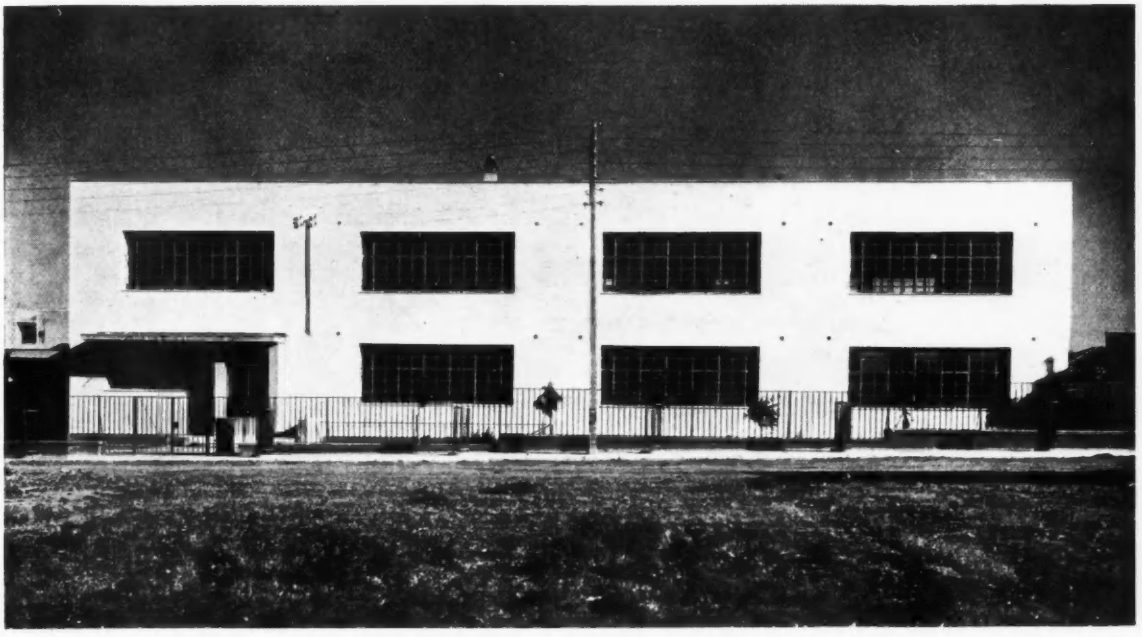
As regards ventilation, it takes place in a natural way through the windows, which face south and north. It is also assisted by openings made in the walls and near the ceilings.

Each school is provided with shower baths, installed in a common room. There are also a dining room and a kitchen, fitted with the usual equipment.

COURTYARD.—The courtyard is generally very large, to enable the children to play and run freely, and in some places it is planted with shrubs and small trees. A portion of the courtyard is covered, and surfaced with asphalt, to serve as a gymnasium in wet or very hot weather. As large terraces are also available, advantage is taken of them for holding classes during fine, sunny days in winter, because there is often a certain amount of dampness in the courtyard.

STATE SCHOOL AT HAROKOPOU

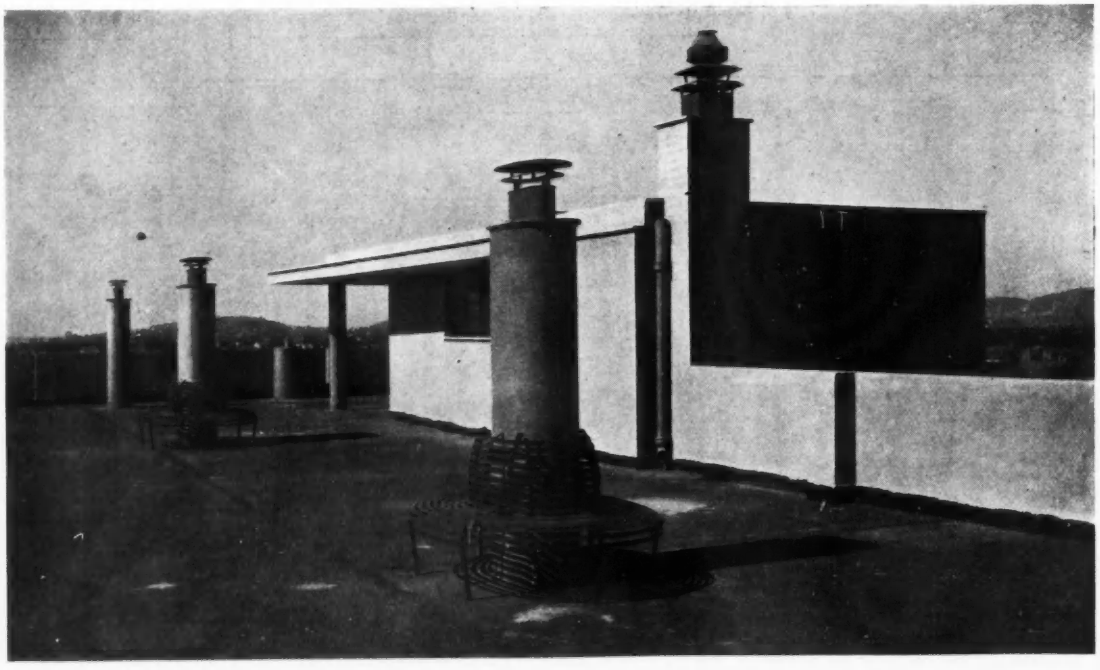
The school from the playground.

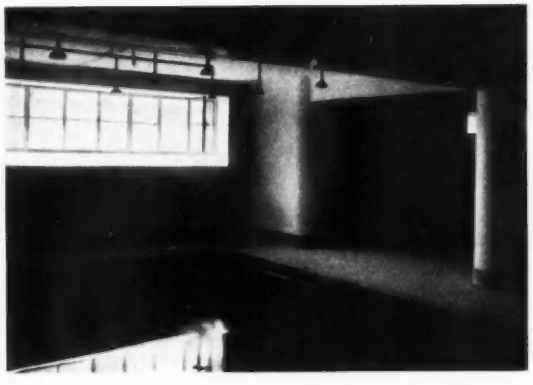


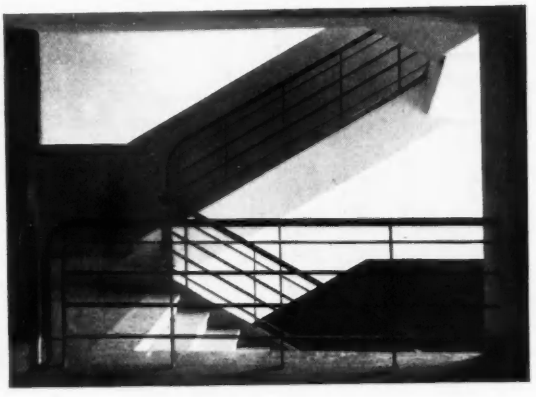
The entrance elevation.

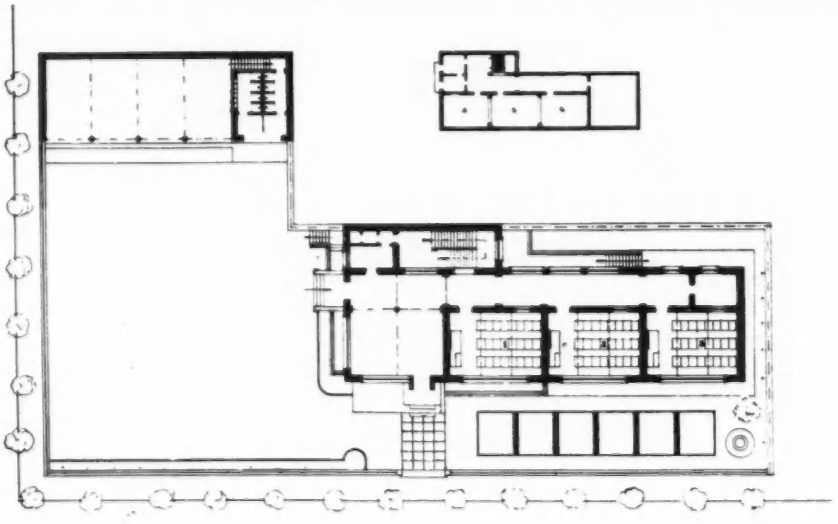
DESIGNED BY P. KARANTINOS

STATE SCHOOL AT HAROKOPOU



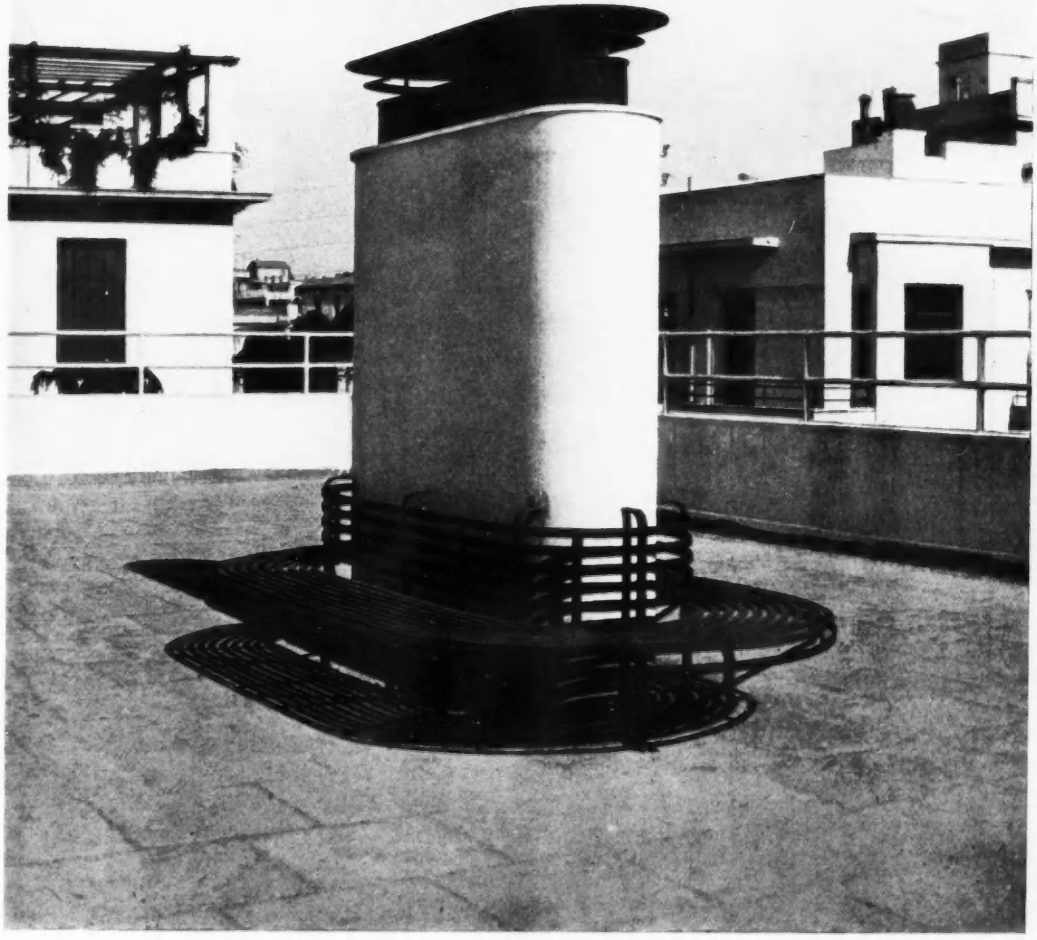






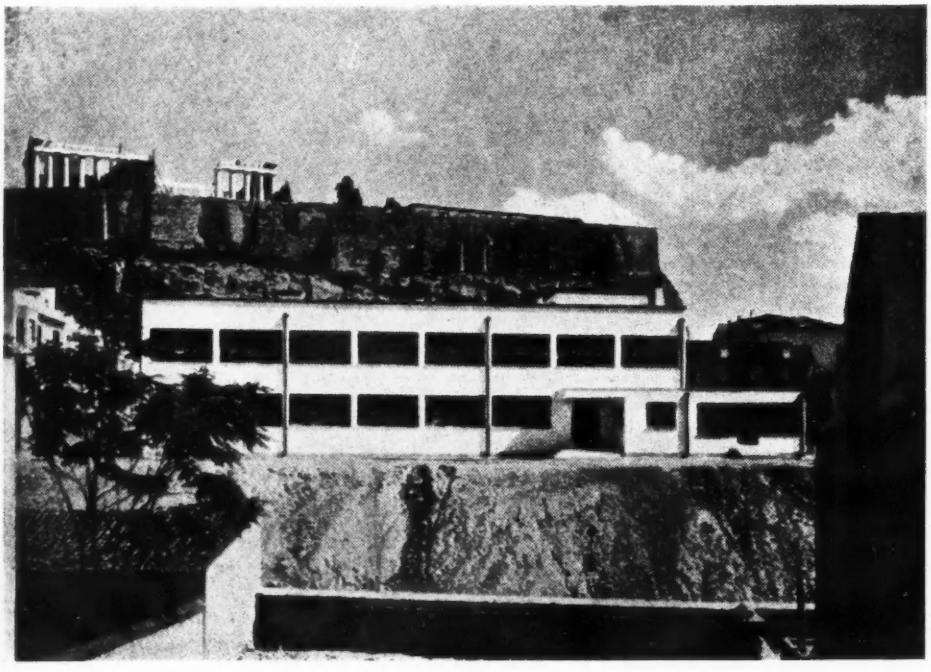
This school at Harokopou, near Athens, is an example of one of the larger types in the series of schools designed for the Ministry of Public Education. The photographs on this page show the roof terrace, the communal shower baths, and the staircase. On the left is the ground floor plan, showing the playground with its covered portion for use in wet or very hot weather, and as an open-air classroom. Also (smaller) the first floor plan.

DESIGNED BY P. KARANTINOS



A chimney on the roof terrace, used as backing for a circular seat; see photograph of the complete terrace on facing page.

STATE SCHOOL IN ATHENS



Another of the schools described in the article on page 107. This example is in Athens, immediately below the Acropolis. The lower photograph shows a general view, with the Acropolis in the background. The upper ones show the entrance portion and a typical corridor.

DESIGNED BY P. KARANTINOS

School Buildings Architect, Greek Ministry of Public Education

LETTERS FROM READERS

WILLIAM MACLEAN
(Secretary, the Glasgow Institute of Architects)

JAMES MacQUEDY

Official Architects

SIR,—The question of official architects doing work which ought to be thrown open to the profession has been the subject of a great deal of comment of late. The subject is particularly difficult in Glasgow, and the enclosed report as to the Glasgow Corporation's views on the matter, and the reply under my own name, the author of which is the President of the Glasgow Institute of Architects, will, it is thought, prove of considerable interest to the profession. WILLIAM MACLEAN

Following are extracts from "The Glasgow Herald," reporting the meeting of the Corporation of Glasgow referred to in the above letter:

Mr. W. L. M'Kerrow (North Kelvin—Mod.) took up an objection to a minute of the Health Committee relating to the architects' work on the proposed new infectious diseases hospital at Cowglen. A representation was made by the secretary of the Glasgow Institute of Architects that the work should be allotted by competition confined to architects in the Glasgow area. The Health Committee favoured entrusting the work to the municipal architects of the Master of Works Department.

Mr. M'Kerrow moved in amendment to the minute that competitive plans for the hospital be invited from members of the Glasgow Institute of Architects. They wanted to have the very best plans they could get, he said, for this hospital, and accordingly he thought they should enlist the services of the most experienced and the best men in this work. He did not propose that they should invite plans from any architect outside the city. By going to the private professional architects they would be assured of obtaining the services of men not only experienced in the building of hospitals, but familiar with the latest practice in this class of work in other parts of the country.

Bailie Stewart Reid (Whitevale—Soc.), in supporting the minute, claimed that the architects of the Master of Works Department had a better knowledge of the requirements in hospital construction than any other architects in the city. The outside architecture of the building was not the only consideration. The interior arrangements were of prime importance, and there the municipal architect had the advantage from his close association with the Health Department.

There would be a large amount of public money wasted if they went outside to have this job done. Nobody in the Council could deny that. The successful competitor would be entitled to get 6 per cent. on the capital cost of the hospital which was estimated at £300,000.

In addition to that, they would have to pay the fees of clerks of work, experts in heating and lighting, and so on. Before they were finished the extra expenditure entailed in the employment of the private architect would amount in professional fees to about £24,000. The Master of Works Department had been responsible for the Mearnskirk Hospital, and there on a capital expenditure of £400,000 the department had charged only £18,000 for these professional services.

Bailie Stewart Reid maintained that they would get better collaboration between the Health Department and the architects if they used the Master of Works staff rather than the outside practitioner.

The roll-call division resulted in approval of the minute by 62 votes to 35.

Following are extracts from the letter written to "The Glasgow Herald," by the President of the Glasgow Institution of Architects:

Sir,—Your report of last Thursday's meeting of the Corporation includes the decision come to that the City Engineer's Department is to be entrusted with designing the new infectious diseases hospital at Cowglen. It also gives some of the arguments advanced in favour of this and statements made by certain councillors prior to this decision being come to.

My Institute has no desire to interfere with the policy of the Corporation in determining such matters. It is for the electors, through their representatives, to decide such questions, but it has the right, and indeed a public duty, to correct ill-informed or deliberately distorted statements which may have influenced such important decisions, and also to inform the public as to the disadvantages, and indeed dangers, attendant on the concentration of architectural work in the hands of officials.

So far as this Institute represents the private practising architects it has always endeavoured to avoid invidious comparisons as between the work of official architects and its other members, realizing as it does that the individual work of private practising architects may be just as open to criticism as that of the official architect. The converse being also true, my Institute cannot therefore pass unchallenged the statement made by Bailie Stewart Reid that "the architects of the Master of Works Department have a better knowledge of the requirements in hospital construction than any other architects in the city."

In making this statement Bailie Stewart Reid had evidently as little knowledge of the subject as he appears to have of finance, as judged by his review of the proposals for Cowglen Hospital. He is reported as bringing out that on an estimated expenditure of £300,000 there will be a saving of £24,000 by having the architectural services carried out by the Master of Works, that being the figure which he estimates as covering the fees of architect, clerk of works, experts on heating and lighting, etc., forgetting that the architects in the Master of Works Department have to be paid as well as the other individuals named. Unfortunately for his argument he goes on to disclose that the Master of Works Department had charged £18,000 for their services at Mearnskirk Hospital, and, assuming that this figure is accurate, it is therefore not difficult to dispose of the bulk of Bailie Stewart Reid's alleged saving.

Further statements are made that "the interior arrangements were of prime importance, and therefore the municipal architect had the advantage with his close association with the Health Department," and that "they would get better collaboration between the Health Department and the architects if they used the Master of Works staff rather than the outside practitioner." This, of course, is sheer nonsense, or if there was anything in the argument the natural development should be that the Corporation architects, who in Glasgow are subordinate officials, should be placed under the responsible head of the Health Department instead of under the Master of Works, and thus ensure the closest possible association. It is suggested that it is just on this point that the value of employing an outside architect rests, as he can bring an independent judgment to bear on the problems that arise, and not be dominated by official influences.

It is admitted that there is a considerable amount of work, comprising small alterations and additions, and maintenance work, which can conveniently be carried out by official architects. Such work from its nature is fairly continuous in volume, and requires, therefore, the services of a staff of fixed numbers. When, however, large works are undertaken, it is obvious that the staff must be increased to meet the fluctuating necessities of such work, and it is not difficult to demonstrate that such increases become permanent. There is no incentive to have the work carried through expeditiously, but rather the reverse, and what may appear as a saving of professional charges may turn but ultimately to be quite the reverse.

Apart, however, from such considerations, there appears, in certain minds at least, to be a complete misunderstanding of an architect's functions and duties. If an architect's work consisted only of drawing plans from standard models, or plans which require no imaginative effort on his part, it may well be argued that he was grossly overpaid at the standard rate of 6 per cent. on the cost. It is in the general lay-out of the scheme relative to its site and the efficient arrangement of the various parts that money is either saved or wasted, and the savings which can be and are effected by good planning offset many times over the cost of professional fees.

Architecture is unique as a profession in that it has a competitive system which offers enormous advantages to the public. It needs no argument to demonstrate that the competitive effort of possibly 50 to 100 trained minds will give a better and more economical solution for a large planning

problem than is likely to be got from an official, however experienced.

There is the question also of responsibility. If the private practising architect makes a mistake he not only suffers for it by loss of reputation, and therefore business, but he can be, and often is, held financially liable. We have not observed up till now that any official mistakes have affected the pockets of those responsible, however largely they may have affected the public purse. It appears to be forgotten that one of the most important duties of an architect, in accordance with the conditions of contract, is to act as quasi-arbiter as between the client and the contractor, and it is obviously impossible for an employee of the client to discharge such duties satisfactorily.—I am, etc.,

WILLIAM MACLEAN,
(Secretary, Glasgow Institute of Architects)

School Children and Architecture

SIR,—As a lay reader (though not of course in the ecclesiastical sense) I am naturally interested in all attempts at educating the public towards a sensible appreciation of architecture as a living force; particularly if these efforts are directed to the school child who, in the ordinary way, is all too early infected by the common regard for architecture as nothing more vital than an antiquarian study. In my own case, the only contact with architecture I was allowed at school took the form of bicycle expeditions to neighbouring perpendicular churches, or lectures on Roman remains by some of the more elderly masters.

I was, therefore, very gratified to learn of the recently instituted prizes, given annually by the R.I.B.A. to school children, for essays on architectural subjects; but I was extremely disturbed to read, in the list of awards published in your last issue, the titles of this year's successful essays. I quote them again, in case some of your readers may have missed them: first prize, for an essay on "The Royal Hospital, Greenwich"; second prize, for an essay on "The Church of St. John the Baptist, Halesowen"; third prize, for essays on "Malvern Priory Church" and "Hampton Court Palace."

Surely these do not represent the aspects of architecture to which the school children's minds should be directed today.

The jury who made the awards would no doubt excuse themselves on the ground that they had only to select the best essays from those submitted—whether the subjects were specified or left to the children I do not know; but it is the duty of the R.I.B.A. to foster a better understanding of the place of architecture in the modern world in every way they can, and here, it seems to me, is a great opportunity of doing so wilfully thrown away.

JAMES MACQUEDY

HOUSES AT

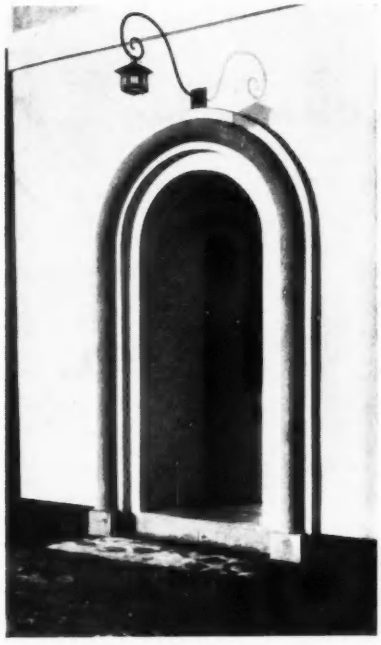
A detail of one of several variations of doorway employed in the type of house illustrated opposite.

These houses were designed by the architects for erection by a speculative builder on the Bakers Green Estate at Huyton. The type illustrated on this and the facing page, of which six have been completed, is semi-detached, with three bedrooms.

The cost of each house was £570, or 9¾d. per cubic foot, including builder's profit, drains, fencing, gates, paths, etc. The selling price is £675, freehold; including land. The plots are 31 ft. by 100 ft., leaving room for a full size garage to each house.

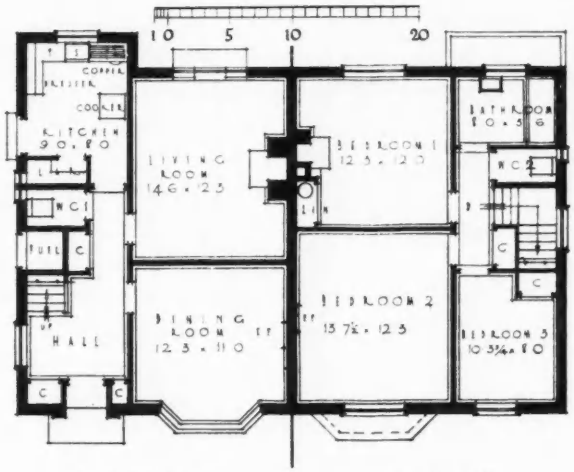
DESIGNED BY

HUYTON, LANCASHIRE



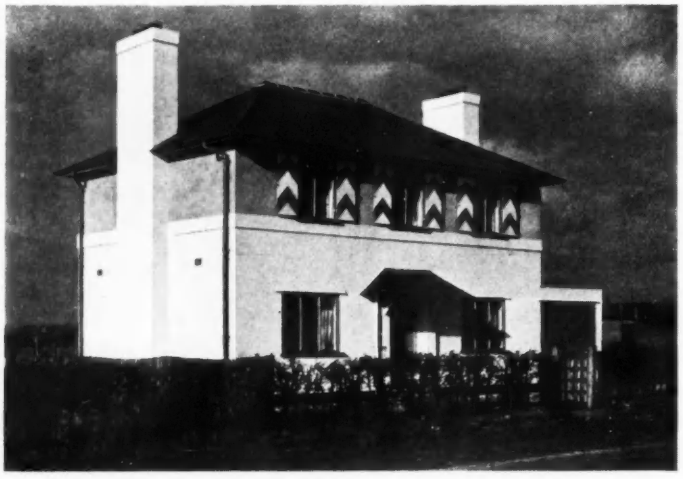
An alternative doorway for houses of the same type.

The houses are in 9 ins. solid brickwork, rendered with waterproof cement, which is coloured yellow for the upper band. The roof is of grey Welsh slates. Windows are metal casement type, set direct in the brickwork. The plinth and chimney pots are tarred.



MINOPRIO AND SPENCELY

HOUSES AT HUYTON, LANCS.

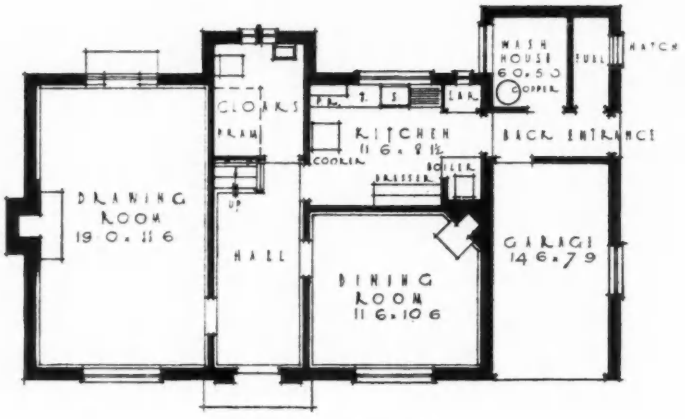


A four-bedroom detached type with garage. The cost of this type was £840, or 12¼d. per cubic foot, including builder's profit, drains, fencing, gates paths, etc. The selling price is £1,025, freehold, including land. The size of the plot for this type is 50 ft. by 100 ft.

The construction is the same as for the semi-detached house illustrated on the preceding pages, except that the metal windows are set in wood frames. The upper band is coloured terra-cotta and the shutters painted blue and white.

The fireplace in the drawing-room, in 1 in. bricks with cast plaster decoration by James Woodford.

FIRST FLOOR



GROUND FLOOR

DESIGNED BY

MINOPRIO

AND

SPENCELY

THE NEW CONCRETE CODE OF PRACTICE

The recommendations for a new reinforced concrete code of practice have been long awaited, and are now embodied in the publication just issued from H.M. Stationery Office (price 1s. 3d.) entitled: "Report of the Reinforced Concrete Structures Committee of the Building Research Board, with Recommendations for a Code of Practice for the Use of Reinforced Concrete in Buildings." A preliminary review of the report is given below. In the near future we shall publish, in the form of a reinforced concrete Information Supplement, a detailed analysis of the new code.

ALL interested in building construction will welcome this long overdue report as the most important British document dealing with the design of reinforced concrete published since the London County Council regulations of 1915 dealing with the same subject. Unfortunately, at present it has not the same statutory significance as these regulations—indeed it may be as well to clear away, at the outset, the idea which the lay Press may have given, that the report contains new "Building Regulations." In this connection the report says: "We were informed at our first meeting on November 6, 1931, that, apart from the national need for authoritative rules of practice, the London County Council had specifically asked to be furnished, in connection with the review of the London Building Act, with recommendations for a code of practice for the use of reinforced concrete in buildings similar to that drawn up by the Steel Structures Research Committee for the use of structural steel. Our attention was also drawn, later, to the legal position outside London regarding reinforced concrete for building, which is that detailed regulations are not in force, such bye-laws as exist being unrestrictive; and it was emphasized that our work was limited, by our terms of reference, to the preparation of technical rules of practice; we were in no way concerned with administrative action thereon. At the same time, we were led to hope that our code of practice would be of service to local authorities in the administration of their bye-laws, and that reference would be made to it in the model bye-laws issued from the Ministry of Health."

Doubtless, action on the lines mentioned will shortly be taken by the various authorities. Meanwhile, it seems probable that any authority would, wherever possible, pass plans prepared in accordance with the recommended code of practice, seeing that it represents the considered opinion of the foremost reinforced concrete engineers in the country. These engineers were nominated, together with architects and others representing the building industry, by the various professional institutions, the R.I.B.A. being represented by O. Maxwell Ayrton, F.R.I.B.A., and A. Alban H. Scott, F.R.I.B.A.

The main body of the report consists of the Recommendations for a Code of Practice for the use of Reinforced Concrete in Building and is preceded by an explanatory statement of the principles which have governed the committee in their findings.

The Code itself is divided into ten sections and nine appendices as follows:

Section 1, containing definitions, notation, etc.

Section 2, dealing with the materials of reinforced concrete, for which it gives brief, but complete, specifications.

Section 3, giving the permissible working stresses for concrete and steel.

Section 4, specifying briefly good practice as regards workmanship on the job.

Sections 5, 6 and 7, giving rules for the design of beams, slabs and columns.

Section 8, dealing fully with flat slab construction.

Sections 9 and 10, dealing very briefly with special forms of construction and the testing of finished structures.

The appendices include:—

I. General building clauses, following almost exactly those given in the steel code.

II.-VIII. Standard methods of testing aggregates, steel and concrete.

IX. Requirements for clinker aggregate for pressed concrete bricks and precast blocks to be used in panel walls.

In several ways the code differs completely from existing regulations, apart from the smaller loads and higher stresses specified. For example, in Section 3, three grades of concrete are recognized, *ordinary*, *high* and *special* and different working stresses are allowed for each grade. The difference in grade is not, however, in the mix (i.e., the proportion of cement to aggregate) but, in the amount of supervision and testing which the designer is prepared to give to the job. The committee say that the reinforced concrete industry has, "at this time reached a stage in development when advantage should be given to the engineer who is prepared to spend time and money in producing consistently controlled concrete. In other words, the day has passed when one stress only should be permitted for a mix, regardless of the care exercised and the general level of strength achieved. With this in mind, the Committee have proposed three grades of concrete.

The first grade, designated *Ordinary Grade*, is intended for use in cases where rigid control is not exercised, and where considerations of economy or convenience are such that it becomes impracticable to insist on tests. The stresses are regarded as conservative and representative of present practice under such conditions.

The second grade, designated *High Grade*, calls for preliminary tests, for greater control during the progress of the work, and for a programme of tests on the deposited concrete. The stresses for this class of concrete represent present practice in certain works in this country and the Committee are satisfied that no difficulty is likely to arise in producing the strengths demanded.

The third grade, designated *Special Grade*, calls for an even greater exercise of control and testing. For this grade the procedure, although common abroad, is new to practice in this country, in that the actual pre-determined strength of the concrete forms the basis for the permissible stresses. In addition, these stresses may only be used when certain methods of design, not compulsory for the other grades, are adopted.

The chief importance to architects of this report lies in the reduction in the cost of building frames designed in accordance with the recommended code of practice, as against those designed in accordance with existing regulations since, in all cases, the recommended superimposed loads are less and the working stresses greater than those previously specified. For years architects have known that, for example, the existing L.C.C. regulations were unduly conservative, but they have had no authoritative guide as to how much these regulations might be relaxed, if an adequate factor of safety was to be maintained. This report supplies such a guide.

W. E. J. B.

PERIODICALS

DECEMBER ANTHOLOGY

AMERICA

The Architectural Record
(Monthly, 50 cents)

DECEMBER, 1933. Notes on Housing Corporation set up under the National Recovery Act to hasten slum clearance; illustrations of projects and table of basic data—estimated cost, number of rooms, ground cost per sq. ft., building cost per cu. ft., rental per room, etc., etc.—concerning housing projects given tentative P.W.A. approval.

The Nation Plans for Recreation; excerpts from an Address by Administrator of Public Works, H. L. Ickes. Illustrated.

Data Sheets: construction and lay-out sports grounds, etc.; hockey, lacrosse, shuffle board, box hockey, skiddle, swimming pool, handball court, tennis court illumination, ice skating tracks, concrete ping-pong table.

Illustrated article on design for bars under title "Repeal Offers New Opportunities." Illustrated article on design of distillery and rectifying plant.

The Architectural Forum
(Monthly $1.00)

December, 1933. Chicago Century of Progress Exposition has ended, a commercial success, visited by 23,300,000 people, who spent $36,000,000 within its gates, and $450,000,000 without. The Chrysler Exhibition Building, designed by Holabird and Root, is likely to prove the one singled out as the finest at the Fair. Won in competition. Conditions stated cubic capacity should not exceed 1,000,000 cu. ft., and cost per cubic foot should not exceed 15 cents. In order to keep the structure within the cube the central portion was without a roof.

International Section: Modern architecture in Sweden; work by Sven Markelius, Paul Hedquist and Eskil Sundahl.

Illustrated article on day elementary schools; a study of architectural developments keeping pace with requirements of progressive education, with charts showing logical grouping of units for recreation, instruction, health and storage.

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BELGIUM

La Cité
(Monthly, 5 frs.)

No. 10, 1933. Issue devoted to a consideration of architectural education. Proposals for the reorganization of teaching of architecture by J. F. Hoeben, president S.B.U.A.M. and P. Verbruggen, vice-president S.B.U.A.M. Suggested syllabus for technical school, architectural school and town planning school. Division of work on several subjects represented graphically.

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FINLAND

Arkitekten
(Monthly)

No. 11, 1933. Technical description of refrigerating, heating and sanitary arrangements of the municipal slaughterhouse, Helsingfors. Projects awarded prizes in competition for a stadium at Helsingfors, and which will be used as a basis for the final design for the building.

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FRANCE

Architecture d'Aujourd hui

No. 7. 1933. Special issue: theatres, cinemas, concert halls. Approximately 120 pages of plans, sections and photographs, including schemes submitted in the International Competition for a theatre at Kharkov.

No. 8. 1933. Modern architecture in Italy—especially that at the Milan Triennale. The funeral of Doctor Roux at Notre Dame: Organization of the ceremony by architect André Ventre.

●

GERMANY

Moderne Bauformen
(Monthly 3 R.M.)

No. 1, 1934. Block of flats on outskirts of Munich, by Robert Vorhoelyet. The flats are small—35-40 square metres—but have all conveniences possible.

Work of Bernhard Pfau, showing the extent to which simple building forms without ornamentation have increased the feeling for space and good proportion: a block of flats, a shop interior, and a wooden week-end house, costing approximately £130, with living-room, kitchen, w.c. and bedroom with three bunks. The unglazed portions of the wall are covered with plywood.

A residential hotel in the mountains near Vienna, separate restaurant, and wide verandah and terrace for excursionists. Architect Max Fellerer.

Houses in Switzerland, mainly terraces or housing blocks. The Swiss likes efficient equipment in his house, and since this is more readily provided in houses for many rather than for one family, only 15-30 per cent. of houses in towns and 40 per cent. in the country are houses for one family.

Monatshefte für Baukunst
(Monthly 1.90 R.M.)

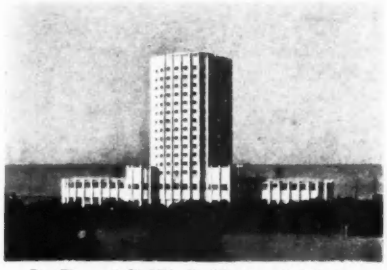
December, 1933. Timber house construction in Scandinavia, technical article illustrated by photographs indicating constructional methods, contributed by Ernst Neufert, who was commissioned by the editor to discover on the spot what progress has been achieved in the art of building that might be valuable in Germany to-day. This is the first of a series of reports made by a specialist in timber building, with respect for high technical knowledge of Scandinavian builders.

Exhibition Building for Chrysler Motors, at the Chicago Century of Progress Exposition, 1933. Architects: Holabird and Root.
[ARCHITECTURAL FORUM]

Design placed first. Architect: Duilio Torres.

Design placed third. Architect: Cesare Pascoletti.

Project by Architects Pica and Buccianti: Competition for Academy Bridge, Venice.
[WERK]



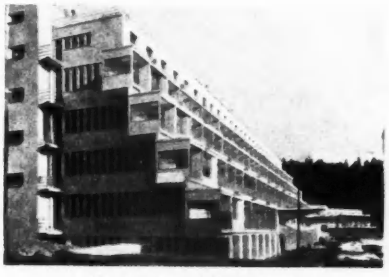
La Torre "Balilla," Marina di Massa. Engineer: Vittorio Bonadé-Bottino.
[ARCHITETTURA]

Bauwelt
(Weekly)

Nov. 30. Timber house construction in Scandinavia: article, photographs, typical plans and construction details, by Ernst Neufert. Ready-mixed concrete delivered in revolving lorry containers from central grading and mixing depots, used for foundations.

Dec. 21. Mussolini Stadium, Turin: architects Bianchini, Fagnoni and Ortensi; photographs, plans and sections.

Farm buildings—two storey—constructed from concrete and wood framing; plans, details and photographs.



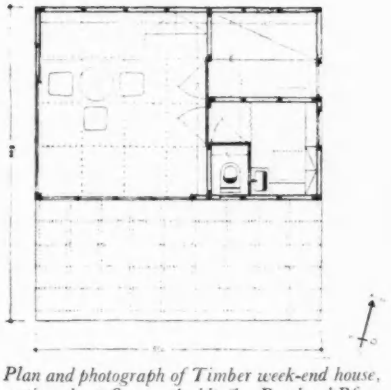
Sanatorium at Guébriant. Architects: Abraham and Le Même.
[TER ES FORMA]

Deutsche Bauzeitung
(Weekly)

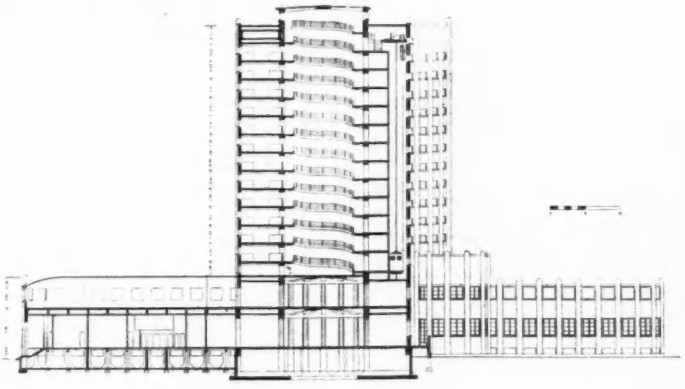
No. 48. Timber construction number: house construction; timber in big span roofs; map indicating disposition of forests in Germany.

No. 49. German workmen's dwellings; short article illustrated by typical plans with room sizes, etc. Inscriptions on buildings; short article with several photographs illustrating modern systems of signwriting.

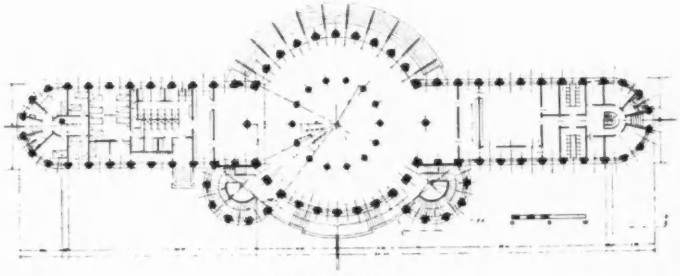
No. 50. Gasworks bunkers, Dresden-Reik, in reinforced concrete; drawings and photographs; architect, Otto Röder. Small wood bungalows; photographs and plans. Discussion and illustrations of premiated designs in competition for new Pump-House, Wiesbaden.



Plan and photograph of Timber week-end house, costing about £130. Architect: Bernhard Pfau.
[MODERNE BAUFORMEN]



Longitudinal Section.



Ground Floor Plan.

GREECE

Les Annales Techniques

No. 44-46, 1933. Full report on work of IV Congress of International Congresses for modern Architecture, Athens, August, 1933. Lectures, etc., reported in French. Reproductions of maps. Special price 3 Swiss francs, addressed to the Chambre Technique de Grece, Rue de l'Academie 50, Athens.

HUNGARY

Tér Es Forma
(Monthly)

No. 12, 1933. Hospital issue: Sanatorium, Paimio, Finland, by Alvar Aalto. Sanatorium at Guébriant, by Abraham and Le Même. Ravenscourt Park Hospital, by Sir John Burnet, Tait and Lorne.

ITALY

Architettura
(Monthly)

No. 10, 1933. National competition for General Post Office in Rome. 24 pages of plans, models and drawings of premiated designs. La Torre, "Balilla," at Marina di

"Z" Haus, Zurich. Architects: Hubacher and Steiger. [WERK]

Massa; engineer: Vittorio Bonadé-Bottino. Since the Sestrières Hôtel, Bonadè-Bottino, has built this Fiat Seaside Colony, at Marina di Massa, also in the shape of a tower. The rooms are arranged inside the tower, on a great helical ramp, limited on the outside by the outer wall of the tower itself, and on the inside by the central well.

Obviously, this original arrangement, although carried out most ingeniously, presents various drawbacks, such as the inclined floors in the rooms (the beds must have feet of different length).

The great height of the building, which reaches 52 metres, has in addition made it necessary to provide an ample lift, capable of carrying 30 children.

A problem which has been quite successfully solved is that of lighting and ventilating the premises, which receive air and light, both from the outside perimeter and the inner well, which is covered on top by a glazed cement cap.

This well is thus taken into account in the calculation of the cubic measurements required by the General Department of Hygiene, which require 25 cubic metres per bed.

No. 12, 1933. Special enlarged issue illustrating fully, with photographs, plans and details, the best of the architecture at the Milan Triennale. Review of modern architecture of recent years; issue contains 500 illustrations.

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YUGOSLAVIA

Arhitektura

(Monthly)

No. 11, 1933. Special issue devoted to obituary and work of Adolf Loos, pioneer of modern architecture, who died in 1933, at the age of 63 years.

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SWITZERLAND

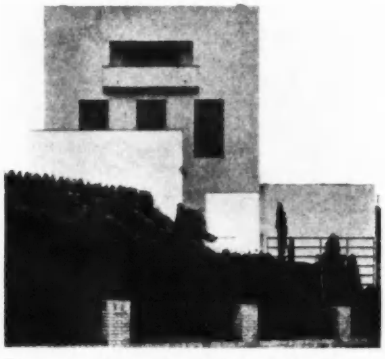
Werk

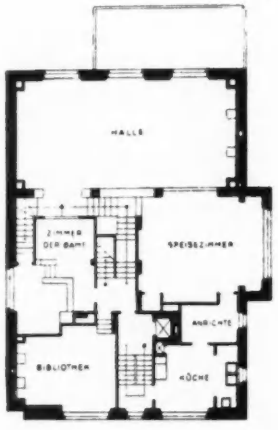
(Monthly)

No. 11, 1933. Giovanni Berta Stadium, Florence; engineer: Luigi Nervi. Illustrated by photographs, no drawings. Competition for Academy Bridge, Venice. A town planning scheme for Basle, discussed by Professor Bernoulli.

No. 12, 1933. Competition for modern timber houses; plans and models of several premiated designs. Timber houses at the German Timber Exhibition: photographs, plans and constructional details.

No. 1, 1934. "Z" Haus, Zurich, one of the most interesting and efficient business houses of the present day. Restaurant, garage, cinema, offices, shops and roof gymnasium in one building; clearly reproduced plans and photographs. Architects, Hubacher and Steiger.





Plan and south elevation of Villa Müller, Prague, 1930. Architect: Adolf Loos. [ARHITEKTURA]

THE ARCHITECT'S CONTRIBUTION *TO THE* THOUGHT *OF HIS TIME*

Following are extracts from a paper with the above title read by Mr. Hope Bagenal at the Architectural Association on January 9.

The distinguishing mark of a profession is that its corporative character, its charter of association, rests in some way upon a charge of public service. Our own charter, for instance, engages us to serve the public in the planning and embellishing of cities: the engineers have undertaken to promote "the art of directing the great sources of power in Nature for the use and convenience of man." We read in Carr Saunders and Wilson's study of the professions that a profession now and then in history rises to power as a result of clearly proved services to the community. Thus the Society of Apothecaries won prestige during the Plague, because the apothecaries stayed in London and looked after the sick while the comparatively wealthy members of the Royal College of Physicians retired to the country.

And in addition to service, there is the idea of trusteeship. "Every corporate member shall act towards his client in a strictly fiduciary manner" (Ethical Rules of the Institution of Engineers). These two elements then—service and trusteeship—enter the professional man's life both as an idea and as an ideal.

No doubt we also defend our own special interests as well as serve the public. This up to a point is inevitable; we have a duty to our craft. But when all is said, the professional man serves and guards the public, studies its health and its well-being and, in addition, carries forward ever-accumulating knowledge like a load upon his back.

Also we read today that it were well if other sections of the community were to imitate us in an important item. Sir Arthur Salter in his *Framework of an Ordered Society* suggests that those federations concerned with the control of money, the flow of capital, and industrial organization—federations which are now chiefly defensive—need to professionalize themselves, study efficiency and reconstruction and encourage improvement in the standards of conduct which is in the public interest. There seem to be no regular channels in big business for presenting the idea of trusteeship and inspiring the ideal. It is only in a Quaker meeting that we hear commercial men undertaking

before God to act towards their customers in a "strictly fiduciary manner."

So it seems the professions have a contribution to make to sociological theory. But we are told "every profession lives in a world of its own." This is true, but not necessarily in a world divorced from the larger world. Every profession, rather, has a story to tell of a particular aspect of English life and character. Architecture and building together cover an enormous field of national activity. As architects we are conscious of the economic stresses of our great client, the public, and the influence of those stresses for good and evil. We know the powerful thrust of the business world. We note that while houses and churches have to grow cheaper, banks and commercial premises are growing more expensive. Then there is the building industry, our mother-in-law microcosm of industry itself; our fair half-sisters, the arts of painting and sculpture, very active and given to telling us our business. We watch the upward trend of good taste (in spite of persons who do their best to confuse the public mind) and we see that upward trend always fighting against the downward trend of workmanship and the cheapening quality of goods. We study hygiene and town planning and are in the honourable army fighting to preserve the face of our country. We know and love the country builder with his few craftsmen obstinately surviving (we have often to protect him against the smart modern client who wants everything for nothing, often he—the builder—is sociologically of much more value than the client). And finally, there is that hardest thing of all—ordinary domestic practice involving nothing less than the continuous friendly analysis of English man and English wife. In designing the hearth and all it implies an architect goes down to the roots of life. He has to find out what his clients really want, the most difficult thing in the world. He is studying ultimate desirables—culture itself.

Today, opinion gets itself formed through no regular channels. There are several strata of intellectual activity unconnected at vital points. At the top I suppose there are the great investigators—our age has tended to mobilize the most of the best ability into various forms of enquiry. And Nature herself seems intent to show them some new thing. There they are, the Einsteins, the Rutherfords, the Batesons, the Freuds, all hewing and demolishing in different directions, and heedless of the results to mankind of their labours. Then there are a few men of a different type—encyclopedists like Whitehead, Von Hughel, Schweitzer, Jung, who see with perfect lucidity the devastation around them and who with equal courage deliberately feed the evidence back into their own minds and out again as a thread of humane comprehensible thought. It is on these minds, as opposed to the analytic, that our attention should now be riveted: they are doing for us what Rousseau did for the age that succeeded his under much more difficult circumstances. They are giving us the ideas, the cosmology out of which the next stable phase of history is to be made.

And in this upper stratum of thought we have to note that there is none of that optimism that existed in the first two decades of our century among the leaders of thought, and which still exists in the strata below. We see great physicists driven to metaphysics, great astronomers driven to philosophy, not only to explain phenomena, but also as a refuge from intellectual chaos. While the masses still worship Science as a benevolent god and are still taught to do so by their writers, the enquirers themselves are expressing alarming doubts. Not Athena Hygeia, but the dreadful mask of Enantiadromia becomes half visible—the random goddess, Irrational Force alternately building and destroying in meaningless cycles.

At the present state of transition, it is the consumer who is the great object of attention. All science and industry tend towards production of goods, the difficulty is to get people to buy them. Before the modern man of limited means an unlimited market is spread in theory. The art of salesmanship is to fire his imagination, increase his wants, expand his ideas. Can it also increase his real credit? Let us try to get at the bottom of this, because a new era of prosperity will soon be upon us, the huge materialist circus will accelerate again and the whips of Big Business will again be heard at the centre. First let us look at the constructive side. I can imagine an enthusiastic modern business man of the type for whom business is a creative sphere—a power, rather than a routine or a family property—I can imagine him, conscious in himself of inexhaustible energy and ideas, casting his eye on the moderate masses and quite genuinely desiring for them the treasures of Cathay, unlimited luxuries, more and more delightful gadgets, new and ever newer novelties. It would seem that the idea of hire purchase and new dreams as to material wants will not give that access of life which is real credit. The credit of a man and of a nation is something other—initiative, courage, selecting power, endurance, things spiritual. But the American nation are showing those qualities now when all is insecure, when the luxury basis of life has in fact broken down.

But our creative business man had also a fashionable theory of economics recommended to him in those days which chimed well with his thought.

But, and this is my point—the business man's creative instincts were perhaps not at fault. It is his thought, his deductions which are wrong. It is true that the earth is a great treasure house, and Nature a fairy godmother heaping gifts at our feet. But it is not the treasures, but the treasure-hunt, not the gifts themselves, but the fashioning, the organizing, the distributing them that appeals to the creative imagination. He is himself occupied with the adventure of his business, its threads and excitements, the romance of modern technology. That romance colours his whole outlook. But he does not think out its implications. He is quite likely to be coining his dreams into a multiplicity of small superfluous articles appealing to nothing in the public corresponding to his own impulses—appealing perhaps only to a love of cheap luxury and our toy-shop instincts.

That discrepancy between the spiritual driving force behind modern industry and the paltryness of its results, that issue of a man's spiritual energy in merely quantitative and materialist values is one of the great defects of our time and leads to that continuous sense of frustration that keeps step with us in periods of depression and of prosperity alike.

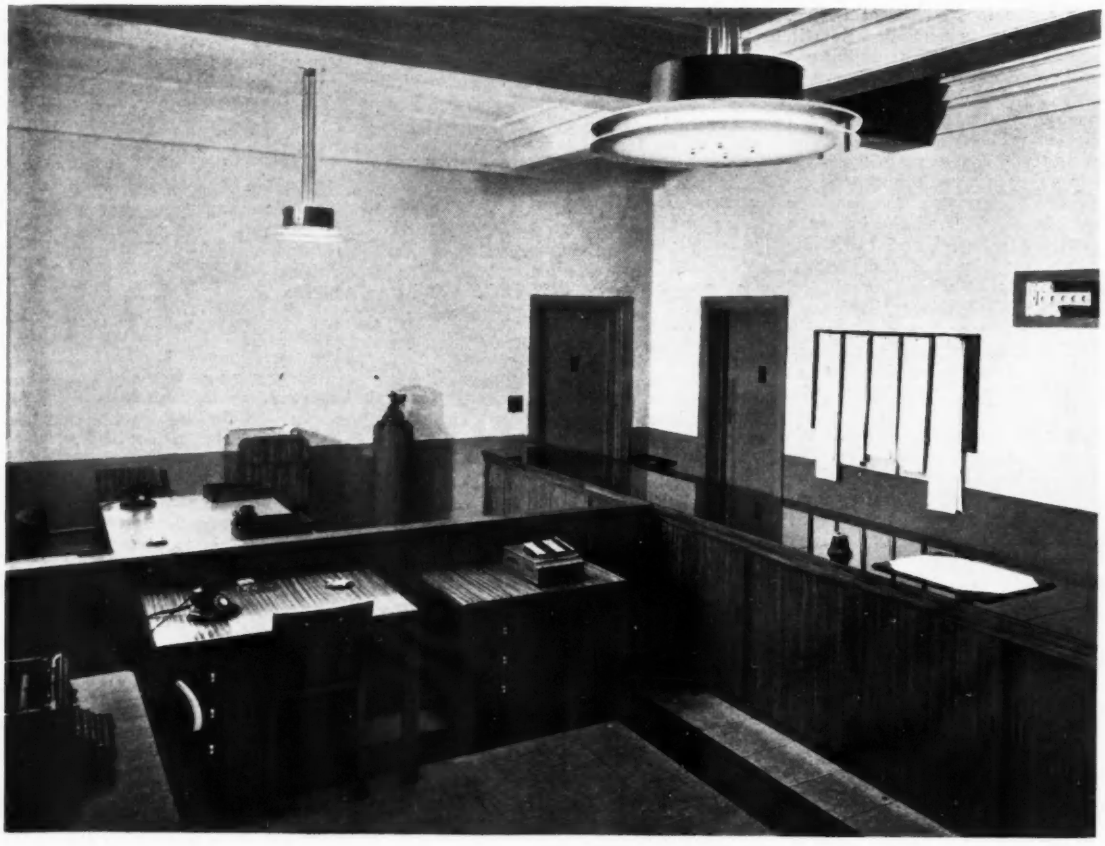
But that discrepancy is due largely to a lack of thought. Many of us accept quite thoughtlessly the shibboleths of demand and supply, the fashions of the economists, the stupidities of the laboratory trained scientists. This fact is part of what Schweitzer refers to as "the abdication of thought," the "decisive factor in the collapse of our civilization." Let us see how this applies to our present problems.

First: when a profession, that is to say, a body of trained criticism, is interposed between a public demand and a supplying industry, as our profession is placed in respect of the public and the building industry, or the doctors between the public and patent medicines, then there exists a means of criticizing, discriminating, testing the goods and processes supplied: in other words, a qualitative basis as well as a quantitative, is recognized. The recognition of the qualitative, as against the quantitative, wants all the force we can give it: because the quantitative side, espoused by economics, has all the trumpeting on its side. The purely economic problem, we are told, holds us all in its grasp. Secondly: but is there such a thing as "a *purely* economic problem in any department whatever"? My experience as a professional man leads me to doubt it. To quote Goodhart-Rendel: "You argue a great deal, and apply your utilitarian standards, but in the end you come to your choice." Now that choice generally can be between a good or a less good, between a larger number of cheap things or a smaller number of better quality things: between a neat, simple thing or a super high-spot thing. But that is an æsthetic or an ethical choice. And the whole difficult process of getting a house built for a client is a process of harmonizing a creative with a financial process: both are essential, but both are variables and interact. At every turn in our affairs, at every turn in our commerce with life we are selecting, making practical choices that are not purely economic.

And so with my theory of Big Business. As a member of a profession, I am not wholly at the mercy of the economic thrust of the business world. It may be a thing to be resisted. When Big Business forms itself into vast remorseless machines, swayed by a theory in economics, fumbling at the helm of civilization, then we see what happened in America last March—a people brought to panic and a species of civil war between debtors and creditors. That is to say we see that Big Business is one among many barbaric forces which have contributed their share to that chaos that calls for government dictatorship.

I *am* at the mercy, as a professional man, of the creative, constructive, ethical side, of the business world, as I am at the mercy of life and my fellow men, no more and no less. But this side is the affair of all of us, to be criticized, educated, given a direction—a direction away from barbarism and towards civilization.

A STOCKBROKER'S OFFICE



This office is the result of complete interior reconstruction of a Victorian office building in the City.

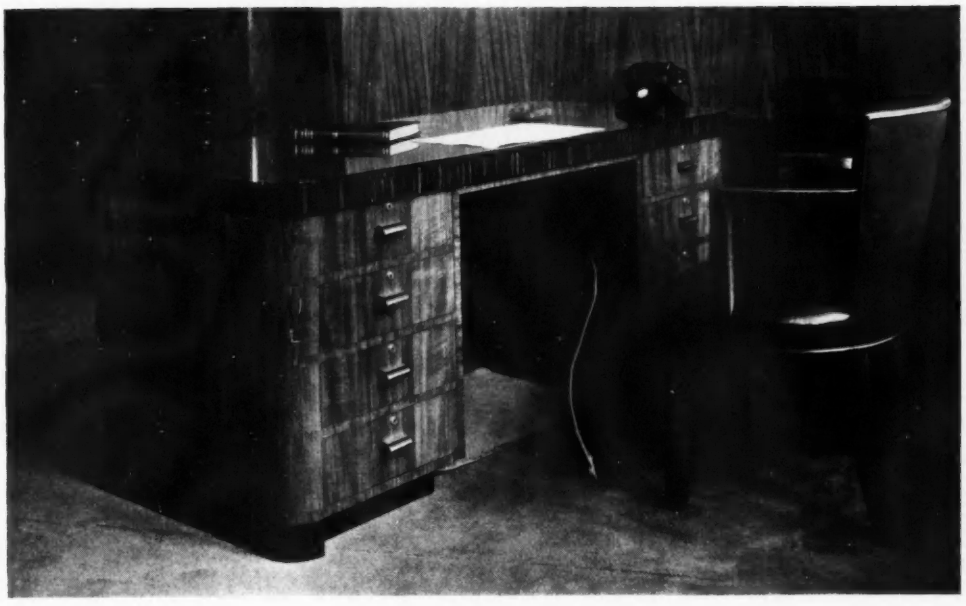
Above is the general office (see plan on facing page), with wall painted cream with umber dado, floor of rubber on asbestos tiles, and counter and furniture of Australian walnut. The beams and cornices remain as existing. On the left is a cupboard in Australian walnut and macassar.

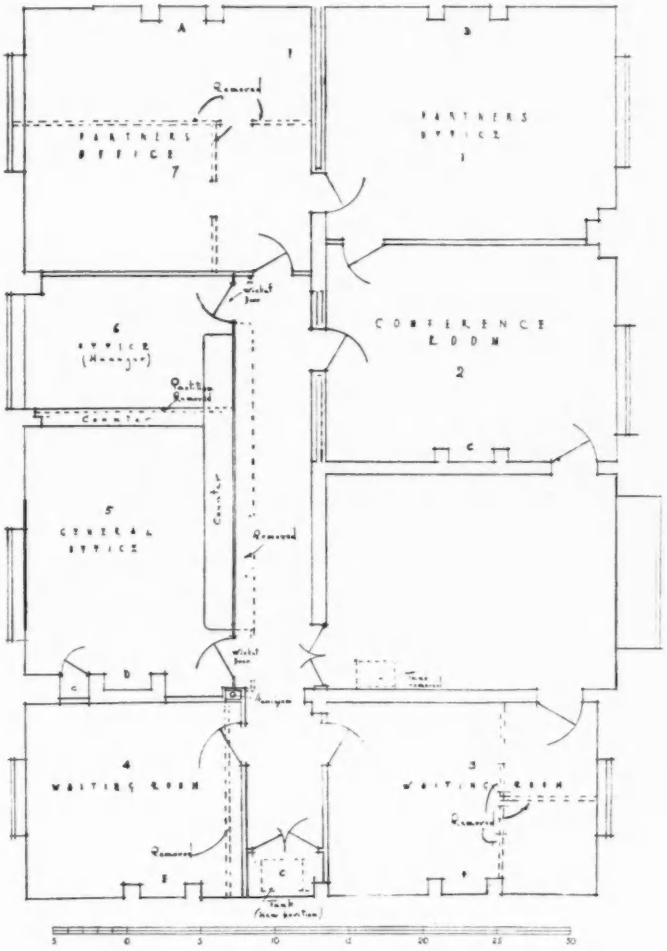
DESIGNED

BY

R. W. SYMONDS

IN A CITY BUILDING





A plan of the office and some of the furniture designed for it by the architect. The furniture is in Australian walnut and macassar, the chair being upholstered in hide. The panelling in the background is also in walnut.

SOCIETIES AND INSTITUTIONS

MANCHESTER SOCIETY OF ARCHITECTS

The advisory plan for the parish of Broadway (Worcestershire) was discussed last week by Mr. G. A. Jellicoe, A.R.I.B.A., in an address to the Manchester Society of Architects.

The plan, he said, raised great interest at the time of its presentation on December 6. The circumstances were unique, because Broadway was a world-famed beauty place, and the idea of planning originated from within the village itself. Now that a month had elapsed it was possible to see more easily to what an extent the plan would contribute to the discussion of landscape generally.

Mr. Jellicoe expressed the opinion that development, not preservation, must ultimately produce the finest landscape. Any treatment of the æsthetics of landscape, he said, must be an economic proposition. The basis of the Broadway plan, originating from a traders' association, and later supported by the residents, was economic.

Inhabitants of English villages were normally aware of the beauty of their landscape, but naturally wished to live undisturbed by Acts of Parliament. Only when spoliation was far advanced would they take action.

Mr. Jellicoe considered that landscape and village planning was beyond the scope of a district surveyor. It was the work of a specialist.

In other cases surveyors might be so overwhelmed with work that the idea of fresh planning was repugnant, particularly as a detailed plan required great research into local history and topography and local conditions generally. A superficial study of these essentials might produce a plan that would prove definitely detrimental, such as, for instance, the preservation of mediocre historical buildings, and the reproduction of old buildings in new work.

A.A.S.T.A. LECTURES

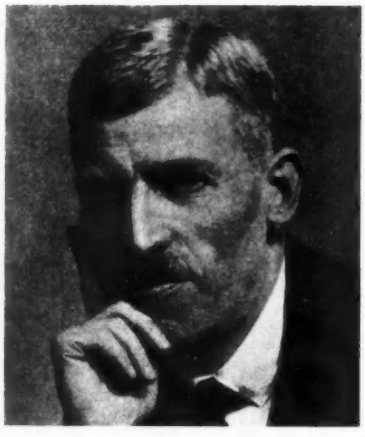
Mr. A. Seymour Reeves, Secretary of the Association of Architects, Surveyors and Technical Assistants, writes: "The lecture announced for January 25 at the Science Museum, S. Kensington (on the subject of Smoke Prevention) is unavoidably postponed. As we have not the addresses of a number of visitors who have attended the previous lectures, I can only inform them through your columns, with apologies for any inconvenience which may arise."

SCHOOL PRINCIPALS

• 8 •

THEODORE FYFE

CAMBRIDGE UNIVERSITY SCHOOL OF ARCHITECTURE



MR. THEODORE FYFE, M.A., F.R.I.B.A., began his architectural training in Glasgow, where he served in the office of Messrs. John Burnet, Son and Campbell. Proceeding to London, he worked in the office of Mr. Beresford Pite and of Messrs. Aston Webb and Ingress Bell. In 1899 he won an Architectural Association Travelling Studentship. In 1900 he obtained the Architectural Studentship of the British School at Athens. This was the commencement of four years' architectural and archæological experience abroad, the result of his appointment in 1900 by Mr. (afterwards Sir) Arthur Evans as architect to his excavations at Knossos, Crete. During this period and subsequently for shorter periods, he travelled extensively in Italy and the Mediterranean, including Egypt. From 1904 to 1915 he assisted Mr. (afterwards Sir) John Burnet on the British Museum Extension and other works, becoming his partner for a brief period, and having his own office in Gray's Inn Square from 1905.

He returned to practice at the end of 1920, and was appointed in 1922 by the Board of Architectural Studies at Cambridge as the first whole-time head of the University School of Architecture, where he has remained since; his present official position in the University under the Faculty Board of Fine Arts being the composite one of Director of the School, University Lecturer in Architecture and Head of the Department of Architecture.

Mr. Fyfe was elected a Fellow of the R.I.B.A. in 1907. He was made M.A. (*honoris causa*) of Cambridge in 1925, and in 1932 was awarded the Florence Bursary of the R.I.B.A. He has been architect to the Dean and Chapter of Chester Cathedral since 1921, and in 1926-7 directed excavations at Glastonbury Abbey for the Somerset Archæological Society. He has designed the Shaftesbury Institute Lodging Home for working women, Lisson Grove (1908), houses in Cambridge and Aldeburgh, a Class Room and Art Room Block for Chester Training College, various works of repair and reinstatement for Trinity and Corpus Christi Colleges, a Memorial Chapel, etc., at Ashton Hayes Church, near Chester, and several smaller works, war memorials, etc. He has also been responsible for the extensive repairs and reconstructions at Chester Cathedral.

He represents the R.I.B.A. on the Archæological Joint Committee at the British Museum and has served for many years, both before and after the war, on the Literature Standing Committee of the Institute. He has been a member of the Architectural Association since 1898 and was for several years one of the editors of the A.A. Sketch Book, as well as a lecturer at the A.A. on Greek and Roman Architecture. He is now Chairman of the Cambridge Chapter of the Essex, Cambridge and Hertfordshire Society of Architects.

London Architecture

SIR REGINALD BLOMFIELD AND "THE NEW STATESMAN"

Sir Reginald Blomfield, R.A., in a letter to *The New Statesman and Nation*, referred to an article published in that paper under the title "Vandalism in London." This article was quoted in the JOURNAL for December 21. Sir Reginald, in the course of his letter, said:

"My name is introduced in connection with a hypothetical destruction of famous buildings, and in order to drive the accusations of vandalism home, the comment ends with this sentence: 'On this Commission (on National Monuments) there should be no *knighted architects*, for they have a vested interest in the destruction of masterpieces.'

"I have to call your attention to the fact that the preservation both of the City churches and of Waterloo Bridge was largely due to my efforts, and you will find a full account of this in my *Memoirs of an Architect*. I have never, so far as I am aware, destroyed any 'masterpiece,' and throughout a long career have always done all in my power to save them.

"In these circumstances, I can only regard the remarks in *The New Statesman and Nation* of December 16, 1933, as a malicious personal attack, and must ask you to be good enough to insert a statement correcting those remarks in your paper. Your contributor appears to be ignorant of the facts, but attacks of this sort should not be made at random."

The *New Statesman*, in an editorial reply, says:

"Successful architects, including Bramante and Michelangelo, have always had a vested interest in the destruction of masterpieces, and we regret that Sir Reginald Blomfield should take offence at the statement of this truism. We are aware of the fine fight he made for the preservation of the City churches and of Waterloo Bridge. As to masterpieces it is no doubt a question of taste. Sir Reginald is

responsible for the building in Carlton Gardens which has excited such general reprobation, and he has published a scheme for replacing the whole of Carlton House Terrace by buildings of his own design. He is also largely responsible for the County Life Building, the Regent Street Quadrant, Swan and Edgar's and the other new Piccadilly Circus buildings, to make way for which the elegant structures of Nash were demolished. Presumably, Sir Reginald does not think highly of Regency architecture. Probably all architects have always thought that what they proposed to erect was preferable to what they proposed to destroy. And in many cases the architect has been right in this opinion. We should welcome the destruction of Carlton House Terrace, if Michelangelo were available to rebuild it. But while the architect is justified in wishing to exercise his art, the public is justified in often wishing to prevent him from doing so. Sir Edwin Lutyens reported in favour of demolishing Waterloo Bridge, and both he and Sir Giles Gilbert Scott prepared designs for replacing it. On that occasion Sir Reginald protested, as a member of the public. Is it unfair to presume that he would not welcome the presence of either of these eminent architects on a committee whose object was the preservation of the bridge?

"Many of us wish architects would show more enthusiasm for replacing the many squalid and degrading slums and for improving the character of suburban housing schemes, while we desire to see the rebuilding of the nobler parts of London postponed at least until a style is developed more satisfactory than the present official style, as exemplified in Sir Henry Tanner's Oxford Circus, Sir Reginald Blomfield's Piccadilly Circus, Sir Herbert Baker's South Africa House, Sir Edwin Lutyens's Grosvenor House, Sir Frank Baines's Thames House and Sir Edwin Cooper's Port of London Building. Looking at these buildings, and remembering what in most cases they replaced, we have no hesitation in repeating that their designers ought not to have a place on a committee designed to guarantee London architecture from demolition. We only wish that such a committee existed, for we are informed that at this moment Sir Herbert Baker is busy with plans for replacing the Georgian terrace in Dean's Yard with a fine new building in the Gothic style."

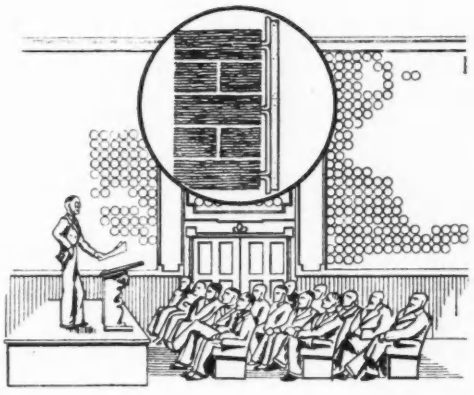
THE BUILDINGS ILLUSTRATED

Sub-Contractors' List

Following are the names of the general contractors and some of the sub-contractors for the buildings illustrated in this issue :—

Houses at Huyton (pages 114-116). General contractor, Robert O. Jones, Liverpool. Sub-contractors : Cement Marketing Co., Ltd., Snowcrete and coloured cement; Crittall Manufacturing Co., Ltd., metal windows; Sutton Heath and Lea Green Collieries, Ltd., rustic facings; Tushingham Metallic Brick Co., Ltd., common bricks; John Evans, Ltd., slates; Jones Bros., plastering; Wm. Evans & Co. (Manchester), Ltd., rough timber; Harry Fairclough, finished joinery; Falkirk Iron Co., fireplaces and sanitary fittings; W. T. Appleton, R.P.C., plumbing; Frank Collins, electrical work; Rowe Bros. and Co., Ltd., sanitary fittings; Quenby Fry & Co., Ltd., gates and fences; Adams & Co., Ltd., oak handrails, panels and plywood.

Stockbroker's Office (pages 122-123). Sub-Contractors : Frederick Tibbenham, Ltd., panelling and furniture; The Merchant Adventurers, electric light fittings in general office; Turners Cement Co., rubber flooring; Drake and Gorham, Ltd., electric wiring; Jas. Clark and Sons, marmorite top to counter.



TRADE NOTES

[*BY F. R. S. YORKE, A.R.I.B.A.*]

Acoustic Correction

I have received a letter from Buchanan Acoustic, Ltd. in which it is suggested that the method of Professor Emile Berliner—inventor of the microphone and disc phonograph and co-inventor of the Bell telephones—is simpler, cheaper and more easily applied in correcting acoustics in halls than the method of Alvar Aalto, of which I wrote in Trade Notes for December 21, 1933.

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In the course of a lecture delivered at a meeting of the American Institute of Architects Professor Berliner, explaining his system, first advanced the following propositions :—

(1) Every partly or nearly wholly enclosed body of air assumes a rhythmic vibration which will resound either as a tone or as a so-called reverberation whenever that air-body is agitated : the larger the volume of air, the slower the rhythm of the tone or of the reverberation will be.

(2) When the agitation is caused by any sound in the neighbourhood of the air-body whose vibration corresponds with the individual rhythm of the air-body, then the response will be strong and resonant.

(3) When the agitation is caused by a sound whose pitch is merely acoustically related to the rhythm of the air-body, then the resonance or the reverberation will be only noticeable.

(4) The harder or the more rigid the walls which enclose an air-body, the more intense will be its individual tone or its reverberation.

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When Professor Berliner commenced investigations that led to the development of the gramophone, he was troubled by the resonance of the horns he used as sound collectors. Individual notes would reproduce much louder than other notes of the same singer or from the same musical instrument.

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It occurred to him that the theories of individual resonance advanced in the four propositions quoted above might be further tested if he tried horns of pyramidical instead of conical shape—horns having four triangular wood or metal plates forming a sound chamber; their sides not rigid, as in the conical horn, but semi-elastic, each being a panel capable of free vibration within certain limits. His assumption that such a horn would reduce or eliminate individual resonance in recording proved correct, confirming the fourth proposition; that individual resonance or reverberation of enclosed air-bodies depends on the greater or lesser rigidity of walls enclosing air.

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Having examined acoustic requirements and difficulties experienced in large auditoriums, Professor Berliner cites the Tabernacle at Salt Lake City (seating 8,000 people) and the Wagner Theatre at Bayreuth (seating 2,000 people) as instances of halls with exceptionally good acoustic properties.

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Both are built of wood, or their interiors, at least, show wooden walls, and in the light of his fourth proposition he concludes that the elastic or vibratory character of wooden auditorium walls is mainly responsible for their excellent acoustical characteristics.

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There are, however, several objections to wood walls in large halls or auditoriums, and in the method developed by Professor Berliner a compromise has been effected by covering walls with elastic tympan discs which have the acoustic resonance of wood. This is accomplished by shaping discs so

that, when joined to the wall, they form vibratory diaphragms. As used at present the discs are eight inches in diameter and consist of round portions about a quarter of an inch thick, with projecting rims by which they are fastened to the wall.

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Existing churches, theatres or concert halls, with defective acoustics, may be corrected by covering sections of their interiors with these discs to a sufficient height to catch and reflect the voices of speakers and singers, as well as the tones of instruments and mechanical speech and music.

Coal Utilization Council

The Coal Utilization Council was formed in October, 1932, by the joint action of colliery owners, wholesalers, merchants and exporters, in order that producers and distributors of coal might co-operate on technical and commercial investigation and propaganda in an attempt to stimulate the consumption of coal fuel.

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In the other fuel trades, market development has been undertaken on co-operative lines. There have been organized publicity campaigns inspired from a common source, directed to a common object, and timed and arranged to create a cumulative effect. Their object has been to increase the total market for their fuel rather than to transfer an existing customer from one advertiser to another. Against these collective campaigns the efforts of the individual units in the coal trade by themselves appeared small and were proving unsuccessful.

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The Council sets out to collect and disseminate knowledge about coal for all purposes. The work falls naturally into two parts—research and propaganda. It is necessary to discover first what consumers of fuel want; then to show them in what way coal can supply that want.

This research does not entail laboratory work only. It includes market investigation and technical research embracing all problems concerned with preparation, consumption and commercial intelligence. It seeks to ascertain, for example, the problems and difficulties with which consumers are faced. How does the coal industry meet the demand for its products today? Can it improve the service to the consumer or supply him with something for which he now goes elsewhere? What information is available regarding new construction or re-equipment of factories, ships, houses or offices and possible orders for coal appliances and fuel?

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The programme includes a comprehensive investigation of the products and methods of the firms manufacturing and retailing various types of coal-burning appliances. With these manufacturers and distributors the Council desires to co-operate to the fullest possible extent, since it realizes that the finest fuel will not give full efficiency when it is used with obsolete appliances.

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Similarly, the Council looks for the co-operation of the gas and electrical industries (as large consumers of coal) in meeting the competition of imported fuel.

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Technical research will naturally involve close co-operation with the Department of Scientific and Industrial Research, the Fuel Research Board and other bodies, in order to avoid overlapping in investigation. I believe the Council has already been assured of the help and goodwill of the Department, and it hopes to act as a connecting link between the scientists on the one hand and the industry and the consumer on the other. Already there are several publications, issued by the Department and by other scientific bodies, containing the results so far achieved, which are by no means as widely known as they should be.

An electric light fitting at ceiling level, in the Paimio Sanatorium, Finland, designed by Alvar Aalto. The lamp throws direct *light downwards, gives* indirect *light in the zone of eyesight and* diffused *light from the ceiling.*

The branch concerned with the enlightenment of the coal user will not confine its activities to advising the domestic and industrial consumer, but, since the information supplied by the Council should be of practical value to architects, heating engineers and builders, a service will be devised, through which reliable information on any heating problem will be supplied immediately in response to applications to the Council's central or district office; and centres will be set up at which developments in fuel or fuel-burning apparatus can be demonstrated.

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It seems that one of the immediate problem towards which an organization setting out to sell coal, should direct its attention is that of smoke abatement.

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Here, I believe, lies the Coal Utilization Council's big opportunity; already much has been done to eliminate smoke in industrial plant, and now, I am told, the Council is about to offer a prize for the most effective device submitted in competition for preventing smoke from domestic coal-burning grates. Nothing is more likely to strengthen the cause of the British coal industry than the perfection of such a device, and the co-operation of the Coal Utilization Council and the Smoke Abatement Society in enforcing its universal application.

Electric Lighting Conferences

Following the successful lighting conferences held last spring, the Joint Committee of representatives of the architectural profession and the Lighting Service Bureau of the Electric Lamp Manufacturers' Association, has arranged a further series of conferences from January to March, 1934.

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The subjects selected and outlined in a programme obtainable from E.L.M.A. should be of interest to all architects. The subject of each conference will be dealt with in a practical manner by an expert and illustrated by new demonstrations and lantern slides. The general discussion following each address will be opened by an architect.

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The second conference of the series will be held at the Lighting Service Bureau, 2, Savoy Hill, W.C.2, on January 31. H. C. Wheat, A.M.I.E.E., will speak on Church Lighting (review of present-day conditions, principles of good lighting positioning, lighting intensities, susceptibilities of denominations in the use of light, relative costs of lighting systems and provision of lighting facilities). The discussion will be opened by E. B. Maufe, F.R.I.B.A.

Steel Houses

I understand an enquiry has been received in the Department of Overseas Trade for names of manufacturers of steel houses. Firms desirous of offering material manufactured in the United Kingdom may obtain details of this enquiry upon application to the Department of Overseas Trade, 35, Old Queen Street, London, S.W.1. Reference number G.Y. 13353 should be quoted.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILE RADIUS)

CATHERHAM. *Houses, Flats and Shops.* Plans passed by the U.D.C.: Six houses, Stafford Road, for Messrs. H. Streeter, Ltd.; two houses, Trenham Drive, for Mr. M. G. Sharp; 26 shops and flats, Hamsey Green, for Messrs. Johns and Freeland, on behalf of Messrs. Marstock, Ltd.; two shops and flats, Warlingham Green, for Messrs. J. A. Pettit & Co.; two houses, Elm Road, for Mr. A. E. Sabey; four houses, Farleigh Road, for Messrs. A. E. Guest, Ltd.; garage and showroom, Hamsey Green, for Mr. J. N. Coleman.

EAST HAM. *Houses and Hall.* Plans passed by the Corporation: Six houses, Church Road, for Mr. H. Harold; 20 houses, Landseer Avenue, for Mr. J. W. Lohden; 15 houses, Walton Road, for Mr. A. G. Mills; dance hall and billiard room, High Street, for Seymour Estates, Ltd.

FRIERN BARNET. *Houses and Flats.* Plans passed by the U.D.C.: Seven houses, Alexandra Road, for Mr. E. W. Palmer; 23 houses (amended plans), Buckingham Avenue, etc., for Messrs. C. F. Day; two flats, Church Way, etc., for Messrs. Nugent and Sons.

HAMPTON. *Flats, Houses and Workshops.* Plans passed by the U.D.C.: 12 flats, Upper Sunbury Road, for Messrs. Fox and Champion, Ltd.; two houses, Wensleydale Road, for Mr. W. Alexander; two houses, Priory Road, for Mr. W. J. Shepherd; workshops, Oldfield Road, for Mr. J. A. T. Napier.

ILFORD. *Houses, etc.* Plans passed by the Corporation: 11 houses, Grove Road, 16 houses, Primrose Avenue, and 34 houses, Mannin Road, for Messrs. P. Triplete, Ltd.; four houses, Brooklands Gardens, for Mr. W. M. Edwards; 16 houses, Southwood Gardens, for Mr. P. E. Brand; 20 houses, Nutfield Gardens, for Messrs. Hilbery Chaplin & Co.; 23 houses, Bergholt Road, 16 houses, Stonehall Avenue, and 8 houses, Bergholt Avenue, for Mr. P. G. Ashton; 20 houses, Fencepiece Road, three houses, Fernhall Drive, Gospel hall, Fencepiece Road, for Messrs. Haines and Warwick, Ltd.; eight houses, Ley Street, for Mr. R. A. J. Martin; 124 houses, Headley Drive, etc., for Mr. J. Aldridge; factory extension, Grove Road, for Mr. J. T. Perrin; eight houses, Westcliffe Gardens, for Mr. G. J. Manning; eight houses, Northwood Gardens, for Mr. A. Smith; 17 bungalows, Shenstone Gardens, for Mr. J. Giles; four houses, Natal Road, for Mr. W. L. Thompson.

WATFORD. *Houses, Shops and Flats.* Plans passed by the Corporation: Four houses, Denmark Street, for Mr. McKibbin; four houses, Pinner Road, for Messrs. Holt Bros.; three houses, Villiers Road, for Mr. H. V. Martin; four houses, Third Avenue, for Mr. T. S. Rose; 10 houses, Knutsford Avenue, for Mr. F. Pearce; shop premises, Whippendell Road, for Messrs. W. King and Son; 12 houses, Kingswood estate, for Messrs. Brockless and Wise; 18 houses, Holland Gardens, for Messrs. W. Farren and Sons; 14 houses, Second Avenue, for Messrs. Miles and Percival.

The Corporation is considering the acquisition of a site in the north ward for the erection of an branch library.

SOUTHERN COUNTIES

LANCING. *School.* West Sussex Education Committee is to erect a mixed senior school in the Lancing district at an estimated cost of £18,300.

NEWPORT (I.O.W.). *Houses.* The Corporation is to prepare amended plans for the erection of 22 additional houses on the Barton estate.

SWINDON. *Town Hall.* The Ministry of Health is to hold an inquiry into the proposal of the Corporation to extend the town hall at a cost of £60,000.

WORTHING. *Houses and Workshops.* Plans passed by the Corporation. Workshops, Boundary Road, for Messrs. W. J. Cearns, Ltd., on behalf of the Queen Alexandra Hospital Home; six houses, Salvington Road, for Mr. C. E. Sainsbury; 17 houses, Hurst Avenue, etc., for Mr. M. R. Fletcher; four houses, Pendine Avenue, etc., for Mr. E. J. Love; 165 houses, Meadow Road, etc., for Mr. H. M. Potter; two houses, Offington Drive, for Mr. L. Daynes Wood; two houses, Athelstan Road, for Mr. E. W. Sparks; five houses, Thalassa Road, etc., for Mr. A. T. W. Goldsmith; 10 houses, Morland Avenue, for Mr. R. Hasler.

SOUTH-WESTERN COUNTIES

BRISTOL. *Road and Houses.* The Corporation is to construct a road on the Knowle estate at a cost of £4,600, to provide for the erection of 80 houses by private enterprise.

PLYMOUTH. *Sanitary Conveniences.*—The Education Committee is to modernize the sanitary conveniences at 14 schools at a cost of £5,815.

PLYMOUTH. *Houses.* Plans passed by the Corporation: House and shop, Barne Road, for Mr. A. Shields; two houses, Edgecumbe Park estate, for Mr. E. Davey; eight houses, Pemros Road, for Mr. C. Jope; six houses, Vine estate, for Mr. R. H. Chapman; two houses, Orchard Road, for Mr. F. Westcott.

STAR CROSS. *Mental Institution.* The Devon, Dorset and Somerset county councils and the corporation of Exeter and Plymouth have now agreed upon a scheme for the erection of buildings for 1,000 mental patients at Star Cross.

TRURO. *Houses.* The Corporation is to arrange for the erection of about 150 houses, and is to obtain sites.

MIDLAND COUNTIES

BIRMINGHAM. *Houses and Flats.* In addition to schemes already sanctioned for the erection of 1,304 houses, the Corporation has arranged for the erection of another 392 on various estates, and is to acquire 39 acres at Stechford for a housing site.

The Corporation is to erect houses on various surplus sites throughout the city, at a cost of £35,000.

The Corporation is to develop land at Spring Hill and at South Yardley by the erection of houses and maisonettes, at a cost of £85,000.

The Corporation is to erect 16 maisonettes at Mount Street, at a cost of £3,335, and 21 houses at Earls Court Road, at a cost of £8,068.

BIRMINGHAM. *School.* The Education Committee has acquired a site at Lakey Lane, Hall Green, for the erection of an elementary school.

CORBY. *School.* The Northants Education Committee is to erect an elementary school for 600 at Corby, at an estimated cost of £31,500.

KETTERING. *Houses and Garage.* Plans passed by the U.D.C.: Four houses, Lower Street, for Mr. T. Wood; two houses, Kingsley Avenue, for Messrs. Phillips and Slow, Ltd.; garage for 100 buses, Northampton Road, for United Counties Bus Co., Ltd.; six houses, The Crescent, for Miss D. A. Smith; shop and house, London Road, for Mr. P. Cook; two houses, Blandford Avenue, for Messrs. W.Riddle and Son.

SUTTON COLDFIELD. *Estate layout.* The Corporation has approved the layout of the Holland House estate, provision being made for nine acres for educational purposes.

NORTHERN COUNTIES

BARROW-IN-FURNESS. *Houses.* Plans passed by the Corporation: 62 houses, Flass Lane, for Messrs. J. Shillington & Co.; four houses, Ilkley Road, for Messrs. Neal and Atkinson, Ltd.; 16 houses, Jarrow Street, for Messrs. Styles and Bates; six houses, Yarlside Road, for Mr. W. H. Paul.

BISHOPTHORPE. *Houses and Shops.* Plans passed by the R.D.C.: Six houses, North Lane, Dringhouses, for Mr. W. W. Leggett; three shops, Meek's Cottages, Dringhouses, for Mr. J. Hetherton.

BLACKPOOL. *Depôt.* The Corporation is seeking sanction to borrow £32,454 for the erection of a new highways depôt.

BLACKPOOL. *Houses, Shops, etc.* Plans passed by the Corporation: Five shops and houses, Devonshire Road, for Messrs. R. Fielding and Son; two houses, Northgate Road, for Mr. W. Hutton; hotel, Clifton Drive, for Mr. H. Jarrett; two houses, Bentinck Avenue, for Mr. G. T. Caughlin; 26 houses, Babbacombe Avenue, for Messrs. A. and G. R. Fletcher; eight houses, Stoney Hill Avenue, for Mr. G. Woodhead; two houses, Luton Road, for Messrs. Findlay and Watson; eight houses, Mansfield Road, for Messrs. J. Fielding and Sons; house and public garage, Devonshire Road, for Mr. T. Holland; three houses, Bloomfield Road, for Mr. W. Hornby; 16 houses and shops, Highfield Road, for Messrs. Hitchen and Bairstow; three houses, Daggers Hill Lane, for Mr. H. G. Mason; six houses, Manchester Road, for Messrs. Cardwell Bros.; 24 houses, off St. Annes Road, for Messrs. Hodgson and Whittaker; church, Grasmere Road, for Methodist trustees; cinema and shops, Lytham Road, for Majestic Cinema Co.; ice-cream factory, Back Charnley Road, for Messrs. J. and D. Pablo; 36 houses, Holyoake Avenue, for Warbrack Building Co., Ltd.

BOOTLE. *Houses.* The Corporation has approved plans for the clearance of the Pleasant View area and the erection thereon of 111 houses, and tenders for 60 are to be obtained forthwith.

The Corporation is to obtain tenders for the erection of 108 houses on the Caddick's estate.

CARLISLE. *Housing Scheme.* The Corporation is obtaining four acres in the vicinity of Margery Street for a housing scheme.

CARLISLE. *Houses and Shops.* Plans passed by the Corporation: Nine houses, Bower Street, for Messrs. Benwell & Slack; shop and two houses, Durranhill Road, and alterations, 64-6, Warwick Road, for Mr. H. Irving Graham; 148 houses, Currock estate, for Mr. H. E. Scarborough on behalf of Messrs. J. Laing and Son, Ltd.; 14 houses, Brunton Crescent, for Mr. E. J. Hill.

FLAXTON. *Houses, etc.* Plans passed by the R.D.C.: Estate lay-out, Stockton Lane, for Mr. F. Bean; six houses, Osbaldwick Lane, for Messrs. W. Birch & Sons, Ltd.; two houses, Galtres estate, for Mr. E. V. Hunter; store cocoa works, Haxby Road, for Messrs. Rowntree & Co., Ltd.; 18 houses, Elmfield estate, for Estate Colblock; flats, Muncaster estate, for Messrs. Collins and Murray; Plans submitted: 27 houses, Burnholme Avenue, for Mr. J. N. Dunn.

MORECAMBE. *Boating and Paddling Pool.* The Corporation has approved a scheme for the construction of a boating and paddling pool on the foreshore, opposite Sandylands promenade, at an estimated cost of £3,200.

WALES

CARDIFF. *Houses.* The Corporation proposes to proceed with the erection of a further 500 houses on the estates at Ely and Tremorfa.

CARDIFF. *Electricity Showrooms and Offices.* The Corporation has asked the city engineer and the electrical engineer to prepare plans and estimates for the conversion of the fish market premises into offices and showrooms for the electricity department.

CARDIFF. *School.* The Education Committee is seeking sanction to borrow £18,339 for the erection of the proposed Baden Powell school.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I	II
			s. d.	s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A_1	Abergavenny ..	S. Wales & M.	1 5	1 0½
A_3	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1¼
A_3	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1¼
A	Airdrie ..	Scotland	*1 5½	1 1¼
C	Aldeburgh ..	E. Counties	1 1½	10½
A	Altrincham ..	N.W. Counties	1 5½	1 1¼
B_3	Appleby ..	N.W. Counties	1 2	10½
A	Ashton-under-Lyne	N.W. Counties	1 5½	1 1¼
A_3	Atherstone ..	Mid. Counties	1 4	1 0
B_2	Aylesbury ..	S. Counties	1 2½	11
B_1	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_2	Barnard Castle ..	N.E. Coast	1 4	1 0
A_2	Barnsley ..	Yorkshire	1 5½	1 1¼
B	Barnstaple ..	S.W. Counties	1 3½	11¾
A	Barrow ..	N.W. Counties	1 5½	1 1¼
A	Barry ..	S. Wales & M.	1 5½	1 1¼
B_1	Basingstoke ..	S.W. Counties	1 3	11½
A_3	Bath	S.W. Counties	1 4	1 0
A	Batley ..	Yorkshire	1 5½	1 1¼
A_3	Bedford ..	E. Counties	1 4	1 0
A_2	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_3	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	*1 7	1 2½
A	Birmingham ..	Mid. Counties	1 5½	1 1¼
A_1	Bishop Auckland ..	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1¼
A	Blackpool ..	N.W. Counties	1 5½	1 1¼
A	Blyth ..	N.E. Coast	1 5½	1 1¼
B_2	Bognor ..	S. Counties	1 2½	11
A	Bolton ..	N.W. Counties	1 5½	1 1¼
A	Boston ..	Mid. Counties	1 4	1 0
A	Bournemouth ..	S. Counties	1 4	1 0
B_2	Bovey Tracey ..	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1¼
A_1	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M.	1 5½	1 1¼
B_1	Bridgwater ..	S.W. Counties	1 3	11½
A_1	Bridlington ..	Yorkshire	1 5	1 0½
A	Brighouse ..	Yorkshire	1 5½	1 1¼
A_3	Brighton ..	S. Counties	1 4	1 0
A	Bristol ..	S.W. Counties	1 5½	1 1¼
B_3	Brixham ..	S.W. Counties	1 2	10½
A_2	Bromsgrove ..	Mid. Counties	1 4½	1 0½
C_2	Bromyard ..	Mid. Counties	1 1½	10½
A	Burnley ..	N.W. Counties	1 5½	1 1¼
A	Burslem ..	Mid. Counties	1 5½	1 1¼
A	Burton-on-Trent	Mid. Counties	1 5½	1 1¼
A	Bury ..	N.W. Counties	1 5½	1 1¼
A_1	Buxton ..	N.W. Counties	1 5	1 0½
A_2	CAMBRIDGE ..	E. Counties	1 4½	1 0½
B_2	Canterbury ..	S. Counties	1 2½	11
A	Cardiff ..	S. Wales & M.	1 5½	1 1¼
A	Carlisle ..	N.W. Counties	1 5½	1 1¼
B	Carmarthen ..	S. Wales & M.	1 3½	11¾
B	Carnarvon ..	N.W. Counties	1 3½	11¾
A	Carnforth ..	N.W. Counties	1 5½	1 1¼
A	Castleford ..	Yorkshire	1 5½	1 1¼
B	Chatham ..	S. Counties	1 3½	11¾
B	Chelmsford ..	E. Counties	1 3½	11¾
A_3	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester ..	N.W. Counties	1 5½	1 1¼
A	Chesterfield ..	Mid. Counties	1 5½	1 1¼
B_2	Chichester ..	S. Counties	1 2½	11
A	Chorley ..	N.W. Counties	1 5½	1 1¼
B_2	Cirencester ..	S. Counties	1 2½	11
A	Clitheroe ..	N.W. Counties	1 5½	1 1¼
A	Clydebank ..	Scotland	1 5½	1 1¼
A	Coalville ..	Mid. Counties	1 5½	1 1¼
A_3	Colchester ..	E. Counties	1 4	1 0
A	Colne ..	N.W. Counties	1 5½	1 1¼
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_1	Consett ..	N.E. Coast	1 5	1 0½
A_2	Conway ..	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1¼
A_2	Crewe	N.W. Counties	1 4½	1 0½
A_3	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1¼
A	Darwen ..	N.W. Counties	1 5½	1 1¼
A_2	Deal	S. Counties	1 2½	11
A_3	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby ..	Mid. Counties	1 5½	1 1¼
A	Dewsbury ..	Yorkshire	1 5½	1 1¼
B	Didcot ..	S. Counties	1 3½	11¾
A	Doncaster ..	Yorkshire	1 5½	1 1¼
B_2	Dorchester ..	S.W. Counties	1 2½	11
A_3	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley ..	Mid. Counties	1 5½	1 1¼
A	Dundee ..	Scotland	1 5½	1 1¼
A	Durham ..	N.E. Coast	1 5½	1 1¼
A_3	EASTBOURNE	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1¼
A_1	E. Glamorgan-shire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter ..	S.W. Counties	*1 4½	1 0½
B_1	Exmouth ..	S.W. Counties	1 3	11½
A_2	FELIXSTOWE	E. Counties	1 4	1 0
A_2	Filey	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1¼
B_2	Folkestone ..	S. Counties	1 2½	11
A	Frodsham ..	N.W. Counties	1 5½	1 1¼
B_2	Frome	S.W. Counties	1 2½	11
A_2	GATESHEAD	N.E. Coast	1 5½	1 1¼
B	Gillingham ..	S. Counties	1 3½	11¾
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole	Yorkshire	1 4½	1 0½
A	Gosport ..	S. Counties	1 4	1 0
A_3	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0½
A	Greenock ..	Scotland	*1 5½	1 1¼
A	Grimsby ..	Yorkshire	1 5½	1 1¼
B_1	Guildford ..	S. Counties	1 3	11½
A	HALIFAX ..	Yorkshire	1 5½	1 1¼
A	Hanley	Mid. Counties	1 5½	1 1¼
A	Harrogate ..	Yorkshire	1 5½	1 1¼
A	Hartlepools ..	N.E. Coast	1 5½	1 1¼
B	Harwich ..	E. Counties	1 3½	11¾
B_2	Hastings ..	S. Counties	1 2½	11
A_3	Hatfield ..	S. Counties	1 4	1 0
B	Hereford ..	S.W. Counties	1 3½	11¾
A_3	Hertford ..	E. Counties	1 4	1 0
A	Heysham ..	N.W. Counties	1 5½	1 1¼
A	Howden ..	N.E. Coast	1 5½	1 1¼
A	Huddersfield ..	Yorkshire	1 5½	1 1¼
A	Hull ..	Yorkshire	1 5½	1 1¼
A	ILKLEY ..	Yorkshire	1 5½	1 1¼
A	Immingham ..	Mid. Counties	1 5½	1 1¼
A_3	Ipswich ..	E. Counties	1 4	1 0
B_2	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1¼
A	KEIGHLEY ..	Yorkshire	1 5½	1 1¼
B	Kendal ..	N.W. Counties	1 3½	11¾
B	Keswick ..	N.W. Counties	1 3½	11¾
A	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster ..	Mid. Counties	1 4½	1 0½
B_2	King's Lynn ..	E. Counties	1 2½	11
A	LANCASTER ..	N.W. Counties	1 5½	1 1¼
A_1	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1¼
A	Leek	Mid. Counties	1 5½	1 1¼
A	Leicester ..	Mid. Counties	1 5½	1 1¼
A	Leigh	N.W. Counties	1 5½	1 1¼
B_3	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln	Mid. Counties	1 5½	1 1¼
	Liverpool ..	N.W. Counties	*1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly	S. Wales & M.	1 5½	1 1¼
	London (12-miles radius)		1 7	1 2½
	Do. (12-15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1¼
A	Loughborough ..	Mid. Counties	1 5½	1 1¼
A_3	Luton	E. Counties	1 4	1 0
A	Lytham	N.W. Counties	1 5½	1 1¼
A_1	MACCLESFIELD	N.W. Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11¾
A_3	Malvern ..	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1¼
A	Mansfield ..	Mid. Counties	1 5½	1 1¼
B	Margate ..	S. Counties	1 3	11½
A	Matlock ..	Mid. Counties	1 4	1 0
A_1	Merthyr ..	S. Wales & M.	1 5	1 0½
A	Middesbrough	N.E. Coast	1 5½	1 1¼
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth .. & S. and E. Glamorganshire	S. Wales & M.	1 2½	11
A	Morecambe ..	N.W. Counties	1 5½	1 1¼
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1¼
A	Nelson ..	N.W. Counties	1 5½	1 1¼
A	Newcastle ..	N.E. Coast	1 5½	1 1¼
A	Newport ..	S. Wales & M.	1 5½	1 1¼
A	Normanton ..	Yorkshire	1 5½	1 1¼
A	NORTHAMPTON ..	Mid. Counties	1 5	1 0½
A	North Staffs ..	Mid. Counties	1 5½	1 1¼
A	North Shields ..	N.E. Coast	1 5½	1 1¼
A_2	Norwich ..	E. Counties	1 4½	1 0½
A	Nottingham ..	Mid. Counties	1 5½	1 1¼
A	Nuneaton ..	Mid. Counties	1 5½	1 1¼
A_3	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham	N.W. Counties	1 5½	1 1¼
A_3	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	*1 5½	1 1¼
B_3	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth	Scotland	*1 5½	1 1¼
A_2	Peterborough ..	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	*1 5½	1 1¼
A	Pontefract ..	Yorkshire	1 5½	1 1¼
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_3	Portsmouth ..	S. Counties	1 4	1 0
A	Preston	N.W. Counties	1 5½	1 1¼
A	QUEENSFERRY	N.W. Counties	1 5½	1 1¼
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate	S. Counties	1 3½	11¾
A_3	Retford	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A_2	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1¼
B	Rochester ..	S. Counties	1 3½	11¾
A_1	Ruabon	N.W. Counties	1 5	1 0½
A	Rugby	Mid. Counties	1 5½	1 1¼
A_2	Rugeley	Mid. Counties	1 4	1 0
A	Runcorn	N.W. Counties	1 5½	1 1¼
A_2	ST. ALBANS ..	E. Counties	1 4½	1 0½
A	St. Helens ..	N.W. Counties	1 5½	1 1¼
B_3	Salisbury ..	S.W. Counties	1 2	10½
A_1	Scarborough ..	Yorkshire	1 5	1 0½
A	Scunthorpe ..	Mid. Counties	1 5½	1 1¼
A	Sheffield ..	Yorkshire	1 5½	1 1¼
A	Shipley	Yorkshire	1 5½	1 1¼
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton	Yorkshire	1 4½	1 0½
A_3	Slough	S. Counties	1 4	1 0
A	Solihull	Mid. Counties	1 4½	1 0½
A_2	Southampton ..	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport ..	N.W. Counties	1 5½	1 1¼
A	S. Shields ..	N.E. Coast	1 5½	1 1¼
A_2	Stafford	Mid. Counties	1 4½	1 0½
A	Stockport	N.W. Counties	1 5½	1 1¼
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1¼
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1¼
B	Stroud	S.W. Counties	1 3½	11¾
A	Sunderland ..	N.E. Coast	1 5½	1 1¼
A	Swadlincote ..	Mid. Counties	1 5½	1 1¼
A	Swansea	S. Wales & M.	1 5½	1 1¼
A_3	Swindon	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton	S.W. Counties	1 3½	11¾
A	Teesside Dist. ..	N.E. Counties	1 5½	1 1¼
A_3	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1¼
A_1	Torquay	S.W. Counties	1 5	1 0½
C	Truro	S.W. Counties	1 1½	10½
B	Tunbridge Wells	S. Counties	1 3½	11¾
A	Tunstall	Mid. Counties	1 5½	1 1¼
A	Tyne District ..	N.E. Coast	1 5½	1 1¼
A	WAKEFIELD	Yorkshire	1 5½	1 1¼
A	Walsall	Mid. Counties	1 5½	1 1¼
A	Warrington ..	N.W. Counties	1 5½	1 1¼
A_1	Warwick	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A_2	West Bromwich	Mid. Counties	1 5½	1 1¼
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby	Yorkshire	1 4½	1 0½
A	Widnes	N.W. Counties	1 5½	1 1¼
A	Wigan	N.W. Counties	1 5½	1 1¼
B_1	Winchester ..	S. Counties	1 3	11½
A_3	Windsor	S. Counties	1 4	1 0
A	Wolverhampton	Mid. Counties	1 5½	1 1¼
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_2	Worksop	Yorkshire	1 4	1 0
A_1	Wrexham	N.W. Counties	1 5	1 0½
A_3	Wycombe	S. Counties	1 4	1 0
B_1	YARMOUTH ..	E. Counties	1 3	11½
B_1	Yeovil	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	1 1¼

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	£ s. d.
Bricklayer . . . . per hour	1 7
Carpenter . . . . ,,	1 7
Joiner . . . . ,,	1 7
Machinist . . . . ,,	1 8
Mason (Banker) . . . . ,,	1 7
,, (Fixer) . . . . ,,	1 8
Plumber . . . . ,,	1 7
Painter . . . . ,,	1 6
Paperhanger . . . . ,,	1 6
Glazier . . . . ,,	1 7
Slater . . . . ,,	1 7
Scaffolder . . . . ,,	1 3
Timberman . . . . ,,	1 3
Navvy . . . . ,,	1 2½
General Labourer . . . . ,,	1 2½
Lorryman . . . . ,,	1 5
Crane Driver . . . . ,,	1 6
Watchman . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£ s. d.
Grey Stone Lime . . . . per ton	2 2 0
Blue Lias Lime . . . . ,,	1 16 6
Hydrated Lime . . . . ,,	3 0 9
Portland Cement . . . . ,,	2 6 0
Rapid Hardening Cement . . . ,,	2 13 6
White Portland Cement . . . ,,	8 15 0
Thames Ballast . . . . per Y.C.	6 3
¾" Crushed Ballast . . . ,,	6 9
Building Sand . . . . ,,	7 3
Washed Sand . . . . ,,	8 3
2" Broken Brick . . . . ,,	8 0
¾" ,, ,, ... ,,	10 3
Pan Breeze . . . . ,,	6 6
Coke Breeze . . . . ,,	8 9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

		4" s. d.	6" s. d.
Straight Pipes	per F.R.	0 9	1 1
Bends	each	1 9	2 6
Taper Bends	,,	3 6	5 3
Rest Bends	,,	4 3	6 3
Single junctions	,,	3 6	5 3
Double ,,	,,	4 9	6 6
Straight channels	per F.R.	1 6	2 6
¾" Channel bends	each	2 9	4 0
Channel junctions	,,	4 6	6 6
Channel tapers	,,	2 9	4 0
Yard gullies	,,	6 9	8 9
Interceptors	,,	16 0	19 6
IRON DRAINS:			
Iron drain pipe	per F.R.	1 6	2 6
Bends	each	5 0	10 6
Inspection bends	,,	9 0	15 0
Single junctions	,,	8 9	18 0
Double junctions	,,	13 6	30 0
Lead wool	lb.	6	—
Gaskin	,,	5	—

BRICKLAYER

	£ s. d.
Flettons . . . . per M.	2 18 0
Grooved do. . . . . ,,	3 0 0
Phorpres bricks . . . . ,,	2 18 0
Stocks, 1st quality . . . ,,	4 11 0
,, 2nd ,, . . . ,,	4 2 6
Blue Bricks, Pressed . . . ,,	8 17 6
,, Wirecuts . . . ,,	7 17 6
,, Brindles . . . ,,	7 0 0
,, Bullnose . . . ,,	9 0 0
Red Sand-faced Facings . . ,,	6 18 6
Red Rubbers for Arches . . ,,	12 0 0
Multicoloured Facings . . ,,	7 10 0
Luton Facings . . . ,,	7 10 0
Phorpres White Facings . . ,,	3 17 3
Phorpres Rustic Facings . . ,,	3 12 3
Midhurst White Facings . . ,,	5 0 0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:	
Stretchers . . . . ,,	21 0 0
Headers . . . . ,,	20 10 0
Bullnose . . . . ,,	27 10 0
Double Stretchers . . . ,,	29 10 0
Double Headers . . . ,,	26 10 0
Glazed Second Quality, *Less* . . ,,	1 0 0
,, Buffs and Creams, *Add* . ,,	2 0 0
,, Other Colours . . ,,	5 10 0
2" Breeze Partition Blocks . . per Y.S.	1 7
2½" ,, ,, ,, . . ,,	1 10
3" ,, ,, ,, . . ,,	2 1
4" ,, ,, ,, . . ,,	2 6

MASON

	s. d.
The following d/d F.O.R. at Nine Elms:	
Portland stone, Whitbed . . F.C.	4 4½
,, ,, Basebed . . ,,	4 9
Bath stone . . . . ,,	2 11
York stone . . . . ,,	6 6
,, ,, Sawn templates . ,,	7 6
,, ,, Paving, 2" . . F.S.	1 8
,, ,, ,, 3" . . ,,	2 6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£ s. d.
24" × 12" Duchesses . . per M.	28 17 6
22" × 12" Marchionesses . ,,	24 10 0
20" × 10" Countesses . . ,,	19 5 0
18" × 10" Viscountesses . ,,	15 10 0
18" × 9" Ladies . . . ,,	13 17 6
Westmorland green (random sizes) . per ton	8 10 0
Old Delabole slates d/d in full truck loads to Nine Elms Station:	
20" × 10" medium grey per 1,000 (actual)	21 11 6
,, green ,, ,,	24 7 4
Best machine roofing tiles . . ,,	4 10 0
Best hand-made do. . . . ,,	5 0 0
Hips and valleys . . . each	9½
,, hand-made . . . ,,	10
Nails, compo . . . . lb.	1 4
,, copper . . . . ,,	1 6

CARPENTER AND JOINER

	s. d.
Good carcassing timber . . F.C.	2 2
Birch . . . . as 1" F.S.	9
Deal, Joiner's . . . ,, ,,	5
,, ,, 2nds . . ,, ,,	4
Mahogany, Honduras . . ,,	1 3
,, African . . ,, ,,	1 1
,, Cuban . . ,, ,,	2 6
Oak, plain American . . ,, ,,	1 0
,, Figured ,, . . ,, ,,	1 3
,, Plain Japanese . . ,, ,,	1 2
,, Figured ,, . . ,, ,,	1 5
,, Austrian wainscot . ,, ,,	1 6
,, English . . . ,, ,,	1 11
Pine, Yellow . . . ,, ,,	1 0
,, Oregon . . . ,, ,,	4
,, British Columbian . ,, ,,	4
Teak, Moulmein . . . ,, ,,	1 3
,, Burma . . . ,, ,,	1 2
Walnut, American . . ,, ,,	2 3
,, French . . ,, ,,	2 3
Whitewood, American . . ,, ,,	1 1
Deal floorings, ⅜" . . Sq.	18 6
,, ½" . . ,,	1 1 6
,, ¾" . . ,,	1 2 0
,, 1" . . ,,	1 5 0
,, 1¼" . . ,,	1 10 0
Deal matchings ⅜" . . ,,	14 0
,, ½" . . ,,	15 6
,, 1" . . ,,	1 4 0
Rough boarding ½" . . ,,	16 0
,, 1" . . ,,	18 0
,, 1¼" . . ,,	1 6 0

Plywood, per ft. sup.

Thickness	⅛"	¼"	⅜"	½"
Qualities	AA. A. B.	AA. A. B.	AA. A. B.	AA. A. B.
	d. d. d.	d. d. d.	d. d. d.	d. d. d.
Birch	4 3 2	5 4 3	7½ 6 4½	8½ 7 6
Alder	3½ 3 2	5 4 3	6½ 5½ 4½	8 7 6
Gaboon Mahogany	4 3 3	6½ 5½ 4½	9½ 7½ –	1/0½ 10 –
Figured Oak 1 side	8½ 7 –	10 8 –	11½ – –	1/6 – –
Plain Oak 1 side	6½ 6 –	7½ 7 –	9½ – –	1/– – –
Oregon Pine	5 4 –	5½ 5 –	6 – –	– – –

	d
Scotch glue . . . . lb.	8

SMITH AND FOUNDER

Tubes and Fittings:

(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	¼"	⅜"	½"	¾"	1"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9
,, 3"-11½" long ,,	7	9	1/3	1/8	3/–
Long screws, 12"-23½" long ,,	11	1/3	2/2	2/10	5/3
,, ,, 3"M-½" long ,,	8	10	1/5	1/11	3/6
Bends . . . . ,,	8	11	1/7½	2/7½	5/2
Springs not socketed . ,,	5	7	1/1½	1/11½	3/11
Socket unions . . ,,	2/–	3/–	5/6	6/9	10/–
Elbows, square . . ,,	10	1/1	1/6	2/2	4/3
Tees . . . . ,,	1/–	1/3	1/10	2/6	5/1
Crosses . . . . ,,	2/2	2/9	4/1	5/6	10/6
Plain Sockets and nipples ,,	3	4	6	8	1/3
Diminished sockets . ,,	4	6	9	1/–	2/–
Flanges . . . ,,	9	1/–	1/4	1/9	2/9
Caps . . . . ,,	3½	5	8	1/–	2/–
Backnuts . . . ,,	2	3	5	6	1/1
Iron main cocks . . ,,	1/6	2/3	4/2	5/4	11/6
,, ,, with brass plugs ,,	—	4/–	7/6	10/–	21/–

Discounts:

TUBES.

	Per cent.		Per cent.
Gas	65	Galvanized gas	52½
Water	61½	,, water	47½
Steam	57½	,, steam	42½

FITTINGS.

Gas	57½	Galvanized gas	47½
Water	52½	,, water	42½
Steam	47½	,, steam	37½

SMITH AND FOUNDER—*continued*

	s. d.
Rolled steel joists cut to length . . cwt.	10 9
Mild steel reinforcing rods, ⅜" . . ,,	8 6
,, ,, ½" . . ,,	8 3
,, ,, ⅝" . . ,,	8 0
,, ,, ¾" . . ,,	7 6
,, ,, ⅞" . . ,,	7 6
,, ,, 1" . . ,,	7 6
,, ,, 1¼" . . ,,	7 6
,, ,, 1½" . . ,,	7 6

	3" s. d.	4" s. d.
Cast-iron rain-water pipes of ordinary thickness metal . F.R	8	10
Shoes . . . . each	2 0	3 0
Anti-splash shoes . . ,,	4 6	8 0
Boots . . . . ,,	3 0	4 0
Bends . . . . ,,	2 7	3 9
,, with access door . ,,	—	6 3
Heads . . . . ,,	4 0	5 0
Swan-necks up to 9" offsets . ,,	3 9	6 0
Plinth bends, 4½" to 6" . ,,	3 9	5 3
Half-round rain-water gutters of ordinary thickness metal . F.R	5	6
Stop ends . . . . each	6	6
Angles . . . . ,,	1 7	1 11
Obtuse angles . . . ,,	2 0	2 6
Outlets . . . . ,,	1 9	2 3

PLUMBER

	£ s. d.
Lead, milled sheets . . . cwt.	1 0 6
,, drawn pipes . . . ,,	17 6
,, soil pipe . . . ,,	1 0 6
,, scrap . . . ,,	11 0
Solder, plumbers' . . . lb.	10
,, fine do. . . . ,,	1 0
Copper, sheet . . . ,,	8½
,, tubes . . . ,,	11

L.C.C soil and waste pipes:	3"	4"	6"
Plain cast . F.R.	1 0	1 2	2 6
Coated . ,,	1 1	1 3	2 8
Galvanized . ,,	2 0	2 6	4 6
Holderbats . each	3 10	4 0	4 9
Bends . ,,	3 9	5 3	10 3
Shoes . ,,	2 10	4 4	9 6
Heads . ,,	4 8	8 5	12 9

PLASTERER

	£ s. d.
Lime, chalk . . . per ton	2 5 0
Plaster, coarse . . . ,,	2 10 0
,, fine . . . ,,	4 15 0
Hydrated lime . . . ,,	3 0 9
Sirapite . . . ,,	3 6 0
Keene's cement . . . ,,	5 0 0
Sand, washed . . . Y.C.	11 6
Hair . . . . lb.	6
Laths, sawn . . . bundle	2 4
,, rent . . . ,,	3 9
Lath nails . . . lb.	3½

GLAZIER

	s. d.	s. d.
Sheet glass, 21 oz., squares n/e 2 ft.	s. F.S.	2½
,, ,, 26 oz. ,, ,, ,, ,,		3½
Arctic glass, white . . . ,,		7
Cathedral glass, white, dbl.-rolled, plain, hammered, rimpled, waterwite,		6½
⅛" Hartley's rough rolled . ,,		7
⅛" ,, wired cast . ,,		10
⅛" Georgian wired cast . ,,		11
¼" Polished plate, n/e 1 ft. . ,,	†7½ to ‡1	0
,, ,, 2 . ,,	†10 ,, ‡1	3½
,, ,, 3 . ,,	†1 4½ ,, ‡1	10
,, ,, 4 . ,,	†1 11 ,, ‡2	4
,, ,, 6 . ,,	†2 3 ,, ‡2	7½
,, ,, 8 . ,,	†2 5 ,, ‡3	0½
,, ,, 12 . ,,	†2 10 ,, ‡3	3½
,, ,, 20 . ,,	†3 3½ ,, ‡3	9
,, ,, 45 . ,,	†3 6½ ,, ‡4	0½
,, ,, 65 . ,,	†3 11½ ,, ‡4	4
,, ,, 90 . ,,	†4 4 ,, ‡4	9
,, ,, 100 . ,,	†4 6 ,, ‡4	11
Vita glass, sheet, n/e 1 ft. . ,,		1 0
,, ,, ,, 2 . ,,		1 3
,, ,, ,, over 2 . ,,		1 9
,, ,, plate, n/e 1 ft. . ,,		1 6
,, ,, ,, 2 . ,,		3 0
,, ,, ,, 5 . ,,		4 0
,, ,, ,, 7 . ,,		5 0
,, ,, ,, 15 . ,,		6 0
,, ,, ,, over 15 . ,,		7 6
Putty, linseed oil . . . lb.		3

†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

	£ s. d.
White lead . . . . cwt.	2 8 0
Linseed oil . . . . gall.	2 2½
Boiled oil . . . . ,,	2 4½
Turpentine . . . . ,,	4 1½
Patent knotting . . . ,,	14 0
Distemper, washable . . cwt.	2 6 0
,, ordinary . . ,,	2 0 0
Whitening . . . . ,,	4 0
Size, double . . . firkin	3 0
Copal varnish . . . gall.	13 0
Flat varnish . . . ,,	14 0
Outside varnish . . . ,,	16 0
White enamel . . . ,,	1 15 0
Ready-mixed paint . . ,,	13 6
Brunswick black . . ,,	7 6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR		£ s. d.
Digging over surface n/e 12" deep and cart away	Y.S.	2 9
" to reduce levels n/e 5' 0" deep and cart away	Y.C.	8 6
" to form basement n/e 5' 0" deep and cart away	"	9 0
" " 10' 0" deep and cart away	"	9 6
" " 15' 0" deep and cart away	"	10 0
If in stiff clay	add	2 6
If in underpinning	"	4 0
Planking and strutting to sides of excavation	F.S.	1 0
" " to pier holes	"	5
" " to trenches	"	5
" " extra, only if left in	"	3
Hardcore, filled in and rammed	Y.C.	10 0
Portland cement concrete in foundations (6-1)	"	1 6 0
" " (4-2-1)	"	1 12 6
" " underpinning	"	1 16 0
Finishing surface of concrete, spade face	Y.S.	7

DRAINLAYER		4" s. d.	6" s. d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1 6	2 3
Extra, only for bends	Each	2 8	3 9
" junctions	"	3 9	4 6
Gullies and gratings	"	16 6	18 0
Cast iron drains, and laying and jointing	F.R.	4 9	6 9
Extra, only for bends	Each	10 6	15 6

BRICKLAYER		£ s. d.
Brickwork, Flettons in lime mortar	Per Rod	27 10 0
" " in cement	"	28 15 0
" Stocks in cement	"	35 0 0
" Blues in cement	"	52 0 0
Extra only for circular on plan	"	2 0 0
" backing to masonry	"	1 10 0
" raising on old walls	"	2 0 0
" underpinning	"	5 10 0
Fair Face and pointing internally	F.S.	1½
Extra over fletton brickwork for picked stock facings and pointing	"	8¼
" " " red brick facings and pointing	"	11
" " " blue brick facings and pointing	"	1 4
" " " glazed brick facings and pointing	"	3 6
Tuck pointing	"	7
Weather pointing in cement	"	3½
Slate dampcourse	"	10
Vertical dampcourse	"	1 1

ASPHALTER		s. d.
½" Horizontal dampcourse	Y.S.	4 6
½" Vertical dampcourse	"	6 9
½" paving or flat	"	4 0
1" paving or flat	"	5 6
1" × 6" skirting	F.R.	1 0
Angle fillet	"	2
Rounded angle	"	2
Cesspools	Each	5 0

MASON		s. d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C.	17 9
Bath stone and do., all as last	"	13 6
Artificial stone and do.	"	13 0
York stone templates, fixed complete	"	10 6
" thresholds	"	13 6
" sills	"	1 0 6

SLATER AND TILER		£ s. d.
Slating, Bangor or equal, laid to a 3" lap, and fixing with compo nails, 20" × 10"	Sqr.	3 10 0
Do., 18" × 9"	"	3 7 0
Do., 24" × 12"	"	3 17 0
Westmorland slating, laid with diminished courses	"	6 0 0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course	"	3 0 0
Do., all as last, but of machine-made tiles	"	2 16 0
20" × 10" medium Old Delabole slating, laid to a 3" lap (grey)	"	4 6 0
" " " " " " (green)	"	4 15 0

CARPENTER AND JOINER		£ s. d.
Flat boarded centering to concrete floors, including all strutting	Sqr.	2 5 0
Shuttering to sides and soffits of beams	F.S.	8
" to stanchions	"	8
" to staircases	"	8
Fir and fixing in wall plates, lintols, etc.	F.C.	1 8
Fir framed in floors	"	3 9
" " roofs	"	4 6
" " trusses	"	6 6
" " partitions	"	7 6
¾" deal sawn boarding and fixing to joists	Sqr.	1 14 6
1" " " " " "	"	1 17 6
1¼" " " " " "	"	2 3 0
2" × 2" fir battening for Countess slating	"	9 6
Do. for 4" gauge tiling	"	12 0
Stout feather-edged tilting fillet	F.R.	4½
Patent inodorous felt, 1 ply	Y.S.	2 3
" " " 2 "	"	2 9
" " " 3 "	"	3 1
Stout herringbone strutting to 9" joists	F.R.	10½
1" deal gutter boards and bearers	F.S.	1 2
1¼" " " " "	"	1 6
2" deal wrought rounded roll	F.R.	8
1" deal grooved and tongued flooring, laid complete, including cleaning off	Sqr.	2 1 0
1¼" do.	"	2 10 0
1½" do.	"	2 17 0
1" deal moulded skirting, fixed on, and including grounds plugged to wall	F.S.	1 6
1¼" do.	"	1 9

CARPENTER AND JOINER—*continued*		s. d.
1¼" deal moulded sashes of average size	F.S.	1 9½
2" " " " "	"	1 11½
1½" deal cased frames double hung, of 6" × 3" oak sills, 1¼" pulley stiles, 1¼" heads, 1" inside and outside linings, ¾" parting beads, and with brass faced axle pulleys, etc., fixed complete	"	3 7
2" " " " " "	"	3 10
Extra only for moulded horns	Each	6
1¼" deal four-panel square, both sides, door	F.S.	2 0
2" " " " " "	"	2 8
1¼" " but moulded both sides	"	2 4
2" " " " " "	"	3 0
4" × 3" deal, rebated and moulded frames	F.R.	1 0
4½" × 3½" " " " "	"	1 4
1¼" deal tongued and moulded window board, on and including deal bearers	F.S.	1 9
1¼" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	"	2 6
1¾" deal moulded wall strings	"	2 1
1½" " outer strings	"	2 4
Ends of treads and risers housed to string	Each	1 9
3" × 2" deal moulded handrail	F.R.	1 3
1" × 1" deal balusters and housing each end	Each	2 0
1¼" × 1¼" " " " "	"	2 9
3" × 3" deal wrought framed newels	F.R.	1 3
Extra only for newel caps	Each	6 0
Do., pendants	"	6 0

SMITH AND FOUNDER		£ s. d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt.	15 6
Riveted plate or compound girders, and hoisting and fixing in position	"	19 6
Do. stanchions with riveted caps and bases and do.	"	19 0
Mild steel bar reinforcement, ½" and up, bent and fixed complete	"	17 6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S.	11
Wrot iron caulked and cambered chimney bars	Per cwt.	1 10 0

PLUMBER		£ s. d.
Milled lead and labour in flats, gutters, etc.	Per cwt.	1 14 0
Do. in flashings	"	1 17 6
Do. in covering to turrets, etc.	"	2 3 6
Do. in soakers	"	1 9 6
Labour to welted edge	F.R.	3½
Open copper nailing	"	3½
Close " "	"	4½

	½" s. d.	¾" s. d.	1" s. d.	1¼" s. d.	2" s. d.	4" s. d.
Lead service pipe and fixing with pipe hooks F.R.	1 0	1 2	1 5	2 1	3 0	—
Do. soil pipe and fixing with cast lead tacks	—	—	—	—	—	5 9
Extra, only to bends Each	—	—	—	—	2 3	6 3
Do. to stop ends "	6½	8	9	11	1 0	—
Boiler screws and unions "	3 3	3 9	5 0	8 0	—	—
Lead traps "	—	—	—	6 3	8 9	—
Screw down bib valves "	6 9	9 6	11 0	—	—	—
Do. stop cocks "	9 0	11 0	14 6	20 6	47 0	—

		s. d.
4" cast-iron ½-rd. gutter and fixing	F.R.	1 0
Extra, only stop ends	Each	1 0
Do. angles	"	1 6
Do. outlets	"	2 9
4" dia. cast-iron rain-water pipe and fixing with ears cast on	F.R.	1 2
Extra, only for shoes	Each	1 3
Do. for plain heads	"	5 6

PLASTERER AND TILING		s. d.
Expanded metal lathing, small mesh	Y.S.	2 3
Do. in n/w to beams, stanchions, etc.	"	3 6
Lathing with sawn laths to ceilings	"	1 4
½" screeding in Portland cement and sand for tiling, wood block floor, etc.	"	1 8
Do. vertical	"	2 1
Rough render on walls	"	1 3
Render, float and set in lime and hair	"	1 11
Render and set in Sirapite	"	2 1
Render, backing in cement and sand, and set in Keene's cement	"	2 10
Extra, only if on lathing	"	4
Keene's cement, angle and arris	F.R.	6
Arris	"	2
Rounded angle, small	"	3
Plain cornices in plaster, including dubbing out, per 1" girth	"	1½
1" granolithic pavings	Y.S.	3 6
1½" "	"	4 6
6" × 6" white glazed wall tiling and fixing on prepared screed	"	17 6
9" × 3" " " " "	"	1 2 6
Extra, only for small quadrant angle	F.R.	8

GLAZIER		s. d.
21 oz. sheet glass and glazing with putty	F.S.	7½
26 oz. do. and do.	"	8½
Arctic glass and glazing with putty	"	1 1
Cathedral glass and do.	"	1 2
Glazing only, British polished plate	"	7
Extra, only if in beads	"	2
Washleather	F.R.	4

PAINTER		s. d.
Clearcolle and whiten ceilings	Y.S.	6½
Do. and distemper walls	"	9
Do. with washable distemper	"	1 1
Knot, stop, prime and paint four coats oil colour on plain surfaces	"	3 3
Do. on woodwork	"	3 9
Do. on steelwork	"	3 0
Do. and brush grain and twice varnish	"	5 6
Stain and twice varnish woodwork	"	1 11
Stain and wax-polish woodwork	"	4 6
French polishing	F.S.	1 2
Stripping off old paper	Piece	2 0
Hanging ordinary paper from	"	2 9

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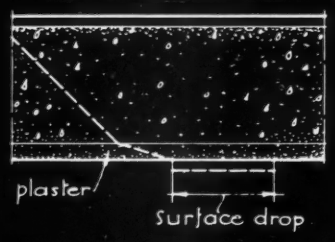
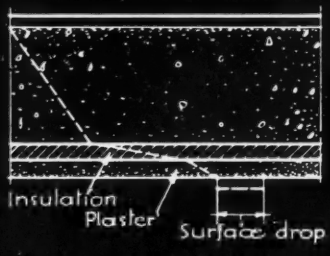
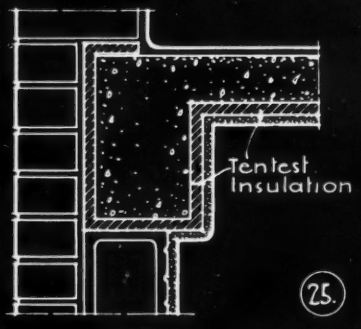


UNINSULATED SLAB.



INSULATED SLAB.



25.

Diagrams shewing temperature drop through roofs. The amount of surface temperature drop governs the tendency to condensation. Where humid conditions obtain, insulating material should be used on the inside face.

INSULATION OF WALL BEAM. By insulating the slab & beam from the outside air, the liability to conduct heat to the outside is reduced, preventing condensation.

CHART FOR OBTAINING SURFACE TEMPERATURE.

Air to air resistance being known

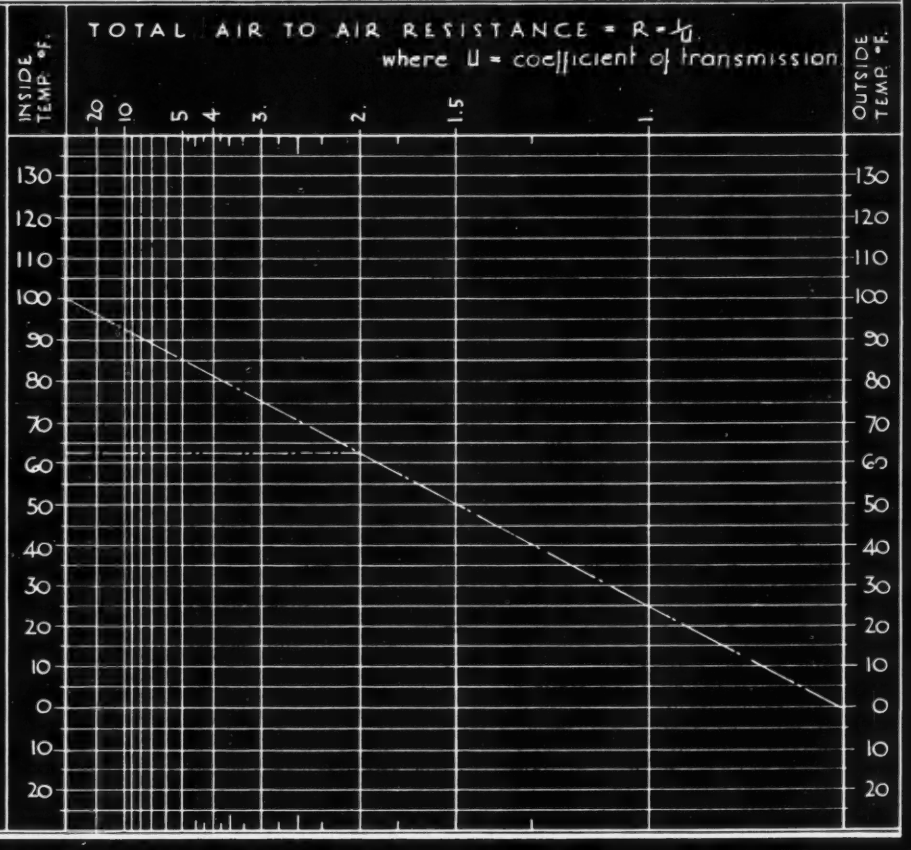
To prevent condensation on walls & ceilings the temperature of the surface must be above the Dew Point of the air next to them.

TO USE THE CHART ascertain:

a. Inside air temperature next surface.
b. Minimum outside temperature in locality.

Draw diagonal connecting these two temperatures. Where this line crosses the resistance line for the construction, draw a horizontal to the left to find the Surface temperature. If not above Dew Point add insulation.

In example: Outside temp. = 0°F.
Inside temp. = 100°F.
U = 0·5 ∴ Resistance = 2.
Surface temp. = 62°F.
The Dew Point should be 60°F. or less.



RELATIVE HUMIDITIES FOR DIFFERENT BUILDINGS.

Laundries	70%	to	80%
Paper mills	72%	to	88%
Textile mills	65%	to	85%
Stone and Marble works	65%	to	85%
Cleaning and dyeing plants	70%	to	85%
Bakeries (Dough making)	80%	to	85%
Canning factories	68%	to	84%

for values of U = heat transmission coefficients see Sheets Nos 59 & 63.

Information from The Tentest Fibre Board Co. (1929) Ltd.

INFORMATION SHEET : TENTEST INSULATING BOARD : CONDENSATION.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1.

INFORMATION SHEET • 73 • WALLBOARD

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INFORMATION SHEET

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WALLBOARD

Name of Product: TenTest Fibre Board
Type Illustrated: Condensation

Description:

Air, at any given temperature and barometric pressure, is capable of sustaining water vapour or moisture. When air at any given temperature contains the maximum amount of moisture it is capable of holding, it is said to be saturated.

The saturation points of air at various temperatures have been tabulated by recognized authorities in terms of grains of moisture per cubic foot of air. For example, air at 100° F. has a maximum capacity for moisture of 19.7 grains per cubic ft.; air at 64° F. has a maximum capacity for moisture of 6.56 grains per cubic ft.; air at 62° F. has a maximum capacity for moisture of 6.14 grains per cubic ft., and so on. It is obvious, therefore, that if saturated air is cooled it will become incapable of retaining all its moisture and that a certain amount will be precipitated in the form of dew.

Humid air is not, necessarily, saturated air. The degree of humidity can be measured, and the amount of moisture indicated is known as Absolute Humidity. It cannot exceed a certain fixed value, namely, Absolute Humidity at saturation.

The amount of moisture actually present in the air, expressed in hundredths of the amount that that air could contain were it saturated, is known as Relative Humidity. For example, air at 64° F. (which is capable of carrying 6.56 grains of moisture) having an Absolute Humidity of 6.24 has a Relative Humidity of 95: thus $\frac{6.24}{6.56} \times 100 = 95$.

Referring to the chart on the other side of this Sheet it will be noted that, for the conditions given, inside surface temperature equals 62° F. and therefore air possessing an amount of moisture which would raise its dew point above 60° F. could not be accommodated. Conversely, should it be necessary to accommodate air of a greater degree of humidity, then insulation should be added to an extent which would raise the inside surface temperature accordingly.

Name of Manufacturers: TenTest Fibre Board Co. (1929) Limited
Address: Astor House, Aldwych London, W.C.2
Telephone: Holborn 8018

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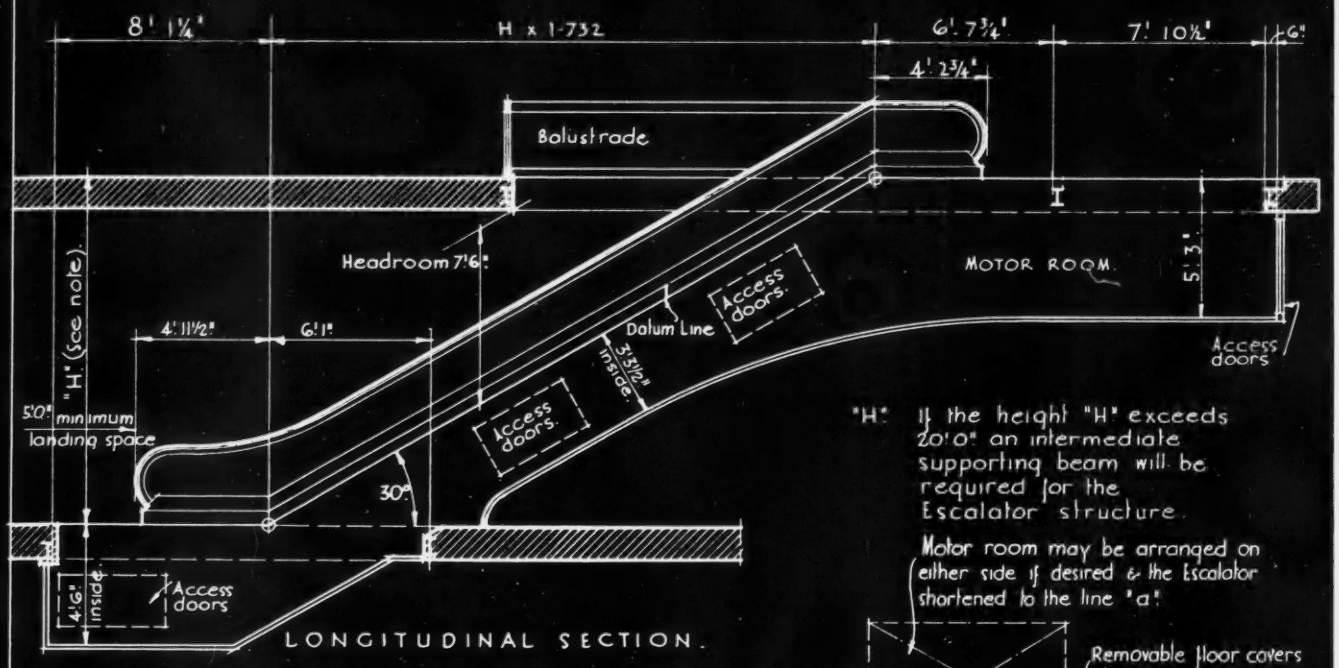
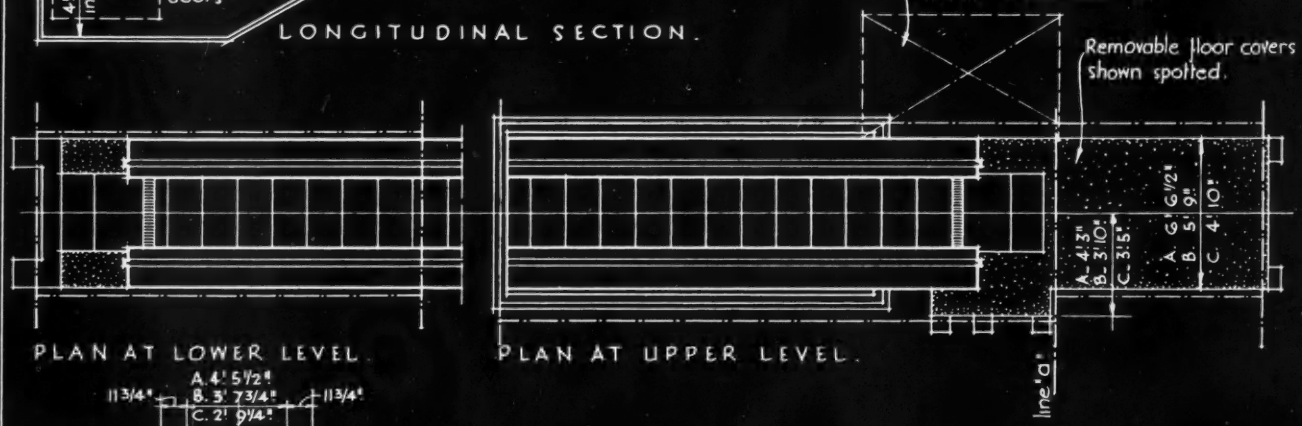
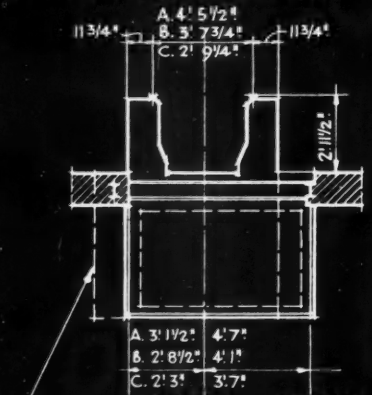


"H" If the height "H" exceeds 20'0" an intermediate supporting beam will be required for the Escalator structure.

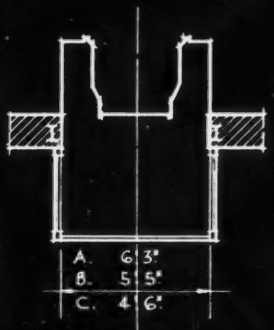
Motor room may be arranged on either side if desired & the Escalator shortened to the line "a".



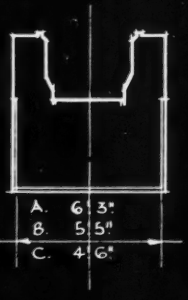


SECTION THROUGH UPPER LANDING

This part of Motor room may be reversed as shown dotted, to give removable floor covers on opposite side



SECTION THROUGH LOWER LANDING



SECTION THROUGH FLIGHT.

NOTE:
The dimensions A., B., & C. given above refer to the three standard widths of Escalators A, being 4'0" wide between balustrades
B, being 3'0" " " "
C, being 2'0" " " "
measured 2'0" above the line of the steps.

CAPACITY & SPEED OF ESCALATORS,
4'0" width, 8000 persons per hour.
3'0" width, 6000 persons per hour.
2'0" width, 4000 persons per hour.
Speed on the incline for Departmental stores 100 ft. per min.
Speed may be increased if desired for other purposes, to a maximum of 150 ft. per minute.

Information from J. & E. Hall Ltd, Dartford, Kent.

INFORMATION SHEET: TYPICAL LAYOUT OF STORE TYPE ESCALATOR.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.1

Supplement to THE ARCHITECTS' JOURNAL for January 18, 1934

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INFORMATION SHEET

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ESCALATORS

Name of Product: J. & E. Hall's Escalators
Type Illustrated: Store

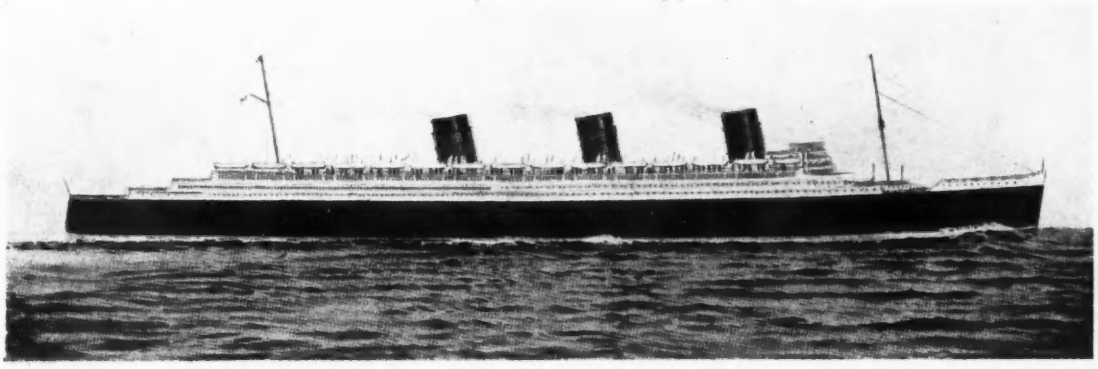
Description:

Details are given on this Sheet of the space occupied by escalators specially designed for use in departmental stores and other buildings in which floor space is valuable. Consequently, all dimensions are kept to a minimum and the width is usually restricted to either two feet, or at the most, three feet. Escalators of this type can be put to good use in connection with cafes or restaurants on the first or higher floors of buildings situated in the busy streets of large towns, where very high rentals are charged for space on the ground floor. Where such an establishment is served by an escalator the disadvantages of an upper floor situation practically disappear and, in addition to a much lower rental, the benefits of increased light, greatly reduced volume of street noises and comparative freedom from dust are obtained. Data relating to heavier types of escalators are available from the manufacturers.

Name of Manufacturers: J. and E. Hall, Ltd.
Address Dartford, Kent
Telephone Dartford 201

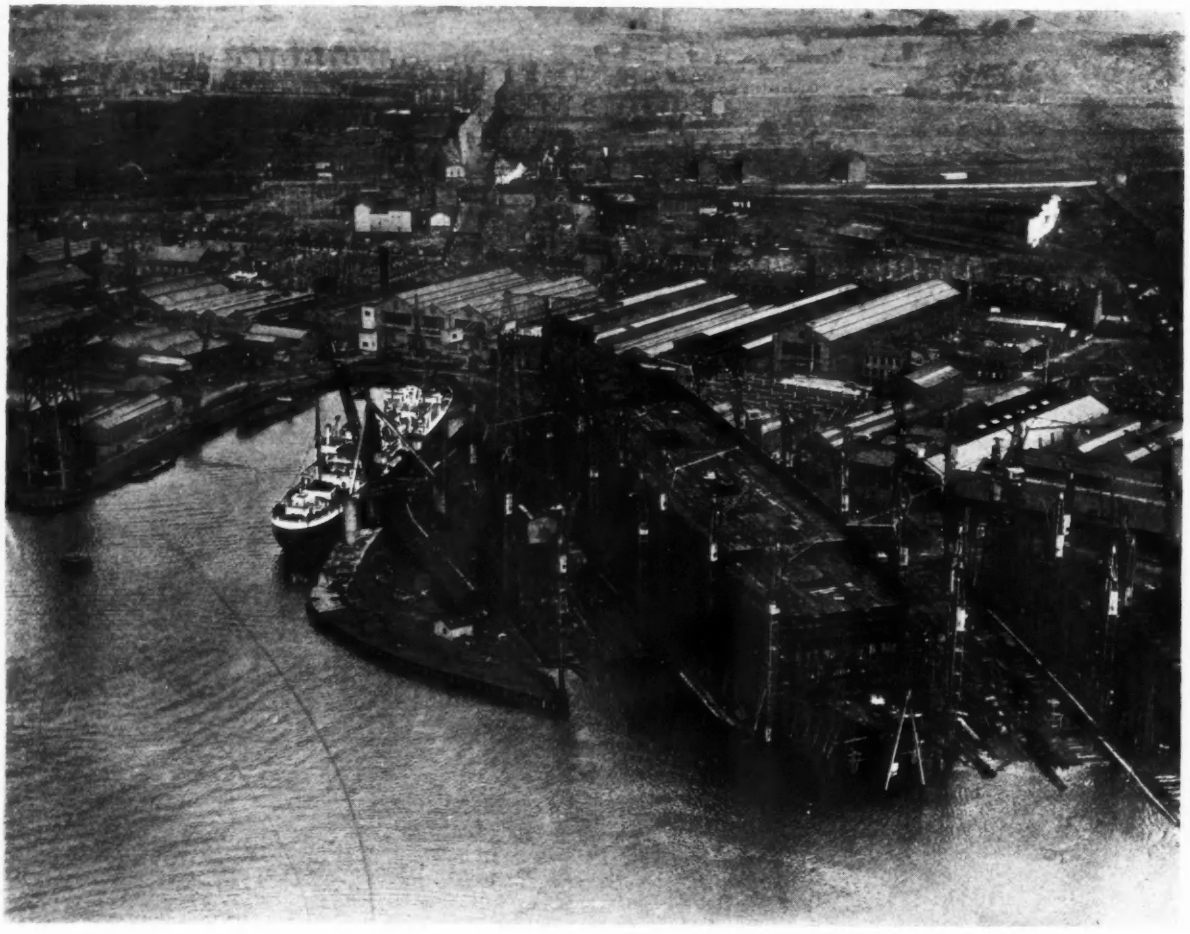
534

THE NEW CUNARDER



A *PERSPECTIVE of Cunarder No. 534. Following is a comparison between the new Cunarder, the* Normandie *and the* Bremen:

	Cunarder	Normandie	Bremen
Tons (gross)	73,000	73,000	51,656
Length (ft.)	1,018	1,020	938
Breadth (ft.)	112	115	101½
Horse-power	180,000	175 000	92,500
Speed (knots)	Over 30	30	27·9

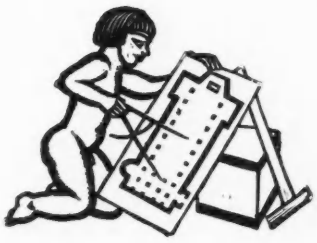


5 3 4

THE NEW CUNARDER ON THE STOCKS

The unfinished Cunarder 534 on the stocks at Clydebank. The keel was laid down in 1930, and it was hoped to launch the liner in May of this year. Work was suspended in December, 1931. The resumption of work, following the announcement of Government help (they are prepared to grant a subsidy up to £7,000,000), is expected to take place next month.

Up to December, 1931, over £1,500,000 had been spent on the construction of 534, which is estimated to cost approximately £4,000,000. The vessel is insured for £4,500,000.



534 534 534 534

SINCE Jonah, the interiors of ocean-going vessels have not only increased in the invulnerability of their structure, and the regularity with which they can be relied upon to put in an appearance, but in the complication of the public purpose they are expected to serve. No longer are they regarded as mere waterproof containers in which the unfortunate voyager has to exist in a state of suspended animation until the period of danger to which he has committed himself is over. With the arrival of a high standard of security and a remarkable degree of mechanical comfort, the interior of a liner plays a more elaborate part as the background of the social life lived within its skeleton ; and it has therefore as assured a position in the province of architecture as any edifice on land.

An iron keel is as good a foundation as a concrete raft on which to build an urban microcosm, and its evidence as representing our degree of civic intelligence is just as valid. That is the excuse for the pre-occupation with marine interiors that this issue of the JOURNAL will be found to possess.

We do not wish the Shipping Companies—least of all the Cunard Company, the renewed activity on whose new vessel is the cue for this subject's introduction at the present moment to our pages—to feel that we are interfering in what they may consider their private concern. Indeed, our anxiety about the appearance of this vessel's interior is in some senses an expression of our confidence in her maritime efficiency. Such grand achievements as English engineers can boast should not be obscured by the mediocre quality of the only part the public is allowed to see. We do feel, however, that the ability of the modern liner's interior sincerely to reflect the function for which it is devised and to provide a truthful background to contemporary ship-board life and a truthful expression of contemporary ship construction, has an importance that reaches far beyond the mere successful or unsuccessful solution of a problem in design ; beyond even the effect anachronistic decoration undoubtedly has on the financial return the liner can attract. It is important because it is the sort of criterion by which this country's right to be regarded as a serious contributor to the progress of civilization is often, if unconsciously, assessed. We may regain the blue riband of the Atlantic by means of the new Cunarder; our gain in prestige and prosperity by doing so is universally admitted ; but speed is not the only—or even the most influential—factor in international competition.

To hang this hard-won riband round the neck of one of those ingenious examples of architectural taxidermy that now invariably represent to the inquiring foreigner the highest standard of English design brings on our efforts ridicule for which the most perfect engines in the world will never compensate. English " fitting-out " should be as good an advertisement of our taste and intelligence as English turbines and English wireless equipment. That is why the interior of the new Cunarder is a question for urgent public concern. Its all-round efficiency as a commercial success is also a public right, since it's finances are to be guaranteed by the tax-payer, and it is he who will lose if this new enterprise fails to regain for our shipping the patronage that it has lately lost.

The splashing of champagne across her bows will be, as we have said, a baptism no less architectural than the turning of the golden key with which municipal enterprise is usually celebrated ; but it has a symbolic significance. The ship is expected to provide all the atmosphere of luxury and lavish expenditure with which that rather over-rated beverage is often associated. In common with the hotel and the super-cinema the modern liner is expected by its patrons to provide a greater appearance of luxury than they ever approach in their own homes, and more obsequious service and a more elaborate menu. That is what the public pays its money for—in its own unconscious estimation—not for the hospitable roof, the soporific entertainment and the expeditious transport for which these institutions actually exist.

Unfortunately, to the providers of these services an appearance of luxury invariably means the creation of an historical atmosphere. Whether this is due to the snob value that "period" is supposed to possess or to its obvious expensiveness, even to the layman's glance —or merely to apathy—is immaterial. It remains a poor advertisement.

The hotel and cinema companies are at last beginning to realize that the public is neither as stupid nor as lacking in a sense of the appropriate as has hitherto been assumed ; but the shipping companies lag far behind. Here they have an opportunity of eradicating with one diplomatic stroke the poor impression their policy has made of the wakefulness of our maritime organization. Let them now shake off their customary timidity, rid their minds of the ideal of compromise that stands so often in the way of native sincerity, and burn their boats (figuratively if not actually) ; accepting once and for all the needs of the century in which we live and bringing to this new enterprise all the mechanical shapeliness and organized efficiency that are this century's contributions to the background of architectural achievement.

The Architects' Journal
9 Queen Anne's Gate
Westminster, S.W.1
Telephones: Victoria
9212-7
Telegrams:
Buildable
Parl
London

NOTES & TOPICS

THE ART OF THE EMPIRE

THIS question of surroundings on board ship is still being discussed, and I have been making some investigations. Some of them I made on board ship myself, travelling to Spain last autumn.

*

I was surprised to find that a gentleman whose ideas are submerged in the "period styles" never travelled on a ship flying the British flag. I should have thought the "olde-worlde" atmosphere would have suited him down to the deck, and I said so.

*

"Oh, it isn't that," he said; "but you see, in case of accidents—well, I mean, there's no dam' nonsense about 'women and children' first, *except* on a British ship!"

*

I went to Spain on a British ship and returned on a Dutch one. I was able to get the views of an assortment of *pukka sahibs* on the surroundings provided by English and Dutch ship-owners.

*

Most of the gentlemen I tackled had been far-flung in the Empire, and I realized what a cad I was to discuss decoration, which has never been part of the white man's burden. "Their psychology is bovine, and their outlook crude and raw," as Kipling remarks, but they were singularly unanimous in wishing that a ship looked like a so-and-so, ship, sir, and not like a theatre-bar.

*

Some agreeable carving aboard the Dutch ship and the lithe, exotic figure of a Javanese dancing girl which formed the newel post of the staircase in the main saloon, were dismissed as "dam' native stuff." Well, it was; and I wish we could turn loose some of the native talent from different parts of the Empire for the embellishment of our ship interiors.

*

The Dutch are proud of their Empire, and they make use of its æsthetic gifts. We impose Tottenham Court Road and drain-pipe corinthian classic upon ours. And native art to us means brass trays made in Birmingham, exported to India, and re-exported via officers' and officials' wives to the stately tea tables of England.

WHY IS THE ROYAL ACADEMY WITHOUT AUTHORITY?

Why is it a convention among young artists to laugh at the Royal Academy and then to move Heaven and earth when the time comes to get themselves elected as associates? Eleven R.A.'s are now on the retired list, having reached the age of 75. Soon the scramble for election will begin again.

*

Maybe painters and sculptors get set more easily than other kinds of creative workers. Is there, for instance, anyone comparable in the world of art and architecture with Bernard Shaw; is there anyone with his youthful outlook, his tremendous and vital appreciation of contemporary life?

*

An R.A. said to me the other day, when I expressed a hope that the Government committee on art and industry might do something for modern design: "Oh modern—you mean all that angular stuff without mouldings? I like cornices myself."

*

It was just another reminder of the unfortunate truth of Mr. Roger Fry's remark in *Vision and Design*: "The artist is of all men the most constantly observant of his surroundings, and the least affected by their intrinsic æsthetic value."

TEN-STOREY TENEMENT BLOCKS

I am wondering what Mr. Neville Chamberlain, in his official capacity as Chancellor of the Exchequer, will have to say to Mr. H. R. Selley, the Chairman of Housing Committee of the L.C.C., if the latter persists in his plans for building ten-storey tenement blocks.

*

It will be recalled that Mr. Chamberlain, as Chairman of the Unhealthy Areas Committee, made careful investigations into multi-storey buildings. The committee reported unanimously that these buildings "cannot be considered as making any serious contribution to the solution of the housing problem."

*

According to this committee the capital cost of construction of tenement blocks was considerably higher than that of equivalent accommodation in two-storey cottages.

*

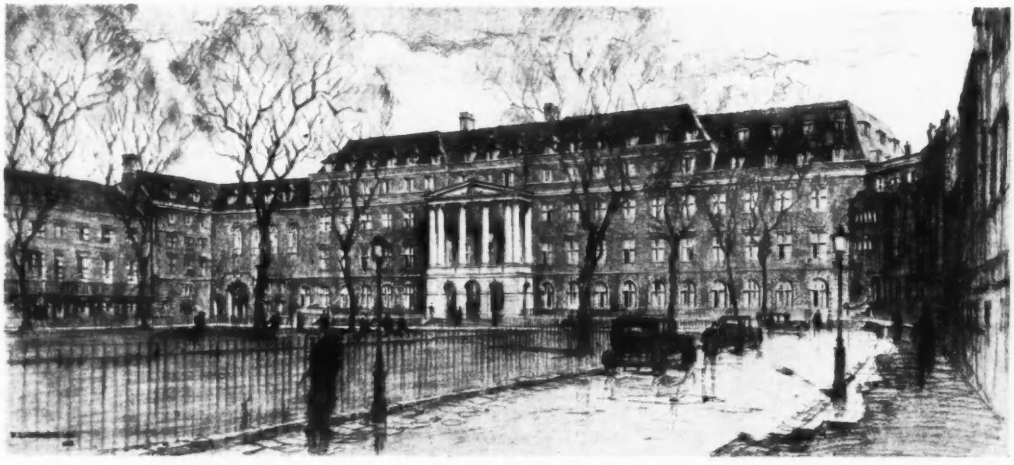
There are other opinions about this. And anyway, is capital cost sufficient grounds for condemnation of an obviously more truly urban solution?

THE PUBLICITY CLUB

I was taken on Monday to a meeting of the Publicity Club. The subject was *Electricity and Advertising*.

*

There wasn't much talk about advertising. That, as Sir Charles Higham, the well-known publicist, said,



This perspective, drawn by P. D. Hepworth from the designs of Sir Herbert Baker, shows the Dean's Yard front of the proposed new building which is to take the place of the present Church House, Westminster. Approval has not yet been given to the inclusion of the portico here shown.

was because there were so many experts present, and the experts had advertising to sell, *i.e.*, not to give away.

*

Sir William Ray, Chairman of the L.C.C., and the new head of E.D.A., was illuminating, if hardly electrifying. One remark of his puzzled me. In reply to a question, he said trolley cars were not to be encouraged in London as the overhead cables might get in the way of aeroplanes.

*

Miss Ellen Wilkinson, smaller and more irrepressible than ever, said Sir William talked decoration as though it was something you put on afterwards. She was wrong. Sir William didn't mention decoration. Ornamentation was the word.

BUILDING FINANCING BY BUILDERS

" What is the profession going to do about the question of building financing by builders ? " said a man to me the other day.

*

" Well, what ? " said I to myself later. " Is it a new thing ? " No, I don't think so. Lots of London was financed by rich builders, if not by rich architects. The question of control comes up. How to control the quality of building to your proper satisfaction when it is your client you control. Or, more pointedly still, where you find your sub-contractors are debenture holders.

*

Is this a sign of the crucial times, in which uninstructed finance is frightened away from building, other and forms of finance must temporarily fill the gap ? A difficult situation.

*

Probably the worst side of the matter is the emphasis upon the financial aspect of the architect's practice, calling into prominence types of architect more versed in finance than design.

PRAED STREET, PADDINGTON

Mr. Frank Hunt, chief valuer to the L.C.C., addressing the Paddington Housing Committee last week at the house of Sir Herbert Samuel, explained how difficult it was to widen Praed Street, and, in fact, why nobody had ever tried to widen Praed Street, it being so full of difficulties. And Sir Herbert Samuel wanted to know why the presence of difficulties should prevent a proper start from being made.

*

London is full of difficulties. One begins to wonder whether the presence of difficulties is going to slow down the Government plans for slum clearance to a pleasant jog-trot.

SCOTLAND FIRST

The proposal to institute a National Housing Corporation for Scotland looks just as though the drink were being tried out on the dog.

*

It is explained that Scotland is so different from England—monsters and so on ; but I don't see how this move can help but be the next move towards opening up south of the border.

ECONOMIC HOUSING

The Building Centre houses designed by Mr. N. Leeson, of Newcastle-on-Tyne, are now occupied by the Under Forty Club. They stand in the Strand under the shadow of Bush House, and when I called there the other day Lady Pentland and Miss Lupton, of the Fulham Housing Association, were very ready to provide information.

*

These two cottages are built in pairs for a sum of £225 each, and it is estimated that they can be let at an economic rent of 8s. 6d. to 10s. a week.

*

This is impressive ; but I am even more impressed by information given me by Mr. T. H. Brown, the Clerk of Newmarket Rural District Council. This is one of the few Councils which were quick enough to take advantage of the subsidies offered under the Housing (Rural Authorities) Act, 1931. They have built 120 houses, the cost of which, including water supply, is £226 per house. The rent now charged is 3s. a week. Each house contains a living room, scullery, and three bedrooms.

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

Speed is not the only—or even the most influential—factor in international competition 133

"I should like to see a competition among students for building a plain brick wall" 137

Architects should be the planners, not only of buildings but of many other matters affecting the amenities of modern life 137

How is it that the moment one "goes below" any British steamer, except one not built to carry passengers, it ceases to look like a ship 149

The funnels of English liners grow taller in proportion as those of foreign ones become shorter and broader.... 156

INCORPORATION OF SCOTTISH ARCHITECTS

The Council of the Royal Incorporation of Architects in Scotland, at their last meeting, held in Edinburgh, agreed to extend an invitation to hold the R.I.B.A. Conference 1935 in Scotland under the auspices of the Glasgow Chapter.

FRENCH INSTITUTE IN LONDON

The Chamber of Deputies will shortly be asked to vote 9,000,000 Francs (£112,500 at present rates) to defray the cost of a new Institute of France in London.

A site has been acquired in Queensbury Place, South Kensington. It is hoped that the new Institute will be completed before the end of this year.

MR. T. P. BENNETT VISITS AMERICA

We understand that Mr. T. P. Bennett, F.R.I.B.A., has crossed to the United States in the company of Mr. Claude Leigh, the Managing Director of the Metropolitan Housing Corporation, and Mr. John Watson, who is a Professional Associate of the Council of the Chartered Surveyors' Institution. Their object is to study the interior planning of multi-storey flats in New York and other American cities.

NORFOLK AND NORWICH ASSOCIATION OF ARCHITECTS

The annual meeting of the Norfolk and Norwich Association of Architects was held at Norwich, on January 19. The chair was occupied by the President, Mr. Cecil Upcher, F.R.I.B.A.

The Officers and Council for 1934-5 were elected as follows :—President, Mr. E. W. B. Scott, F.R.I.B.A. ; vice-presidents : Messrs. J. O. Bond, F.R.I.B.A., and H. C. W. Blyth, L.R.I.B.A. ; ex-president, Mr. C. Upcher, F.R.I.B.A. ; hon. editor, Mr. T. G. Scott, F.R.I.B.A. ; hon. secretary, Mr. E. H. Skipper, F.R.I.B.A. Council : Messrs. G. Cotman, F.R.I.B.A., S. J. Wearing, F.R.I.B.A., and F. H. Swindells, F.R.I.B.A. ; associate member of Council, Mr. H. J. T. Gowen ; hon. auditor, Mr. C. H. Dann, A.R.I.B.A.

Four new members and three associate members were elected.

The annual report and balance sheet were adopted.

The President, in his address, gave an account of the work of the Council, Allied Societies Conference and Committees at the R.I.B.A., describing typical meetings and explaining so far as possible something of the great amount of work which is being done in the interests of architecture and architects.

In the Measured Drawings Competition prizes were awarded as follows :—First: Mr. L. Hunt ; Second : Mr. T. C. Ralph ; Third : Mr. C. I. Hobbis.

In the Sketching Competition the President's Prize went to Mr. D. C. Purcell and a second prize to Mr. C. I. Hobbis.

Mr. J. N. Meredith gave a reasoned and careful criticism of the drawings submitted.

The representatives on various Sub-Committees and other bodies reported on the work of the year. These included the Architecture Classes at Norwich School of Art by Mr. C. H. Dann, the East Norfolk Regional Town Planning Panel by the Hon. Secretary, the Norwich Society by Mr. Stanley Wearing, the Caistor Excavations by Mr. Theodore Scott, and the Norfolk Branch of the C.P.R.E. by Mr. Humphrey Boardman.

THE ARCHITECTS' DIARY

Thursday, January 25

INSTITUTION OF MECHANICAL ENGINEERS. (*Yorkshire Branch.*) *At the Hotel Metropole, Leeds.* "*The Building of Sydney Harbour Bridge.*" *By L. Ennis.* 7.30 *p.m.*

SOCIETY OF ANTIQUARIES. *At Burlington House, W.1.* "*The Ecclesiastical Architecture of Spain in Mexico during the Vice-Regal period.*" *By the late Chester Jones, F.S.A., communicated by Dr. Haden Guest.* 8.30 *p.m.*

INSTITUTION OF ELECTRICAL ENGINEERS. (*West Wales (Swansea) Sub-centre.*) *At Electric House, Oxford Street, Swansea.* "*The Application of Automatic Voltage and Switch Control to Electrical Distribution Systems.*" *By W. Kidd and J. L. Carr, B.Sc.* 6 *p.m.*

INSTITUTION OF STRUCTURAL ENGINEERS. *At 10 Upper Belgrave Street, S.W.1.* "*The Actual Strength of Steel I-beams.*" *By Ewart S. Andrews.* 6.30 *p.m.*

DESIGN AND INDUSTRIES ASSOCIATION. *At the London School of Hygiene and Tropical Medicine, Gower Street, W.C.1.* "*Look at our Countryside.*" *By Thomas Sharp, A.R.I.B.A.* 8.15 *p.m.*

Friday, January 26

INSTITUTION OF STRUCTURAL ENGINEERS. (*Lancashire and Cheshire Branch.*) *Annual Dinner at the Midland Hotel, Manchester.* (*Midland Counties Branch*) *At the James Watt Memorial Institute, Birmingham.* "*Reinforced Concrete Bins and Silos.*" *By A. E. Jennens.* 6.30 *p.m.*

FULHAM TOWN HALL. "*Town Planning and the Future of Fulham.*" *By W. R. Davidge, F.R.I.B.A., P.P.T.P.I.* 8 *p.m.*

Saturday, January 27

INSTITUTION OF STRUCTURAL ENGINEERS. (*Midland Counties Branch.*) *Annual Dinner.*

Tuesday, January 30

ARCHITECTURAL ASSOCIATION. *At 34-36 Bedford Square, W.C.1.* "*Town and Country Planning Schemes.*" *By G. L. Pepler, F.S.I., F.R.San.I.* 8 *p.m. Exhibition Illustrating Town and Country Planning Schemes. Until February 10.*

Wednesday, January 31

ROYAL SOCIETY OF ARTS. *At John Street, Adelphi, W.C.2.* "*The Pooling of Water Supplies.*" *By Alan E. L. Chorlton, C.B.E., M.P., M.Inst.C.E.* 8 *p.m.*

L.C.C. CENTRAL SCHOOL OF ARTS AND CRAFTS. *At Southampton Row, W.C.1.* "*English Mediæval Architecture. XVI. 3. Piers, Towers, Spires, Roofs.*" *By Sir Banister Fletcher, F.S.A., PP.R.I.B.A.* 6 *p.m.*

PETERBOROUGH CATHEDRAL RESTORATION

Mr. L. T. Moore, architect to the Peterborough Cathedral Restoration Committee, who recently reported on work costing £2,500 which he considered necessary for the strengthening of the apse of the Eastern Chapel of the Cathedral, has been authorized, in consultation with an engineer, to proceed with the first section of the work—the repairing and resetting of the traceried arches, solidifying the foundations, and so forth—at an estimated cost of £1,750, and to make a full additional report.

MODEL VILLAGE FOR BUCKS

A company has been formed at Beaconsfield (Bucks) to build a model village.

A plot of twenty-three acres of land has been acquired in a pleasant situation on the late Lord Burnham's Hall Barn estate at Holtspur, on the top of White Hill, near Beaconsfield, and it is proposed to build 200 houses of small ultra modern design. Plans for the model village have been prepared by Mr. Reginald Craft.

It is proposed to build a paddling pool and small playground for the children, surrounded by public gardens, in the centre of the village, which will also include a small church or chapel for the use of the little community, a schoolroom and landscape gardens on the outskirts. Building will begin as soon as financial negotiations have been completed.

THE GUILDHALL, CAMBRIDGE

The Minister of Health has approved a loan of £142,000 to be raised for the rebuilding of the Guildhall, Cambridge.

LIVERPOOL CATHEDRAL

If funds continue to be available, the present section of Liverpool Cathedral, which was begun in 1926, will be complete by 1938. The new section will double the size of the building and more than double the seating capacity. Its total cost will amount to £657,228.

THE MAKING OF GLASS

A talking film, showing various methods of manufacturing plate and sheet glass, and including tests on Pilkington's new Armourplate glass, will be exhibited at 11 a.m. on Thursday, February 8, at the Polytechnic Cinema, 307 Regent Street, London, W.1.

ANNOUNCEMENTS

The practice of the late Harry A. F. Smith, L.R.I.B.A., has now been taken over by his chief assistant, Mr. C. E. Smart. The name of the firm will be Messrs. H. A. F. Smith and C. E. Smart, Architects and Surveyors, and the practice will be carried on at the same address: Ashley Buildings, High Street, Gosport, Hants. Telephone No. : Gosport 8582.

Mr. F. Q. Farmer retired from the firm of North, Robin and Wilsdon, of Townsend

House, Greycoat Place, S.W.1, on December 31, 1933.

In future Mr. Wilsdon and Mr. North will practise as North, Robin and Wilsdon and Mr. Farmer will practise independently in the same office in his own name.

ARCHITECT'S WILL

Mr. Frederick William Waller, of Gloucester, who had with his father (Frederick Sandham Waller, F.S.A.) the care of the fabric of Gloucester Cathedral, which has since descended to his son, left £34,514 (net personalty £31,127).

R. I. B. A.

PRESIDENT'S ADDRESS TO STUDENTS.

On Monday last, Sir Giles Gilbert Scott, R.A., P.R.I.B.A., delivered his address to architectural students. In the course of his address, which was followed by the annual presentation of prizes and studentships, the President said :—

I do not propose tonight to indulge in any vague highbrow theories of Art, but merely to take one or two subjects at random and discuss them.

First, I am going to take the simplest but one of the most important of architectural components—a plain wall. This sounds elementary, yet I wonder how many of you could direct the building of a beautiful plain wall ; curiously enough the number of practising architects who could do this is limited, yet a building with beautiful walling is a long way to being a beautiful building. The modern tendency is to build walls of smooth, shiny and brittle materials, with as fine a machine finish as possible ; but with all the so-called new materials at our disposal, it is still difficult to find an external facing material which will stand up to climatic conditions as well as the old materials such as brick and stone.

It is common to condemn the casing up of a steel-framed building in brick or stone, because steel-framing is a modern invention and bricks and stone are not, yet when you come to think this out and run through all the possible materials known to us at present, it is found that they all seem to have some defect which, even if not apparent at first, eventually develops in the course of a few years. The problem is to construct a weatherproof skin that will keep out wet, heat and cold, and stand up to climatic conditions over a long period of time.

Architectural design in recent years has been developed largely on the assumption that reinforced concrete is a suitable material for external wall surfaces, and modern design is consequently monolithic in character ; reinforced concrete is indeed the source from which has sprung modern architecture ; it is, however, a material more suited for beams, columns, floors and internal trusses than for large areas of external walling, for which purpose it is not satisfactory ; as a result we find that there is a tendency to build walls of brick and to rely on white cement rendering to restore the monolithic appearance of the walling. This plain, smooth, white surface is not a very interesting type of walling, and its constant use in modernist houses which are built of brick but designed in a manner to give the appearance of an all-concrete building, seems to me a bit of a fake. I would advocate the use of a more interesting and beautiful walling in this type of house and a frank recognition of the materials employed.

Brick and stone walls are capable of a great variety of treatment. I should like to see a competition among students for building a plain brick wall. Let them choose the colour, size, texture and bond of the brick and decide upon the width, colour, texture and treatment of the joints, and they would then learn not only the extraordinary variety of effects that are possible, but how the colours of bricks change with different kinds of joints, and how difficult it is to judge the effect of walling from a few sample bricks in one's hand.

In discussing this matter of walling, I have touched upon the modern enthusiasm for concrete. There is no doubt that when an idea like this gets started it is blindly taken up by many without further thinking. You see here the blind application of the formula. Concrete, metal, glass and plywood are the " big four " of modern architecture, and no building can be really the last word without a very liberal use of these, but unthinking use of these materials for purposes for which they are unsuited—glass walls, glass and stone furniture, and stunts of this kind—should be carefully guarded against. It is not enough to be novel and in the fashion ; just use common sense and refuse to be stampeded by stunts. We live in a rather cheap and shoddy age which greatly appreciates exaggeration—this has such kick and snap—but much as I appreciate some of the best qualities of modern work, such as its simplicity and freshness, I find a good deal of humbug talked by many whose enthusiasm outruns their common sense. Just refuse to be stampeded ; and although we live in an age of exaggeration and over emphasis, which is of course a symptom of vulgarity, we must fight against it, even at the risk of being accused of advocating compromise.

My remarks, I fear, might lead you to think that I am pessimistic about modern tendencies. I am very far from this ; indeed, I am an enthusiastic optimist, especially as regards the prospects of architecture, but I want to see the modern movement freed from a lot of journalese humbug and what is vulgarly called " eyewash." Architects are steadily gaining a position in national life, and they are achieving this by getting to grips with modern problems, and endeavouring to solve them in a modern way.

The problems we must now take up are social as well as architectural ; as a profession we see grand opportunities of rendering services to the community that no other profession is qualified to undertake. Modern civilization has in the past been too concerned with the materialistic side of life to bother much about amenities and the art of living happily, but it is now recognized that merely to maintain life is not enough, and it is also as much a necessity that life should be worth maintaining. It is this changing national outlook that will give architects their opportunity to render great services to the community, and it looks as though you young men will have greater opportunities than your predecessors for getting some sort of order out of chaos, eliminating muddle, and improving the conditions of life generally.

To do this, you must command respect by showing yourselves to possess not only artistic ability, but also sound judgment, common sense and broad vision. Architects should be the planners, not only of buildings but of many other matters affecting the amenities of modern life. Town planning, with all that this involves —housing, abolition of slums, siting and design of factories, aerodromes, railways and transport, trolley buses in Bedford Square—all this sort of thing needs planning and you must be the planners.

The vote of thanks to the President was moved by Major Harry Barnes, F.R.I.B.A., and seconded by Mr. G. H. A. Wilson, M.A., Master of Clare College, Cambridge.

REGULATIONS FOR THE CONDUCT OF ARCHITECTURAL COMPETITIONS

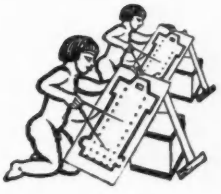
In accordance with the terms of Bye-law 38, the Council published in the *R.I.B.A. Journal* November 25, 1933, for the comments or criticisms of members, the following revision in the Regulations for the Conduct of Architectural Competitions, which had already been provisionally approved by them :—

To add the following paragraph to Clause E :—" If within twelve months of the Award, the Promoters shall decide to proceed with part of the work only, the Author of the selected design shall be paid, including the premium and in addition to the scale fees on the work which is being carried out, a sum equal to 1½ per cent. on the difference between the cost of the work carried out and his estimate of cost up to £50,000, and if the total estimate exceeds £50,000, then a further ½ per cent. on any sum in excess of this amount, which sum shall also merge into the commission when the remainder of the work is subsequently executed."

No comments having been received from members, the revision was formally ratified at the Council meeting on January 8, 1934.

A similar paragraph will be added to Clause 6 of the Model Form of Conditions.

COMPETITION



NEWS

MUNICIPAL BUILDINGS, STOKE NEWINGTON

The following firms of architects have been invited to submit designs for a competition for municipal buildings, etc., for the Stoke Newington Borough Council : Messrs. Benslyn and Morrison ; Bradshaw Gass and Hope ; L. H. Bucknell ; H. J. Chetwood ; W. R. Davidge ; R. A. Duncan ; H. Haylock Golding ; Stanley Hall, Easton and Robertson ; P. D. Hepworth ; L. R. Hiscock ; Hobden and Porri ; Howes and Jackson ; Hutchinson and Payne ; Cameron Kirby ; A. S. Knott ; Leathart and Granger ; W. A. S. Lloyd ; D. F. Martin-Smith ; J. Douglass Mathews and Sons ; E. C. P. Monson ; Pakington and Enthoven ; F. R. Priest ; L. Beddall Smith ; L. de Soissons ; G. Streatfield ; J. R. Truelove ; E. Berry Webber ; and Whinney, Son and Austen Hall.

Sir Edwin Lutyens, R.A., P.I.A.A.S., is the assessor ; and premiums of £250, £100 and £50 are offered for the designs placed first, second and third respectively.

The buildings, to be erected on a site in Church Street, Stoke Newington, are estimated to cost £88,000.

The latest date for submission of designs is March 17.

PROPOSED COMPETITION FOR A MENTAL COLONY, STOKE-ON-TRENT

The Stoke-on-Trent City Corporation have decided not to proceed further in the matter of holding a competition for the proposed Mental Colony at Stoke-on-Trent.

LETTERS FROM READERS

R. A. COOKSEY, F.R.I.B.A.

H. STRATTON DAVIS, F.R.I.B.A., F.S.A.

SIR REGINALD BLOMFIELD, R.A.

T. E. LEGG, F.R.I.B.A.

The Panel System

SIR,—Your leading article published on January 18 calls attention to the "grave danger to the profession" of the publicly pronounced disapproval of a fellow architect's work by an architect member of an advisory panel. I go a long way with you in agreement that the present system is undoubtedly open to abuse; but, as a result of some experience with two of the Panels in Kent (which, by the way, are wholly composed of practising architects), I feel that, wisely conducted, the work of the Panels may not only be kept quite free from the influences feared, but may even become the indirect cause of much benefit to the profession generally.

I suggest that if the panels were instructed to make it a practice to consider and advise only on those plans which are *not* signed by a registered architect, and that public authorities should be asked to pass automatically and without comment, so far as elevations are concerned, those plans which do bear such signature, the anticipated danger would not arise; and the fact, when it became generally known, that plans prepared by a qualified architect were passed by the authorities without obstruction would be a great inducement for speculating builders and others to seek professional advice for a field of work into which architects have in the past rarely entered.

I select registration as the test of qualification for the reason that it is the only one which is recognized by statute; and although at the moment, due to the preliminary ease of access to the register, and probably for some years to come, a few bad designs might slip through, this number would become progressively less as time goes on; and if put into effect this scheme would, I feel, greatly strengthen the value of registration in the eyes not only of the public but also of the profession.

R. A. COOKSEY

SIR,—With reference to your leading article in the current number of THE ARCHITECTS' JOURNAL, may I be permitted to comment on two important points that are raised.

As an architectural member of a Panel that has now been functioning for nearly a year, I would like to say that it is absolutely essential for *all* the designs submitted to the Local Authority to be examined by two or three members of the Panel. At first only doubtful cases were referred to my panel for an opinion, and it was found that the whole object of the panel was being defeated. It is necessary for the panel to decide which are the doubtful cases, and I think it will generally be found that local authorities welcome this arrangement. The additional work for members of the Panel is not great.

The second danger anticipated by the writer of your article need not, I think, give rise to undue anxiety. The majority of the designs submitted are not designed by qualified architects, and it is with these that the Panel is chiefly concerned. In the case of designs prepared by qualified architects, the architect member of the Panel is in a position to protect the designer from uninformed criticism, which is all to the good.

I entirely agree that the solidarity of the profession is of the utmost importance, but I do not think this is seriously threatened by the panel system. The architect members of the panels must be nominated by the local affiliated Architectural Society and it may be assumed that the men so nominated would be chosen with particular regard to their competence and the broadness of their views. I admit that there are great difficulties, and that the smooth running of the panel system will demand the greatest tact and generosity on the part of Panel members. Narrow views on the question of design will be fatal.

The Town Planning Act, with all its faults, is a great step forward, and the control of elevations can only be made effective by the assistance of architects of good will.

H. STRATTON DAVIS

[We are pleased to know that our two correspondents are in sympathy with our views on the working of the Panel system, and we are encouraged by their optimistic opinion that our fears as to its results are unfounded. We are also entirely in agreement with their confidence in the value of the Panel system in its general intentions; but it is well to point out that cases have actually occurred of a Panel's public pronouncement of its disapproval of an architect's design, and it is the absolute necessity of avoiding such occurrences in the future that we wish to emphasize.

Even if we could share Mr. Davis's assumption that the architect members of the Panels will be "chosen with particular regard to their competence and broadness of their views," we could not be quite content; for views, however broad, must always remain personal, and the public expression of personal views at all is a danger to the solidarity of the profession.—ED., *A.J.*]

"Modernism—An Allegory"

SIR,—"Desinit in piscem mulier formosa superne." I think you must have failed to notice that the young person, in my Christmas card, whom you take to represent "Modernism," ends in a fish's tail.

REGINALD BLOMFIELD

The Tablet at Nottingham

SIR,—Is this the correct interpretation of the engraved tablet at Nottingham, illustrated in your last issue?

That there are nine inches of land on the side of the wall on which the tablet is placed, owned by the builder of the wall, for the purpose of allowing overhang of eaves and a downpipe from same.

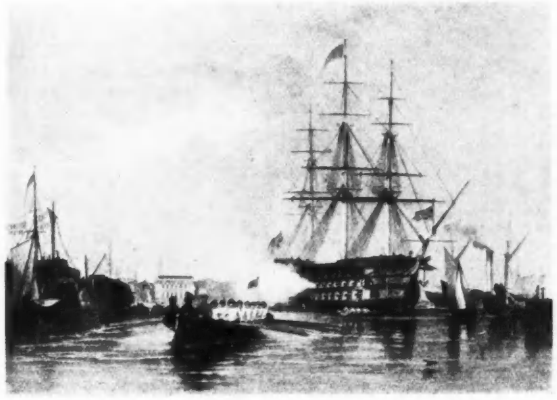
I assume that what appears to be an F in "eaves" is an E, and even in the reproduction of the bottom stroke of the E seems faintly indicated. The fact that the A before "eaves" would then have to be "An" would not worry the author of "Inchis."

T. E. LEGG

Announcements

We regret that in the article on Sloane Avenue Mansions, published in the JOURNAL for January 11, we inadvertently omitted the name of the consulting engineers, Messrs. L. G. Movchel and Partners.

The new Chemistry Building, Leeds, illustrated in our last issue, was designed by Messrs. Lanchester and Lodge.



SHIP INTERIORS

FOREWORD

[BY THE EDITOR]

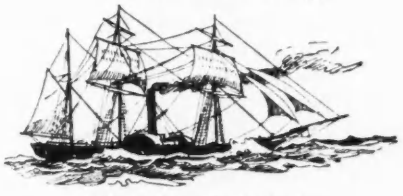
WE feel bound to introduce the pages that follow by offering some kind of apology to those who have been responsible for the design of ship interiors, particularly to those whose work we have chosen to illustrate, as exemplifying what we consider to be the wrong approach to the subject.

We have treated their work in places irreverently, even flippantly, but it is not their capability that we wish to attack ; often their work, once its " period " nature has been accepted, shows taste and scholarship as well as ingenuity. It is the whole question of recognition or concealment of what a ship stands for that we wish here to present as a whole, and to expose the absurdity of the current confinement to anachronistic pretence, in order that designers in the future may be given an opportunity of producing work that is a genuine expression of contemporary conditions.

Furthermore, the designers are working only under instructions from the shipping companies, and they, in their turn, are being deluded by a false conception of what the public prefers and, therefore, of what is best for trade. Our ambition is to destroy this misconception.

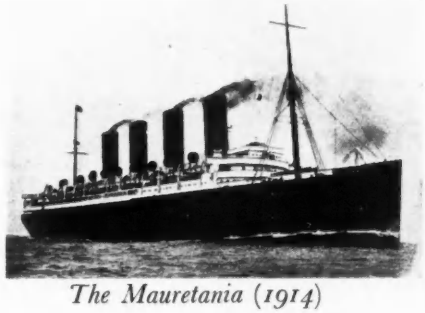
In the case of the new Cunarder, on which ship interest is naturally concentrated at the present time, it was originally stated that her interior was to be designed jointly by the architects of the Cunard Building in Liverpool (Messrs. Mewès and Davis) and the architects of the Cunard Building in New York. Whether this is now the intention of the company we have been unable, despite many enquiries, to discover ; but whoever the designers turn out to be, one or many, an honest contemporary approach to their gigantic task is essential. For it is important, to quote the words of the Travel and Industrial Development Association, who are in closer touch than anyone with the traveller's opinions, " to counteract the impression that may exist in some countries abroad that England is nothing but an interesting historical monument and is behind the times in matters relating to the visual arts."

The Savannah (1819)



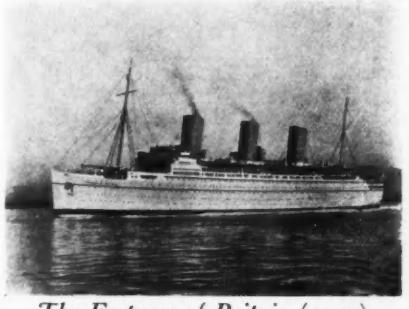
The Britannia (1844)

The Oceanic (1871)



The Mauretania (1914)

The Asturias (1926)



The Empress of Britain (1930)

A CAUTIONARY GUIDE TO THE

1580

Gentlemen

who carried their Queen to Deptford to see

1780

Two hundred years later when these charming people

took the air in St. James's Park, ships

1880

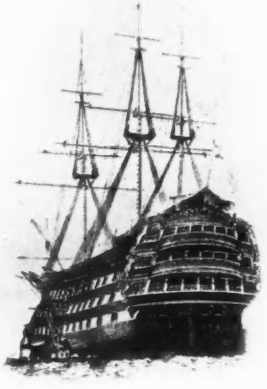
Their great grand-daughters,

although they enjoyed a jolly time in the park, just as much as anyone, had

INTERIOR DECORATION OF SHIPS

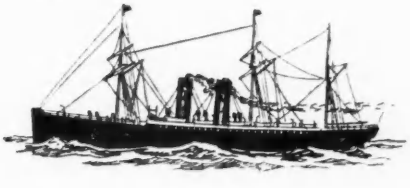
the ships

would gather round the Elizabethan chimney-piece of an evening to hear Will Shakespeare say his piece.

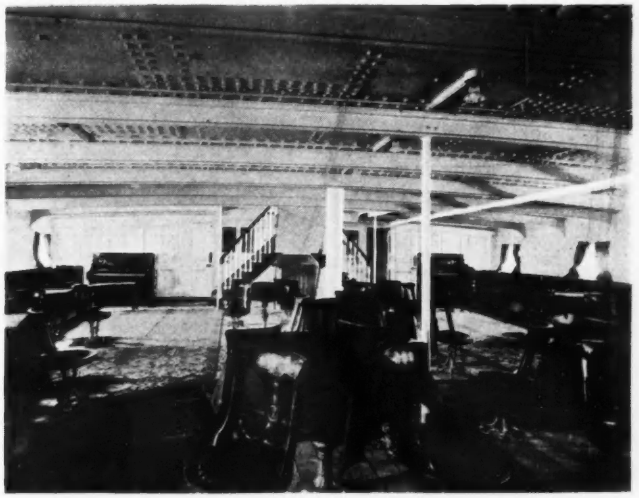


still went by sail, although

the Elizabethan chimney-piece had given way to something a bit more sophisticated.



invented steam and steel



and travelled in liners, and (as long as there was a comfortable chair or two and a piano against the wall), they didn't bother about the decorations.

A CAUTIONARY GUIDE TO THE

1910

In nineteen hundred and ten they were not so easily satisfied—they had gone modern with a vengeance. They

would dash down to Hurlingham to see the balloons, and

1934

Today

they like the inside of a house to look

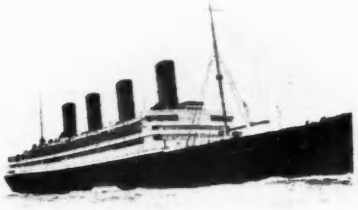
Empress of Britain (1930)

If

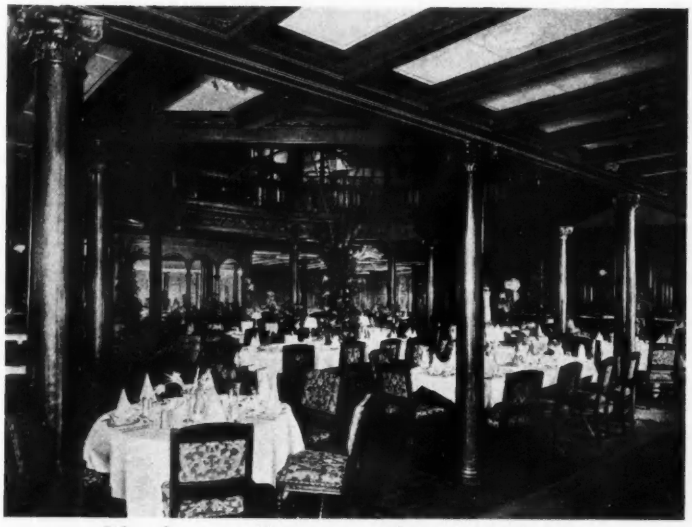
The Winchester Castle (1930)

we must have

INTERIOR DECORATION OF SHIPS



rush across the Atlantic in the Aquitania in five days.



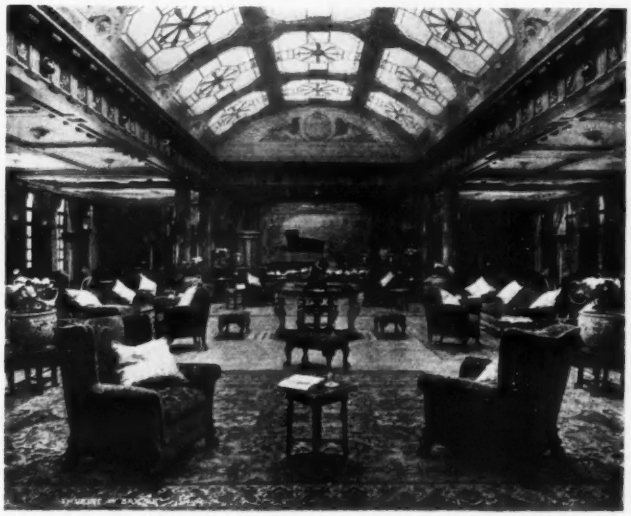
They knew a thing or two about decoration too.

very much like

a ship.

The Asturias (1926)

period

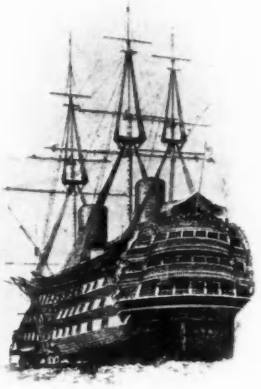


Empress of Britain (1930)

interiors, why

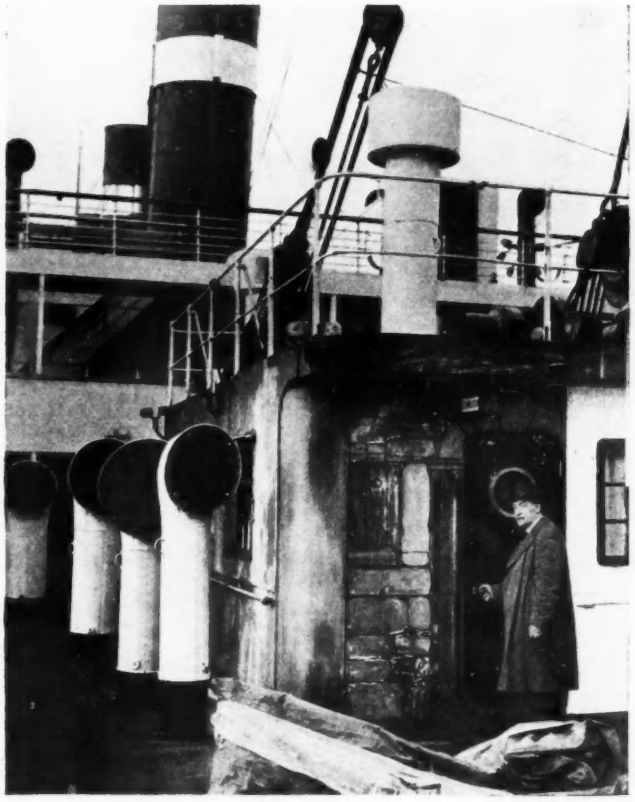
A CAUTIONARY GUIDE

Not



"period" exteriors. Impossible?

Perhaps. But our designers are doing their best.



QUESTIONS AND ANSWERS

[The opinions of various interested bodies and people have been sought in regard to the general question of the interior treatment of ships. The questions with their answers are given below.—ED., A.J.]

MAJOR A. A. LONGDEN
Secretary to the
COUNCIL FOR ART AND INDUSTRY

QUESTION

Have arrangements been made whereby the Council will be empowered to advise on the interior treatment of 534?

In the absence of any such arrangements does the Council propose to take steps to put forward its views on this important matter?

ANSWER

The newly-formed Council for Art and Industry does not meet until January 30, but your letter shall be brought to the notice of the chairman of the Council and also the Board of Trade.

DR. BURGIN
Parliamentary Secretary to the
BOARD OF TRADE

QUESTION

Has the Board of Trade views as to what form the interior decoration of 534 should take. Has the Board of Trade powers to implement those views?

ANSWER

Subject to the arrangements in a passenger steamer complying with the Board's safety requirements, the Board have no power in respect of the interior decorations which, therefore, remain at the discretion of the owners.

FRANK PICK
Chairman of the
ART AND INDUSTRY COUNCIL,
President of the D.I.A.

QUESTION

What sort of interior do you think a modern liner should have?

ANSWER

My own personal view is that the new Cunarder ought to be an object lesson in what British industry can do at this present time in the way of furnishing and equipping a liner. It would be a travelling exhibition for British industrial art, including, I presume, some additions illustrative of fine art.

DESIGN AND INDUSTRIES' ASSOCIATION

QUESTION

What sort of interior do you think a modern liner should have?

ANSWER

Modern passenger carrying traffic by sea demands the provision of the utmost comfort and convenience; but while serving the purpose of a luxurious floating hotel, the interior design of modern liners should be in keeping with their magnificent quality of structure and materials, and should complete and complement the work of the naval architects and shipbuilders.

It follows that the current British practice of disguising structure under the forms and ornament of Elizabethan manor houses and eighteenth-century French drawing rooms is definitely inappropriate and that the designer should, on the contrary, devise forms that grow naturally from the solution of his practical problems. In the hands of the gifted architect and designer these forms and their appropriate decoration will be the harmonious and æstnetic expression of purpose, material and structure.

QUESTION

Do you think there is any justification for the current practice of period decoration?

ANSWER

In our opinion, none. Reasons for the persistence of this type of decoration seem to be the assumption that it is what travellers like and that proficiency in "period styles" is sufficient indication of a designer's skill and ability. From the point of view of the decorator concerned it has the advantage of saving him a great deal of trouble and costing his clients a great deal more.

It is unfair, however, to blame unduly the upholsterer-decorator, since the policy is obviously initiated by the board of directors.

We understand that the highest average of first class passengers per voyage on the North Atlantic route was held last year by the following ships in the following order: *Ile de France*, *Europa*, *Bremen*, *Empress of Britain*, and *Berengaria*. As 80 per cent. of this traffic was non-British the figures seem to prove that the foreigner does not share the Englishman's passion for spurious inglenooks and "ye olde."

QUESTION

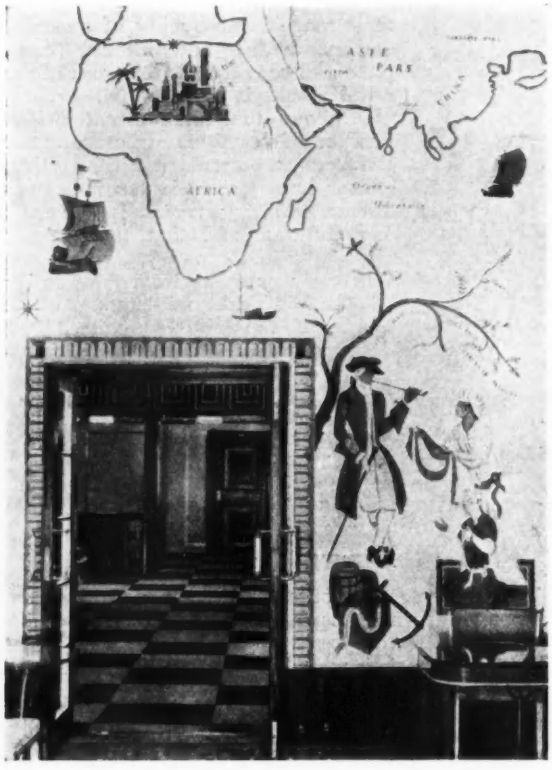
Would you mention, giving your reasons, any examples of liners which in your opinion are:—

(a) Suitably decorated inside.
(b) Unsuitably decorated inside.

ANSWER

(a) *Bremen*, *Europa*, *Kungsholm*, *Conte de Savoia*, *Champlain*, *Caribia* and *Cordillera*. The *Ile de France* may be mentioned as the first ship to be decorated in a contemporary style, though the decoration represents a compromise between the forms that grow naturally from the structure of the ship and the ideas of the Paris decorators of 1925.

We select these because the architects and designers have worked out their



The piano alcove and starboard gallery on the "Kungsholm."

own schemes of decoration, suited to the materials and purposes of our time and have devised forms of a new beauty and significance.

(b) As examples of ships unsuitably decorated (mentioning only important ships built in the last six years) : the public rooms of *The Empress of Britain*, decorated by celebrated painters and ship decorators. The Third and Second Class rooms, the First Class Cabin lobbies and corridors, designed by less celebrated designers must, however, be excepted—they are generally good. The new Union Castle ships—the *Warwick Castle*, *Winchester Castle*, etc., the R.M.S.P. *Alcantara* and *Asturias*, the White Star motor liners *Britannic* and *Georgic*.

Because their interior decoration is an imitation of the styles of past ages and other climes which have no relation to the needs and thought of today and are still less in keeping with the essential character of a ship.

QUESTION

What steps do you consider the directors of the Cunard should take if they wish to get the best results in the interior treatment of 534?

ANSWER

We suggest a choice of two means :

1 : A number of well known architects and designers of the contemporary school should be selected to collaborate in planning a consistent decoration throughout the ship, each undertaking different rooms and sections of the ship. (This was the means adopted in the case of the *Bremen*, while the *Europa* was completed under the direction of one architect.)

It is very important that there should be harmony and consistency of decoration throughout the ship, even though the rooms are varied to meet the different social needs of the passengers. Unification of scheme is most valuable in giving a sense of spaciousness which is important on a long ocean voyage. Under unified control the vistas from room to room can be given the most careful thought and consideration.

2 : The institution of a competition on similar lines to architectural competitions. The assessors should consist of two architects, a naval architect to advise on structure and planning and one layman with experience of travel by sea ; all of known sympathy and understanding of modern design.

In addition it seems to us eminently suitable that the question of the interior decoration of the new Cunarder should be a matter for the Government Art and Industry Council.

COLIN ANDERSON
Director of the ORIENT LINE

QUESTION

In the opinion of your company is there any justification for the current practice of period decoration?

ANSWER

Our policy towards the interior design and decoration of our new vessel is to get something which is modern in feeling without being extravagantly so and without sacrificing, for new shapes and materials, any of the usefulness we may have secured in the past with traditional ones.

QUESTION

What sort of interior do you think a modern liner should have?

ANSWER

We have never furnished our ships accurately according to any period scheme, but have tried to give them the less formal appearance of a private house. Until now we have never contemplated relying entirely on the designs and ideas of the day. Nor, indeed, in our opinion, should we have been wise to do so, for not until now has the modern school of decoration found its feet sufficiently to enable one to employ it without undue risk of obtaining something ephemeral.

QUESTION

What is the policy of your company in this matter?

ANSWER

3 : We have always followed the policy of employing an architect to design our rooms.

TRAVEL AND INDUSTRIAL DEVELOPMENT ASSOCIATION

QUESTION

What sort of interior do you think a modern liner should have?

ANSWER

A giant ship like the new Cunarder will obviously be a big advertisement for this country, and will be looked upon throughout the world as representative of the best that British craftmanship can do. Since design is psychologically as important to the comfort of the passenger as purely physical conditions, it is obviously of the greatest importance that whatever design is chosen should be in keeping with the taste of the intelligent traveller.

QUESTION

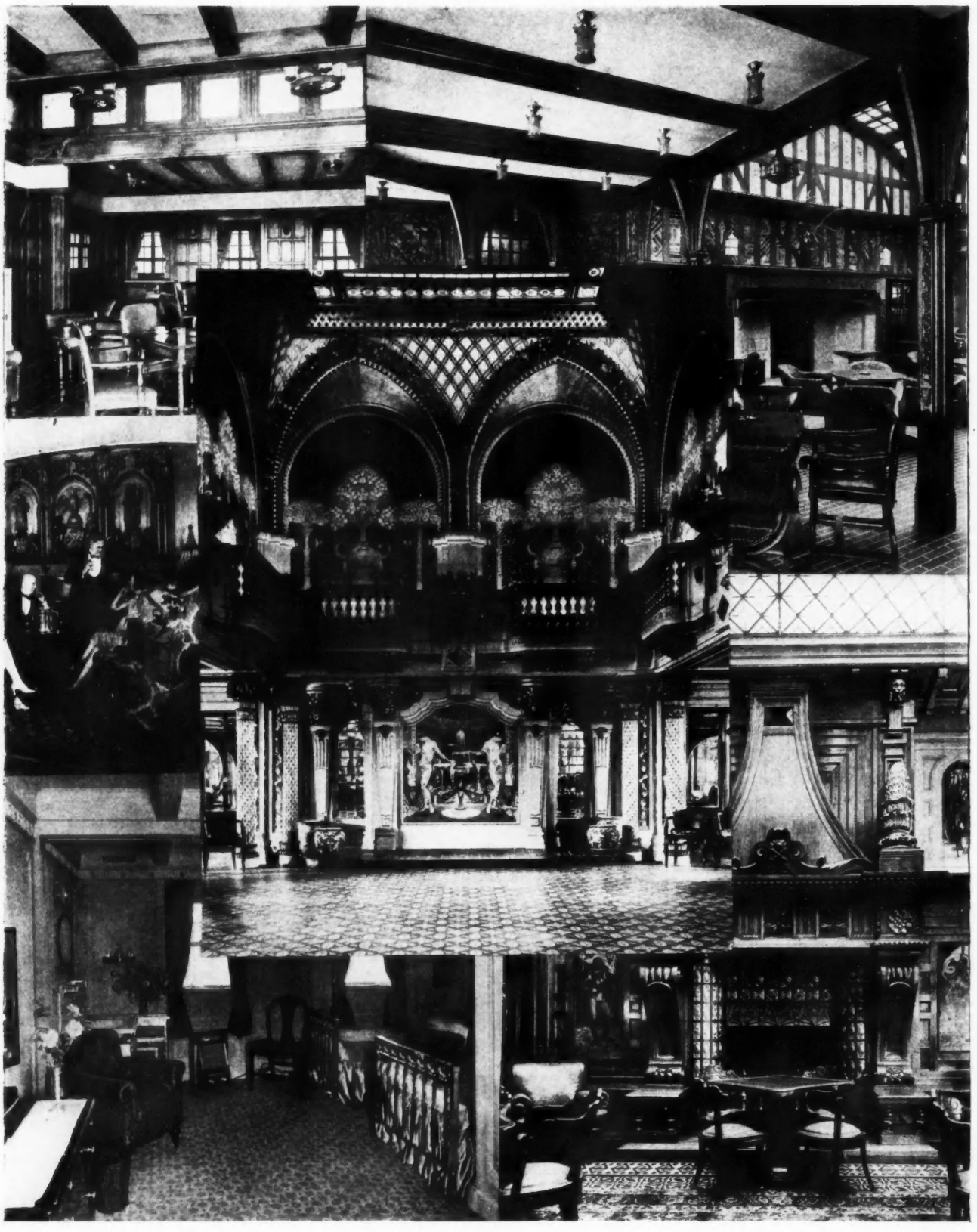
Do you think there is any justification for the current practice of period decoration?

ANSWER

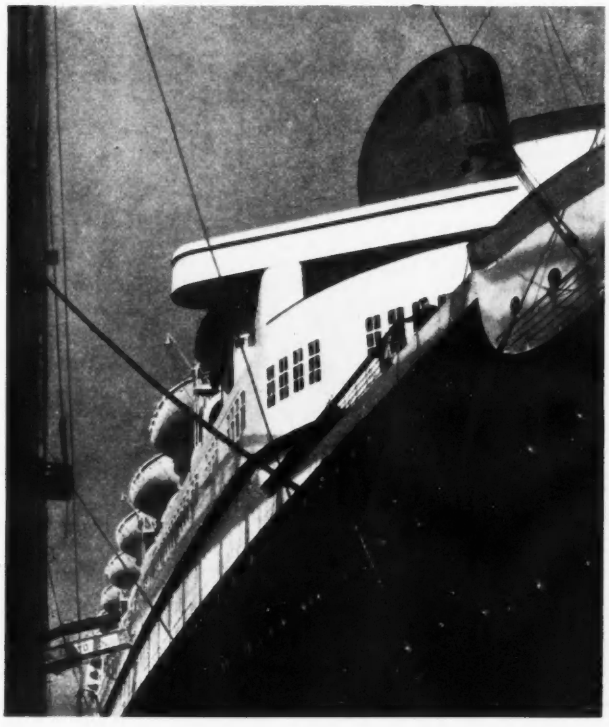
We are particularly anxious to counteract the impression that may exist in some countries abroad that England is nothing but an interesting historical monument and is behind the times in matters relating to the visual arts. It makes a point in all its publications and other methods of advertisement for Britain overseas to keep up with the best that is being done in other countries.

"A distinctly Old English note has been struck in the design of the first-class public rooms on this ship. Oak panelling of different shades is used throughout, after the manner of the old houses in the days of the Tudors. The furniture is in the same style, but notwithstanding the olde-world atmosphere imparted to these rooms, full advantage has been taken of the most modern methods of lighting to avoid the brilliant glare of electric lighting. Indirect lighting reflected from concealed lamps in the frieze is used, and thus a softer light is obtained which is more restful and in keeping with the quiet tone of the rooms themselves. The dining saloon (shown above) is panelled in dark oak with oak beams and white ceiling, and Tudor arches running fore and aft connecting the stanchions. The treatment of the upper part of the dome of the dining saloon gives the impression of an old-time galleries inn. A feature is made of the lighting of the dome from reflector lamps in the shape of Tudor roses."

—From a report issued by the Company. [HIGHLAND CHIEFTAN, *1928.*]



A symposium of the interiors of some modern liners.



5 3 4

AND ALL THAT

[*By BAIRD DENNISON*]

SHIP-OWNERS used to be retired seafaring men. Today they are financiers. But a ship is always that splendid thing a ship, whatever her secondary function may be : freight or human transport, dredging, or a floating platform for artillery. And this remains true, regardless of the nature and importance of the carrying rôle assigned to those parts of her which, though surplus to, are still spatially (and so formally) conditioned by, the paramount needs of propulsion and navigation.

The proper nautical term " fitting out " is a far more appropriate one for completion after launching than the land-lubber's " ship decoration," for a ship as a ship obviously requires no ornamental titivation. If the preparation of a big liner for passenger accommodation be considered open-mindedly, it will probably be conceded that the principles involved are, at bottom, the same as those that should inform the design of a building, or the shaping of anything primarily made for daily use. These governing principles may be abridged as " fitness for purpose." By their dogged grip on sea power throughout the centuries, the people of this country have proved they fully realize that the case for fitness for purpose in what is so rightly called naval architecture must be a prior one. And whenever that case is put to them on its merits, and the issue is not obscured by the trailing of some specious commercial red herring across it, they evince their common-sense belief that fitness for purpose applies with equal force in the equipment of a liner *qua* a liner. One of the sophistications most persistently employed to bias this plain issue is the plea that it cannot be regarded as such because a convenient figment of the financier's imagination, called " the public," must be given " what it wants." Now this public, it is hardly necessary to add, is not " the " (hardly any longer even " a ") public, but simply an arbitrary multiplication of the financier-ship-owner's estimation of himself as a man of taste and nous by the eight figures that represent the white population of the British Empire plus such Americans as habitually cross the Atlantic (blacks and foreigners naturally do not have to be considered). Or, put in another way, " what the public wants " is the direct reflection of what ship-owners like themselves, and first began to find they preferred a considerable time ago.

How is it that the moment one " goes below " any British steamer, except one not built to carry passengers, it ceases to look like a ship ? That familiar " P. & O. Style," with its sombre mahogany wainscoting, which transplants us to the varnished halls of superior Bournemouth boarding-houses in pre-war days, ought to have gone long ago. Instead, it has become a sort of immutable tradition. Sailors have no use for it, of course, and keep themselves to themselves in those trim little bunks from which all nonsense is banished. Foreign ship-owners grasped the importance of fitness for purpose years ago, and have since consistently embodied it in all their new boats : a fact which helps to explain their superior earning capacity. Why, then, it may be not unreasonably asked, have all the newest Cunard, White, Red and Blue Star, P. & O., R.M.S.P., Canadian Pacific, Bibby, etc. liners, with negligible exceptions, been decked out with threadbare variations of those same old fly-blown " appointments " ? Why is this meaningless contrast perpetuated between the engineering marvels of their Diesel engines, geared turbines, water-tube boilers, wireless and depth-sounding installations, and that ironic inversion of a favourite Victorian ornament, the ship built in a bottle, enthroned in tawdry splendour among them ?

British ship-owners have a ready answer—the sort that the popular press periodically prints as " an authoritative statement "—which has not varied substantially during the last decade. Shipping magnates, like railway managers, always feel most assurance that they know " what the public wants " when the only articulate section of the public most emphatically manifests its discontent with what it is being given. This answer is : " The people who go sea voyages nowadays are not intrepid explorers and hardy pioneers, but sleek-haired stock-brokers as little anxious to be reminded they are at sea as that they are living in a gold-standardless 1934. They expect a liner to be a combination of an up-to-

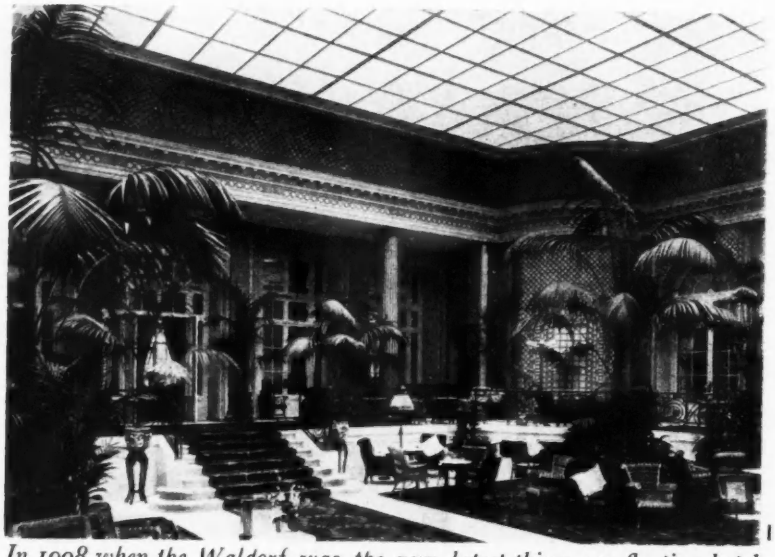
date hotel and a select country night club. Their womenfolk, rendered peevish and restless by the presence of a large slab of uncommunicative and indifferent water, demand at least the illusion of land. As for our tourist patrons, they insist on the old-world ingle-nooks with log-electric fires speculative builders have accustomed them to. Therefore we have copied the leading hotels in our foyers and lounges and cabins *de luxe*, and the best contemporary practice in household decoration found in rising suburbs in the cheaper classes. And as all good hotels are period in one sense or another—baronial Gothic, Good Queen Bess, Brandy Nan, 'Louis,' country-house Georgian, or that happy fusion of the lot, Metrogoldwyn-Paramount 1920—we have followed their example and deftly fitted a carefully chosen variety of the most successful period interiors into a labyrinth of steel ribs and plates like a pin-cushion into a sea-shell. It must, however, be clearly understood that such refinements in no way prejudice speed or seaworthiness. On the contrary these expensive decorations should be regarded as psychological specifics of proved efficacy against *mal-de-mer* and ocean *ennui*."

Owing to lack of revision this answer ignores the time-lag. It is quite true that the best hotels used to provide these period parlour tricks, just as a few decades further back they provided antimacassars and ornaments in glass domes. But it is equally true that they have now changed their ways (that same "public" having given the necessary kick) and "gone modern" with a vengeance. It follows that those fundamental "hard facts" on which our ship-owners base their quibbles have long since ceased to hold valid. If what "goes" on land automatically goes on sea, liners must follow the lead of what the French call "*les Palaces*" in point of functional simplicity.

Most of us have heard the artistic argument for modern decoration *ad nauseam*. Let us confine ourselves, therefore, primarily to the case for modern *v.* period interiors from the purely material dividend-earning point of view: greater economy in initial outlay, still greater economy in maintenance, greater practical utility, and consequently greater all-round efficiency. None of these claims can be seriously adduced in favour of any known form of sham antique, whether "true to type" or a "modernized" hybrid. There is another. Women have been quick to appreciate that simple modern forms provide the perfect background to the feminine figure.

The economy evinced by the best modern work is not confined to cost. It applies equally to space, surface, material, line, and labour—all of which, particularly space, are of some

S H A D E S O F



1

In 1908 when the Waldorf was the very latest thing, our floating hotels endeavoured to give their passengers similar surroundings. Nor were they—

2

—entirely unsuccessful.

3

In a quarter of a century—

THE WALDORF

—the land hotel has changed. Not so our liners—they want to make us think

we are still in the dear old Waldorf.

importance aboard ship. The kind of fitness for purpose a modern interior embodies is the quantitatively less and the qualitatively more that subordinates display to utility, and kills two birds with a single stone, by giving the latter an individual beauty of its own. Rustless metal fittings save polish in both a Brasso and elbow-grease sense. Modern living-rooms, being infinitely less encumbered than period parlours, evince an unrivalled *multum in parvo* compactness. They contrive to incorporate far more handiness in far less, and less bulky, furniture; and yet leave far more room to move about in—almost essential considerations if, as ship-owners maintain, ladies when afloat demand all the comforts and conveniences of shore life plus quite a big something in the way of luxury liner glamour. Or take a more specific case: hygiene. Sailors have a proverbial horror of dirt in any form. Think of the amount of dust trapped in the innumerable flutings, mouldings, and carved whatnots of period decorations which never gets washed off by the waves or blown away by sea breezes. Even with vacuum cleaners the work of removing it while the ship is being turned round between voyages must be immense. Those millionaire tapestried suites with their platinum-tapped bathrooms (platinum plumbing is indistinguishable from chromium-plated) are a thing of the past. The few self-confessed millionaires surviving have changed their tastes. They no longer find it prudent to indulge in lavish ostentation, and they want to be in the swim of the modern world like everyone else. "*Le plus simple est devenu le plus chic.*"

According to *Shipbuilding and Shipping Record's* annual review of progress in 1933, there are definite indications of

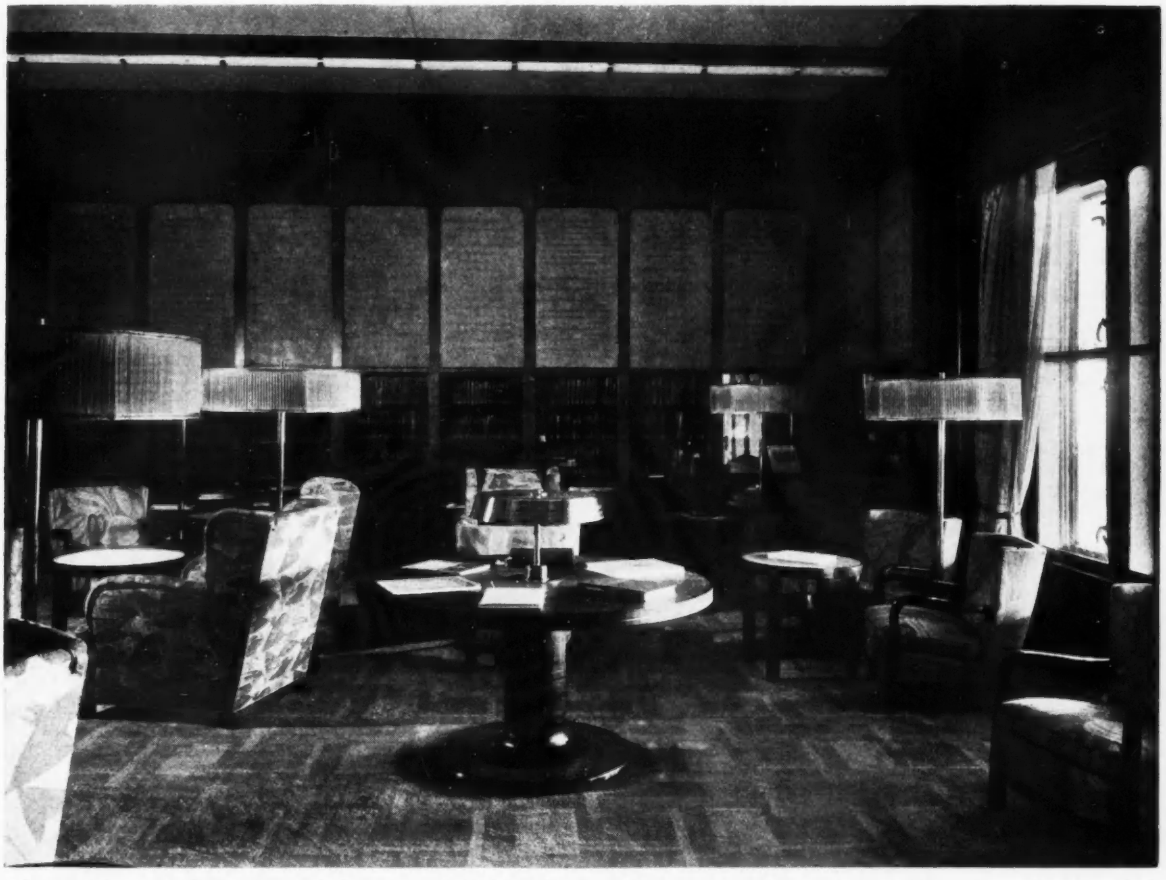
1: *The Waldorf Hotel, London, as it was in 1908.*

2: *The White Star Liner "Majestic." Interior of the lounge.*

3 *and* 4: *Morecambe Hotel, by Oliver Hill.*

5: *The "Arandora Star," one of our latest ships.*

Of this photograph, SHIPBUILDING AND SHIPPING RECORD *writes: "An extremely successful combination of period with modern furniture. Designed by Mr. McInnes Gardner, the 'Queen of Bermuda' smoke room strikes a happy medium between period conventionalism and the freedom of modern tendencies in upholstery work." This, with due respects to our esteemed contemporary, is not a fortunate description. The room is an example of "period design"—whether good or bad we do not presume to say. A piece of work which does in fact "strike a happy medium between period conventionalism and the freedom of modern tendencies" is shown on the facing page.*



Unostentatious yet impressive, orderly yet comfortable, rich yet well bred—the library of the "Bremen," an interior which has a certain early nineteenth-century character and yet leaves one in no doubt that it belongs to today and not the day before yesterday. Compare this with the illustration on the opposite page.

a "gradual and systematic development towards a purely British style in ship furnishing and decoration. After studying a number of recent new and reconditioned vessels, one concludes that . . . only a narrow barrier separates ultra-modern from classical period. This, the writer ventures to suggest, has led to a distinct style or period representative of today—unfettered by rigid convention yet paying homage to tradition, modernizing the classical periods without destroying their original character or becoming aggressively modern. Of all the nations engaged in building, furnishing and operating large passenger vessels, only Britain could evolve such a style; and to British artists and British owners must be given credit for steering so carefully a middle course, avoiding on the starboard hand a storm-tossed sea of illogical modernism, and on the port, a backwater of stagnant conventionalism. Passengers who object strongly to an ultra-modern Continental scheme, and others who complain about 'the monotony of period apartments' have expressed their delight at the all-British compromise of which the *Queen of Bermuda* is an outstanding example."

Now this is frankly nonsense. Had a distinctive "British Modern Style" been even half evolved the whole world would know about it; Conduit Street would diffuse a positively imperialist optimism on the future of architecture; and there would be as good as no unemployment among architects. We should, in other words, be exporting architectural ideas instead of being obliged to import them wholesale. "Jazz-Modernesque" is neither modern, nor a style; and least of all British; but simply a blatantly vulgar veneer born of the reactions of the Paris Exposition des Arts Décoratifs of 1925 on American "Movie-Kings."

Less than a year ago the Cunard's flagship, the *Berengaria*, was what the evening papers call "entirely reconditioned." This is part of the officially inspired description of her refurbishment "in pursuance of the company's policy of keeping its ships abreast with the times" that was published in the press at the time:

"Tourist class passengers will find an innovation that is sure to please: a Tudor gallery on the port side, 200 yards in length, with an attractive old-world atmosphere. Trees from the New Forest were used in the cleft-oak, half-timbered treatment of the plaster walls; and the iron grilles and brackets were made and wrought (surely "wrot"?) in smithies."

In 1932 the Cunard showed a loss of £400,000; the Nord Deutscher Lloyd, the owners of the *Bremen* and *Europa* made a profit. Since both lines are directly or indirectly subventioned by their respective governments, no other comment on this example of "business as usual" seems necessary.

Abroad, no ships, great or small, are being built (or have been for a long time) that are Neo-Anything—even Mr. W. A. Gibson Martin's "Compro" Neo-British "style or period." Sweden initiated this revolution with the *Kungsholm* and *Gripsholm* (a comparison between the decorations

English ship interiors are, of course, not the only ones which suffer a sea change. Compare, for instance, the entrance hall of the "Conte di Savoia" (above) with the lounge in the same ship (below.) Ship-owners argue that passengers hate the sea and wish to be cajoled by pretty decoration into forgetting their sea fever. But would it really be more difficult to be ill in the bottom illustration than in the top.

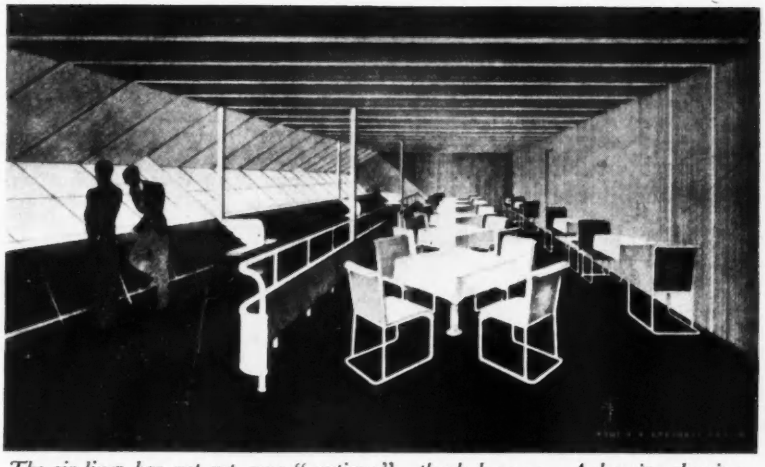
of the small four-year-old Swedish Lloyd vessels sailing from Tilbury to Gothenburg with our latest cross-Channel steamers is a painfully humiliating one for Englishmen). Then came the Compagnie Trans-Atlantique's *Paris* and *Ile de France;* and in their wake several fine new boats for the French Far Eastern and South American services. We may not altogether like the decorations of these—indeed some of us are appalled by them—but they at least give formal expression to the French version of the spirit of our age, and ape the antiquie in nothing. They were followed by those supremely elegant sister ships, the *Bremen* and the *Europa*, with lines as lovely as the latest French cruisers, which have proved the most popular boats that ever sailed on the New York service with all nations. They were an object lesson in themselves, but an object lesson that made no impression on Cunard directors. Hot on their heels appeared the great Italian liners, *Augustus* and *Rex*, besides the American *Manhattan* and *Washington*, and many admirable Dutch boats of intermediate tonnage. All were uncompromisingly modern in their decorations. Our only answer has been the *Empress of Britain*, and her later echo, *The Queen of Bermuda*.

Apart from fine engineering, the former is scarcely the sort of ship either United Kingdom or Canadian Britons would feel tempted to boast about. It would probably never occur to any reader of this JOURNAL, as it did to her owners, that because a man was an illustrator of popular colour books he must *ipso facto* be able to design modern furniture. Furniture must be practical and solid before it can begin to think about being anything as disturbing and alien to its purpose as whimsical. The mixing of pigments is no training for the fashioning of wood and upholstery. Yet more grotesque than the *Empress of Ruritania* and the *Queen of Hollywood*—to give them the names they ought to bear—was the "little grey home in the west" transmogrification of steel decks into rubble cottage walls with which the transference of the old *Lapland* from the Belgian flag to the red ensign has been celebrated.

Let us face facts. Though there is no real difference in fares, more English people travel on foreign boats today, and fewer foreigners on English ones, than ever before. The food is not the only reason.

Even if *534* should be outstripped by the French *Normandie* by some yards in length and a couple of thousand tons in displacement, she will offer a splendid chance to retrieve

Rather "French," but nevertheless simple and straightforward. The Café Terrasse of the "Lafayette." This interior is not an outrage to its ship, as are so many English interiors.



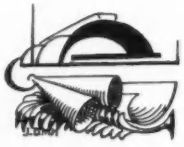
The air liner has not yet gone "antique"—thank heavens. A drawing showing the lounge of the new Graf Zeppelin.

our somewhat battered maritime prestige. As she is being built with a Government guarantee, the State ought to assume responsibility for her design as a whole. And that responsibility has now become a direct one as regards decoration in virtue of the recent appointment of a standing Art and Industry Council by the Board of Trade. Her hull and her engines will be all right. The Clyde stands for that. But between decks . . . ? Figuratively speaking she will be flying no mere house flag, but the Union Jack uncantoned (rather a fine flag when one comes to think of it, and one that stands for a good deal !) So let's have a ship we can all be proud of, that makes us feel a bit gulpy when she steams by. And, please, no dummy extra funnels, in the name of artistic symmetry. (Is there, by the way, some conventional relation between length of deck and height of funnels? The funnels of English liners grow taller in proportion as those of foreign ones become shorter and broader, and the latter seems somehow a far better evocation of speed and power.)

Don't let us give the dagoes yet another chance to say we are only a nation of olde-worlde shop-keepers. Even if the new Cunarder *must* have an outlandish name ending in "ia" (and how wearisome these obscure Roman provinces are becoming), let it be something nearer *Contemporania* than those hardy annuals on the slips, the *Jacobethia* and the *Georgiporgia*. Fly the pennant of our brave new world from her mizzen, not the pseudo-antique's.

[THE END]

A swimming bath on one of the Hamburg-American liners.



Leverhulme Research Fellowships

The Advisory Committee of the Leverhulme Research Fellowships invite applications for 1934 Fellowships.

These Fellowships are intended in the first instance for the assistance of experienced workers, rather than to add to the provision already existing for workers in the early stages of their careers. The Trustees have in mind particularly men and women who are prevented either by pressure of routine duties or by any other cause from undertaking or completing an investigation of value. They have decided, as in 1933, that no definite limit shall be placed to the amount of individual grants but that they will be adjusted according to the circumstances of each particular case. Fellows will usually be required to work at or in connexion with a recognized centre of research, either at home or abroad. No subject of enquiry is excluded from the scope of the scheme, but under present conditions the Trustees intend that preferential consideration should be given to subjects in which the existing provision is inadequate.

Enquiries and communications in connection with the scheme should be addressed to Dr. L. Haden Guest, Secretary, Leverhulme Research Fellowships, Union House, St. Martins-le-Grand, London, E.C.1, from whom forms of application may be obtained.

Civic Planning

Sir Raymond Unwin, PP.R.I.B.A., in an address delivered at Convocation Hall, University of Toronto, condemned crowding as extravagant and disorderly. He denounced vertical overcrowding as well as horizontal, thereby expressing his displeasure of skyscrapers. He asserted that: "Just as a house has different rooms for different uses, so the town or city should be laid out in zones." He continued:

"There should be a distinction in roads used for commercial traffic and roads for pedestrians. We shall have to adopt a distinction between roads used for traffic and roads to serve the frontage of buildings. It pays a motorist to go miles out of his way to save being held up by signals. You here are cursed with the checkerboard system of planning. It is far more costly than our even more haphazard system of planning. It is common for you to occupy one-third of your land area in road space. And there is no more expensive way in which you can put your land to use. You have to treat all streets as traffic streets. It approaches more nearly chaos than any other plan.

"What would you think of anyone constructing a human frame that set out to plan veins and arteries on the checkerboard system?

"The amount of loss in value which resulted from a haphazard expansion of cities was great.

"Towns need zoning so as to set aside residential sections safe from the intrusion of factories, business districts, etc. A city should have a central nucleus, and when the town grows to 50,000 or 100,000, for example, a halt should be called. Separate units should be arranged gradually about this circumference, each one in ring fashion and each self-contained as far as possible so as to save transportation."

IN THAT CONTINGENCY

The following abstracts of inquiries represent a number of those recently submitted to the Building Research Station. The information given in the replies quoted is based on available knowledge. It has to be borne in mind that further scientific investigations may in the course of time indicate directions in which the replies might be supplemented or modified. Moreover, the replies relate to the specific subject of each inquiry, and are not necessarily suitable for application to all similar problems.—Crown Copyright Reserved.

Reduction of Noise in Buildings

¶ *On page 5 of Building Research Bulletin No. 14, "The Reduction of Noise in Buildings," the following statement occurs:*—"*In the case of the reinforced concrete frame structure, it is obviously more difficult to introduce discontinuity in the actual frame, and the skeleton is often monolithic with the filling membranes. It follows, therefore, that the reinforced concrete frame structure, when employed for such buildings as hospitals, flats and hotels, in which mechanised equipment is unavoidable, presents a particularly difficult acoustic problem.*"

This has been interpreted to mean that the Building Research section of the Department of Scientific and Industrial Research definitely suggests that reinforced concrete construction should not be used for the types of buildings noted in the paragraph. Can you inform us whether such interpretation is, in fact, correct? It would also be of interest to know to what extent the statement given in the above extract is based upon experimental work carried out by the Department. If a rather fuller explanation of the views of the Building Research Station on this subject could be given it would be much appreciated.

It is quite definitely *not* the opinion of the Building Research Station that the use of reinforced concrete as such should be banned for the construction of hospitals, flats and hotels, neither is it thought that the extract given can be reasonably construed in this sense even when separated from its context. The paragraph relates, of course, merely to structure-borne noise and is not concerned with other noises prevalent in both traditional and framed buildings. Read in relation to the associated paragraphs, the meaning appears to us perfectly clear, that the authors are drawing attention to the fact that all framed structures, not only those of reinforced concrete, present difficulties, not usual with traditional heavy masonry, when acoustic requirements are considered, and emphasizing that the monolithic character of the normal type of reinforced concrete structure entails a realization at the earliest stages of the design of the need for special precautions.

On the second point raised as to the experimental basis for these considerations, the answer is that they are based on experimental data in so far as the general science of building acoustics is based on experimental data. Published measurements on full-sized buildings are not available, but the authors had before them a certain amount of practical evidence. In order to secure complete data, the Department is now endeavouring to obtain the technical and financial co-operation of the sections of the Building Industry concerned in a programme of investigation of all problems of sound transmission. This work will deal not only with structure-borne noise but also with sound transmission through partitions, walls and floors.

It may be added that the opinions expressed in the paragraph are simply deductions from ordinary theory. A sound wave will travel through material until the energy is dissipated. Wherever there is a discontinuity, e.g., at a joint, energy will be lost, and the greater the discontinuity the greater will be the loss. In traditional masonry construction, the discontinuities in the fabric are greater than anything usual in normal framed structures. In the steel frame, continuous though it is to a greater or less extent depending on the joints used, the members are pieced together, permitting the insertion of damping material; moreover, the steel framework of a building of the type under discussion would be covered with stone, brick or concrete, and this covering can easily be non-monolithic and can help to reduce the amount of sound energy reaching the frame, or leaving it after being borne round the structure. In reinforced concrete construction, the pillars are monolithic with the beams and the skeleton is often monolithic with the floors; also, the concrete of the frame itself often forms the exposed face of the structure. Hence it is all the more important, immediately at the start of the design, to take appropriate measures to meet acoustic requirements. There is no reason to believe that satisfactory sound reduction cannot then be obtained at some extra expenditure; it is a matter of intelligent appreciation of the problem and of the application of the results of research, when they are forthcoming.

Clinker Concrete Blocks for External Walling

¶ *THE Surveyor to a Local Authority asked for advice on the suitability of clinker concrete blocks for use in the external walls of houses to be erected by his Council. The walls were to be 10 inches thick, consisting of two thicknesses of four-inch clinker concrete blocks with a two-inch cavity between; they were to be plastered inside in the ordinary way and would be rough-cast or rendered outside with a lime putty composition. The enquirer wished also to know what effect the clinker would be likely to have on galvanized iron wall ties, and he asked what precautions should be called for in specification to ensure that the best type of material would be supplied.*

The properties of clinker concrete are dealt with in two reports issued by the Station, these are Building Research Bulletin No. 5—"The Properties of Breeze and Clinker Aggregates and Methods of Testing their Soundness" (H.M. Stationery Office, price 6d. net) and Building Research Special Report No. 15—"The Corrosion of Steel by Breeze and Clinker Concrete" (H.M. Stationery Office, price 6d. net).

It may be stated briefly that clinker concretes are liable to introduce difficulties in building for two main reasons:—

1. The presence of unsound material in the clinker aggregate, usually certain types of coal in an unburnt or partially burnt condition, leads to progressive expansion of the concrete in the presence of moisture over long periods. It may be noted that cases are recorded where houses with external walls erected with unsound aggregates of this type have had to be demolished. Troubles of this kind, however, are avoidable and can be guarded against by regular sampling and testing of deliveries of the clinker on the lines set out in Bulletin No. 5.

2. Moisture movements of clinker concrete, expansion on wetting and shrinkage on drying, frequently lead to crack formation in walls and partitions even when the aggregate is sound. All concrete products shrink on drying and it is characteristic of clinker concretes that their drying shrinkage is considerably in excess of that of normal gravel and ballast concretes. It is generally recognized that under ordinary practical conditions a certain amount of shrinkage-crack formation is inevitable in clinker concrete slab-partitions; the cracking may be reduced to a minimum by ensuring that the blocks are well matured and thoroughly dried before erection in partitions, but to a certain extent it must be regarded as unavoidable. There is a British Standard Specification for precast concrete partition slabs, wherein limits are laid down for moisture content and shrinkage movements, and material complying with this specification should give reasonably satisfactory results in internal partitions.

The case of external walls, however, is quite a different problem. Alternations in humidity conditions are very much more severe than with internal partitions, and any of the defects discussed above may develop to a more serious extent. For this reason the use of clinker concrete slabs in external wall construction is not usually considered the best practice for work of a permanent character.

It may be argued that the walls will be protected by external rough-cast or rendering but, actually, it can be shown that the degree of protection obtainable in this way is somewhat illusory. Renderings and rough-cast are prone to crack, even when applied over a non-shrinking backing such as brickwork and with the likelihood of shrinkage and cracking in the clinker concrete slabs themselves, it is to be expected that the rendering or rough-cast will crack even to a greater extent than would be likely to occur on brickwork. Driving

rains may then penetrate at the cracks and the clinker concrete will become wet. The rendering, however, will slow down the rate of drying when fine weather follows a wet period and the clinker concrete may be expected to remain wet for a long time.

Clinker concrete is likely to exert a corrosive effect on galvanized iron wall ties actually in contact with it. It would, therefore, be necessary to take precautions in positioning the ties to ensure that they are surrounded on all sides by a continuous bed of cement; sand mortar if corrosion is to be avoided.

It was suggested that in specifying material for the houses strict compliance with the requirements of the British Standard Specification for pre-cast concrete partition slabs should be demanded. Owing to the known variability of clinker aggregates it would be desirable to sample and test the material delivered at regular intervals in the progress of the work.

Jointless Flooring on a Concrete Sub-floor

¶ *A BUILDING Contractor asked for advice on the precautions to be taken in laying jointless flooring for the ground floors of a house direct on a reinforced concrete raft foundation. The concrete raft would be composed of washed ballast and Portland cement in a 6 : 1 mix and would be six inches thick over the site. The site was stated to slope steeply from back to front, but was well drained on filled ground. The enquirer also wished to know what would be the best position for the damp-proof course with a construction of this kind.*

It is difficult to lay down general recommendations since the results obtained are likely to vary in individual cases. Magnesium oxychloride flooring is often laid direct on ground floor concrete and is quite successful. On the other hand it may safely be assumed that in the event of any deficiency in materials or workmanship, failure of the floor finish is almost certain where moisture can obtain access to it.

The best concrete that can be made, even with addition of an integral waterproofer, possesses a porous, capillary structure which may convey moisture from the ground to the floor finish. For this reason, the construction proposed might well be unsatisfactory on a damp site; this, however, is a point that can only be decided with first-hand knowledge of the state of the ground.

We believe that for floor finishes direct on the ground it is the normal practice to diminish the proportion of wood flour in the jointless flooring and to substitute inorganic fillers. This makes the floors somewhat harder, but is probably a desirable precaution where a certain amount of moisture must necessarily obtain access from the ground.

The question of the position of the damp course in the walls does not appear to have any bearing on the penetration of damp through the floor, but is, of course, important in preventing damp rising in the walls. It is generally recognized that damp courses should be below floor level inside the building and at least 6 ins. above ground level on the outside. With the type of construction suggested, therefore, it appears that it would be desirable to have a vertical damp course in the thickness of the wall as sketched. (Fig. 1.)

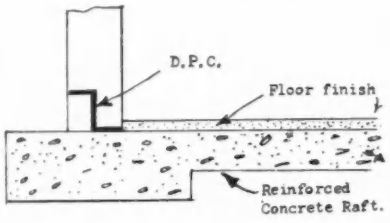


Figure 1.

SOCIETIES AND INSTITUTIONS

NORTH STAFFORDSHIRE ARCHITECTURAL ASSOCIATION

Mr. F. Morrall Maddox, A.R.I.B.A. (President), occupied the chair at the seventh annual dinner of the North Staffordshire Architectural Association, held at Stoke-on-Trent last week. It had been hoped that Sir Giles Gilbert Scott, R.A., P.R.I.B.A., would have been present as the guest of honour, but an important engagement prevented his attendance. In place of Sir Giles Gilbert Scott, the chief guest was Mr. E. C. Bewlay, F.R.I.B.A.

Mr. E. N. Scott, J.P., proposing the toast of "The R.I.B.A.," said: "There was a time when qualification for the professions was self-constituted. Those days, happily, are past. The R.I.B.A. and the allied societies, including the North Staffordshire Association, signify that the architect must pass through a period of training and probation almost as exacting as for the profession of medicine. He must know a good deal more than the difference between a Doric column and a Gothic arch. His knowledge must not be confined to the local building bye-laws and the cheapest way to comply with them. Today he must be architect and engineer rolled into one, for steel and concrete have come to stay—until we devise something still more mechanical—and, whether he likes the term or not, he has got to be functional. Incidentally, he is supposed to be an artist. But if he fulfils all his purposes, all these other things which we call art will be added unto him."

Mr. E. C. Bewlay, responding, said:—"Your own local society is, I believe, of comparatively recent origin, but I am sure you, and your parent society, will agree with me that our alliance with the R.I.B.A. has done much to assist in the protection of the interests, and improvement of the status of the private practitioner and there has also been a gradual and very marked improvement in the scope and influence of the R.I.B.A. itself. There are few public questions of the day now, which involve any question of building, in which the Institute is not consulted; and, in fact, there is rarely a time when our name is not anathema to at least one Government department—whether it be about Waterloo Bridge, or Carlton House Terrace, or Government offices. The Institute now affords a protection to its members unknown in the old days."

The President (Mr. Maddox) said:—The battle of the so-called styles in architectural design still raged, and they were still enveloped in the smoke of transition. The so-called modernists were beginning to realize that "stuntism" and sensationalism were not the proper way to handle the modern materials now at the architect's disposal. The traditionalists, on their part, were beginning to shed a little of their bigotry and conservatism and were beginning to realize that in the older materials of stone, brick and wood it was possible to get a freshness into design and treatment without the trimmings of past periods. He was very optimistic that out of all the confusion in objective, would come that sweet reasonable which made for suitability, true functional quality and beauty of fitness for purpose, which were bound to be the basis of any true work of architectural art. Beautiful form would always arise from logical planning in the hands of the skilled architect, and no amount of trimmings externally would conceal the evidence of ill-conceived planning, just as no amount of fussy decoration would conceal the absence of good shape in a piece of pottery.

Other speakers included the Lord Mayor of Stoke-on-Trent (Ald. A. Hollins, J.P.), Col. W. J. Trent, Ald. Sampson Walker, and Messrs. Leonard Barnish, F.R.I.B.A., and F. V. Hume.

WEST YORKSHIRE SOCIETY OF ARCHITECTS

Mr. B. R. Gribbon, F.R.I.B.A., presided at a meeting of the Society on January 18, when Mr. J. B. Surman, F.R.I.B.A., delivered a lecture on "The Architect and the Future."

The lecturer pointed out that in the rush and complexity of modern life, the architect's functions had changed enormously, and the speed of building had turned him into a structural specialist who required a knowledge of applied science, acts of Parliament, and town planning. It was certain that most of the trouble they found themselves in today was due to the fact that they had failed to see just ahead of their times, and merely followed at the heels of progress, instead of being in the van and giving a lead in modern methods. He suggested that architects themselves were somewhat to blame for the present state of affairs in that they had been slow to change their methods of training and education. He was glad, however, to see that Leeds had now such an admirable school of architecture, lately under the control of Mr. Addison, and now under that of Mr. Allen. They as architects must accept the new technique and let it influence their art in the present mechanized age.

Mr. Norman Culley, F.R.I.B.A., in proposing the vote of thanks, thought that responsibility for the state of affairs indicated by the lecturer, rested not with architects, but with governing authorities. Officialdom was only just waking up to the fact that art was one of the amenities of existence.

In seconding, Mr. G. H. Foggitt, F.R.I.B.A., expressed the hope that some process of rendering steel rust-proof would soon be discovered, so that they could frankly face their buildings with that material.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILE RADIUS)

ACTON. *Flats, Shops, etc.* Plans passed by the Corporation: Four shops, Wesley Avenue, and factory extension, Acton Lane, for Wesley Estates, Ltd.; works extensions, Wales Farm Road, for North Acton Conveyor Co.; nine shops and flats, Western Avenue, for Messrs. Marshall and Tweedy; sub-station, School Road, for Messrs. S. Clifford Tee and Gale; eight flats, West Lodge Avenue, for Mr. R. G. Cox.

ACTON. *Flats.* The Corporation recommends a guarantee arrangement with the Workmen's Housing Association for the erection of 48 flats on a site in Canada Road.

ACTON. *Housing.* The Corporation is considering a proposal by the Housing Corporation of Great Britain, Ltd., to provide accommodaton for 50 families on the Horn Lane site in the form of five floor buildings, similar in general design and construction to the building erected by the L.C.C. at Westminster.

CHEAM, ETC. *School.* The Surrey Education Committee has decided to provide a school for 384 at Cheam Common, and another also for 384 on the Park Farm estate, Sutton.

EALING. *Houses, Shops and Flats, etc.* Plans passed by the Corporation: 139 houses, Whitton Gardens, etc., for Messrs. Richard Costain, Ltd.; two houses, Eastmead Avenue, for Mr. G. Gould; 96 flats, Queen's Drive, for Mr. Douglas H. Smith; two houses, Teignmouth Gardens, for Messrs. R. Lancaster and Sons; eight shops and 12 flats, Uxbridge Road, for Messrs. W. H. Read & Co., Ltd.; 12 shops and flats, Boston Parade, for Mr. A. J. Croughton; three houses, Ashbourne Close, for Messrs. Haymills, Ltd.; factory, Brent Crescent, for Mr. F. E. Simpkins; 10 shops and flats, Ruislip Road, for Mr. J. M. Woodrow; two houses, Ruislip Road, for Miss A. J. Cooke; dairy, Drayton Green, for Messrs. Leslie Kemp and Tasker; 15 blocks of flats and 41 garages, Hanger Lane, for Messrs. T. P. Bennett and Son; 174 houses, Gosling End estate, Northolt, for Mr. J. M. Wilson.

LEWISHAM. *School.* The L.C.C. is to provide public elementary school accommodation for about 700 children on a site in Coopers Lane.

LEWISHAM. *Houses.* Plans passed by the B.C.: 14 houses, The Woodlands, for Mr. P. B. Dannatt; eight houses, Sydenham Park Road, for Messrs. Breet and Son; 108 houses, Callander Road estate, and 24 houses, Lescombe Close, for Mr. L. A. Culliford; four blocks of flats, L.C.C. estate, Honor Oak, for Messrs. H. Boot and Sons, Ltd.; seven houses, Hither Green Lane, for Messrs. Ball (Builders), Ltd.; two houses, Ardgowan Road, for Messrs. Kengate, Ltd.; houses in Hillbrow Road, for Mr. Wm. Clark; flats, West Hill, Sydenham, for Messrs. Waring and Nicholson.

SOUTHGATE. *Houses.* Plans passed by the Corporation: 60 houses, Chase Road, and 276 houses: Oak Lodge estate, for Mr. J. Nielson; 40 houses, Brycedale Crescent, for Messrs. Bolton and Fifield; five houses, Oaklands, for Mr. C. E. Ward; two houses, Broadfields Avenue, for Mr. O. R. Davies; four houses, Powys Lane, for Mr. S. W. Woodward; two houses, Ringwood Way, for Mr. Mr. G. W. S. Ingram; six houses, Abbotshall Avenue, for Messrs. Woodwards.

SOUTHERN COUNTIES

DARTFORD. *Houses.* Plans passed by the Corporation: 64 houses, Lavina Road, etc. for the Squire Construction Co.; five houses, Oakfield Lane, for Mr. S. T. Wood; 28 houses, Holmleigh Avenue, etc., for Mr. W. G. Cooper; 28 houses, Brent Lane, for Messrs. W. J. Draper and Son.

HASTINGS. *Bungalows, Houses and Church.* Plans passed by the Corporation:—Bungalow, and two houses, Park estate, for Mr. A. Radcliffe; Roman Catholic church, Upper Church Road, for Mr. Wilfred C. Mangan; two bungalows, Fairlight Avenue, for Messrs. Jeffrey and Bowcock; three flats, Beaconsfield Road, for Mr. J. Hunt; four houses, Saxon Road, for Mr. W. Piper; three houses, Hughenden Road, for Messrs. Burton and White; two houses, Beaconsfield Road, for Mr. A. E. Reeks.

HASTINGS. *Shops and Flats.* The corporation is to erect shops and flats on a site in Old London Road, at a cost of £12,000.

OXFORD. *Houses.* The Corporation has made provision for the expenditure during the next 12 months of £57,000 for the erection of 150 houses on the Rose Hill estate, and £38,660 for the erection of 200 houses on other sites to be obtained.

OXFORD. *Schools.* The Education Committee has approved the following schemes for the next 12 months:—Domestic science centre, £5,150; extension Temple Cowley school, £5,200; junior school, £10,750; senior school at Headington, £14,100; secondary school at Southfield, £35,600.

OXFORD. *Offices and Mortuary.* The Corporation has made provision in estimates for the following works:—Proposed new offices, Blue Boar Street, £10,000; alterations to Corn Exchange, £1,000; new mortuary, £2,000.

WARE. *Laundry.* The Herts C.C. is to improve the laundry at the Western House Institution, at a cost of £5,670.

SOUTH-WESTERN COUNTIES

PAIGNTON. *Houses.* Plans passed by the U.D.C.:—12 houses, George Road, for Mr. R. J. Knapman; two houses, Edenvale Road, for Mr. P. D. Cavanna; four houses, Blatchcombe Road, for Mr. S. P. Madge; 12 houses, Colley End Road, for Mr. L. A. Willmott; two houses, Footlands Road, for Mr. F. Norman; four houses, Cliff Hill Park estate, for Staverton Builders, Ltd.; four houses, Barnfield Road, for Mr. E. A. Jonas; two houses, Pines Road, for Messrs. Lewis and Wills.

EASTERN COUNTIES

LOWESTOFT. *Houses and Bungalows.* Plans passed by the Corporation:—Eight bungalows, Kimberley Road, for Messrs. J. A. Gaze and Sons; 20 houses, off St. Margaret's Road, for Messrs. Warnes and Sons; two houses, Kirkley Run, for Mr. H. Mitchell; four houses, Colville Road, for Mr. G. Gaze.

NORWICH. *School.* The Education Committee is to provide new elementary school accommodation for about 100 children at the Mousehold Infants' Council School, 100 children at Philadelphia Council School, and 100 children at Cavell Council School.

MIDLAND COUNTIES

KIDDERMINSTER. *Houses.* Plans passed by the Corporation: 22 houses, off Beauchamp Avenue, for Mr. E. W. Perks; eight houses, Chester Road, for Mr. M. H. Harris.

The Corporation is to acquire 12 acres at Foley Park for a re-housing scheme.

The Corporation has now decided upon the erection of 250 instead of only 150 houses in connection with slum clearance proposals.

SUTTON COLDFIELD. *Houses, Garage and Showrooms.* Plans passed by the Corporation: 17 houses, Bakers Lane, for Mr. T. A. Glynn: two houses, Birmingham Road, for Mr. B. H. Thompson; 41 houses, Boldmere estate, for Messrs. T. P. Smith, Ltd.; 10 houses, Blackberry Lane, for Mr. E. G. Harris; six houses, Chester Road, for Messrs. F. and H. Judd; 20 houses, Lakehouse Road, for Mr. S. Spollen; two houses, Maxtoke Road, for Messrs. Tate and Griffin; 48 houses, off Maney Hill Road, for Mr. R. H. Bridge; four houses, Tamworth Road, for Alton Estates, Ltd.; two houses, Whitehouse Common Road, for Messrs. Clavis, Ltd.; garage and showrooms, Birmingham Road, for Messrs. Flemming and Son.

WOLVERHAMPTON. *Houses and Shops, etc.* Plans passed by the Corporation: 58 houses and eight shops, Rooker Road, for Messrs. A. T. and B. Butler; three houses, Crown Street, for Messrs. Herbert and Co.; three houses, Stoney Lane, for Mr. W. G. Corfield; two houses, off Trysull Road, for Mr. J. R. Woodisse; two houses, Burnham Avenue, for Mr. A. W. Edwards; six houses, off Trysull Road, for Mr. W. Howill; two houses, Newbridge Crescent, for Messrs. Weaver and Walters; 36 houses, Argyle Road, and 20 houses, Marsh Lane, for Mr. J. Walton; six houses, off Trysull Road, for Messrs. H. J. Amies and Sons; extensions Goodyear Tyre works, Bushbery, for Mr. T. Mulligan; offices, Queen Street, for Mr. H. Marcus Brown; 120 houses, Fourth Avenue, for Corporation Housing Committee; warehouse, Williamson Street, for Mr. A. F. Blakemore; 10 houses, Park Road West, for Messrs. Moore and Garnham; two houses, Richmond Avenue, for Mr. C. Whitehouse; six shops, Prestwood Road, for Mr. F. W. Baxter; estate development, Goldthorn Road, or Messrs. H. and J. N. Patten; 11 houses, Caledonia Road, for Messrs. Blackburn and Crossland.

NORTHERN COUNTIES

CARLISLE. *Showrooms and Offices.* The Corporation has obtained sanction to borrow £4,000 for the purchase of premises in Castle Street, for purposes of electricity showrooms and offices.

SCARBOROUGH. *Shops and Flats.* The Corporation is to prepare a scheme for the conversion of the Black Eagle Hotel, North Marine Road, into shops and flats.

SHEFFIELD. *Houses.* Plans passed by the Corporation: Two houses, Crosbie Road, for Messrs. A. J. Mackenzie, Ltd.; four shops and houses, Derbyshire Lane, for Messrs. F. B. Skinner & Sons; 11 houses, Springfield Road, for Mr. E. C. Horton; six houses, Whirlowdale Crescent, for Mr. J. Bailey; four houses, Lyminster Road, for Mr. D. A. Hurre; eight houses, Kent Road, for J. D. Cook exors.; six houses, Shenstone Road, for Mr. J. H. Mason; two houses, Whirlowdale Road, for Messrs. E. Walker, Ltd.; two houses, Sleyleigh Avenue, for Mr. J. W. Sivil; factory, Little London Road, for Messrs. R. J. Stokes & Co., Ltd.; 12 houses, Wellcar Road, and 16 houses, Cross Lane, for Mr. F. Dennis; four houses, Hayton Road, for Mr. C. W. Alflat; 17 houses, Warminster Road, for Mr. C. H. Leadbeater; house, workshop and offices, Sheffield Road, for Tinsley Wire Industries, Ltd.; four houses, Norton Lees Crescent, for Messrs. Bonser Bros.: two houses, Barnsley Road, for Mr. C. M. B. Wilson; 78 houses, Lees Hall Road, for Messrs. W. and J. Laver; four houses, Carlby Road, for Mr. W. C. Shaw; three houses, Vainor Road, for Mr. P. H. Slater; four shops and houses, Paper Mill Road, for Mr. J. Maxfield; five houses, Clarkegrove Road, for Mr. Jubb; two houses, Springfield Road, for Mr. F. Robson; six houses, Springfield Avenue, for Mr. C. H. Beardow; seven houses, Gleadless Road, for Mr. A. J. Belton; 54 houses, Woodthorpe Arms estate, for Messrs. J. H. Naylor & Son; two houses, Montrose Road, for Messrs. Plant Bros.; four houses, Studfield Hill, for Mr. H. Haywood; 316 houses, Wybourn estate, for Corporation Estates Committee; four houses, Ashland Road, for Mr. F. Biggin; 11 houses, Town Street, for Messrs. Holland & Co.; 16 houses, Argyle Road, for Mr. A. Ramsay; five houses, Dovercourt Road, for Mr. J. C. Mason; eight houses, Tasker Road, for Mr. E. Gardham; 17 houses, Hampton Road, for Mr. C. W. Alflat; two houses, Whirlowdale Crescent, for Mr. W. Croft; eight houses, Herries Road, for Mr. C. E. Carr; two houses, Tapton Hill Road, for Mr. T. J. Sanderson; 36 houses, Marsh Avenue, for Mr. J. Marsh.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I	II
			s. d.	s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A_1	Abergavenny ..	S Wales & M.	1 5	1 0½
A_2	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1¼
A_2	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1¼
A	Airdrie ..	Scotland	*1 5½	1 1¼
C	Aldeburgh ..	E. Counties	1 1½	10½
A	Altrincham ..	N.W. Counties	1 5½	1 1¼
B_2	Appleby ..	N.W. Counties	1 2	10½
A	Ashton-under-Lyne	N.W. Counties	1 5½	1 1¼
A_2	Atherstone ..	Mid. Counties	1 4	1 0
B_2	Aylesbury ..	S. Counties	1 2½	11
B_1	BANBURY ..	S. Counties	1 3	11¼
B_1	Bangor ..	N.W. Counties	1 3	11¼
A_2	Barnard Castle ..	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1¼
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow ..	N.W. Counties	1 5½	1 1¼
A	Barry ..	S. Wales & M.	1 5½	1 1¼
B_1	Basingstoke ..	S.W. Counties	1 3	11¼
A_2	Bath	S.W. Counties	1 4	1 0
A	Batley ..	Yorkshire	1 5½	1 1¼
A_2	Bedford ..	E. Counties	1 4	1 0
A_2	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_2	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	*1 7	1 2½
A	Birmingham	Mid. Counties	1 5½	1 1¼
A_1	Bishop Auckland	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1¼
A	Blackpool ..	N.W. Counties	1 5½	1 1¼
A	Blyth ..	N.E. Coast	1 5½	1 1¼
B_2	Bognor ..	S. Counties	1 2½	11
A	Bolton ..	N.W. Counties	1 5½	1 1¼
A	Boston ..	Mid. Counties	1 4	1 0
A	Bournemouth ..	S. Counties	1 4	1 0
B_2	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1¼
A_1	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M.	1 5½	1 1¼
B_1	Bridgwater ..	S.W. Counties	1 3	11¼
A_1	Bridlington ..	Yorkshire	1 5	1 0½
A	Brighouse ..	Yorkshire	1 5½	1 1¼
A_2	Brighton ..	S. Counties	1 4	1 0
A	Bristol ..	S.W. Counties	1 5½	1 1¼
B_2	Brixham ..	S.W. Counties	1 2	10½
A_2	Bromsgrove ..	Mid. Counties	1 4½	1 0½
C	Bromyard ..	Mid. Counties	1 1½	10¼
A	Burnley ..	N.W. Counties	1 5½	1 1¼
A	Burslem ..	Mid. Counties	1 5½	1 1¼
A	Burton-on-Trent	Mid. Counties	1 5½	1 1¼
A	Bury ..	N.W. Counties	1 5½	1 1¼
A_1	Buxton ..	N.W. Counties	1 5	1 0½
A_2	CAMBRIDGE ..	E. Counties	1 4½	1 0½
B_2	Canterbury ..	S. Counties	1 2½	11
A	Cardiff ..	S. Wales & M.	1 5½	1 1¼
A	Carlisle ..	N.W. Counties	1 5½	1 1¼
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Carnforth ..	N.W. Counties	1 5½	1 1¼
A	Castleford ..	Yorkshire	1 5½	1 1¼
B	Chatham ..	S. Counties	1 3½	11½
B	Chelmsford ..	E. Counties	1 3½	11½
A_2	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester ..	N.W. Counties	1 5½	1 1¼
A	Chesterfield ..	Mid. Counties	1 5½	1 1¼
B_2	Chichester ..	S. Counties	1 2½	11
A	Chorley ..	N.W. Counties	1 5½	1 1¼
B_2	Cirencester ..	S. Counties	1 2½	11
A	Clitheroe ..	N.W. Counties	1 5½	1 1¼
A	Clydebank ..	Scotland	1 5½	1 1¼
A	Coalville ..	Mid. Counties	1 5½	1 1¼
A_2	Colchester ..	E. Counties	1 4	1 0
A	Colne ..	N.W. Counties	1 5½	1 1¼
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_1	Consett ..	N.E. Coast	1 5	1 0½
A_2	Conway ..	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1¼
A_2	Crewe	N.W. Counties	1 4½	1 0½
A_3	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1¼
A	Darwen ..	N.W. Counties	1 5½	1 1¼
A_2	Deal	S. Counties	1 2½	11
A_3	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby ..	Mid. Counties	1 5½	1 1¼
A	Dewsbury ..	Yorkshire	1 5½	1 1¼
B	Didcot ..	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1¼
B_2	Dorchester ..	S.W. Counties	1 2½	11
A_3	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley ..	Mid. Counties	1 5½	1 1¼
A	Dundee ..	Scotland	1 5½	1 1¼
A	Durham ..	N.E. Coast	1 5½	1 1¼
A_3	EASTBOURNE ..	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1¼
A_1	E. Glamorganshire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter ..	S.W. Counties	*1 4½	1 0½
B_1	Exmouth ..	S.W. Counties	1 3	11¼
A_2	FELIXSTOWE	E. Counties	1 4	1 0
A_3	Filey	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1¼
B_2	Folkestone ..	S. Counties	1 2½	11
A	Frodsham ..	N.W. Counties	1 5½	1 1¼
B_2	Frome	S.W. Counties	1 2½	11
A	GATESHEAD	N.E. Coast	1 5½	1 1¼
B	Gillingham ..	S. Counties	1 3½	11½
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole ..	Yorkshire	1 4½	1 0½
A	Gosport ..	S. Counties	1 4	1 0
A_3	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0½
A	Greenock ..	Scotland	*1 5½	1 1¼
A	Grimsby ..	Yorkshire	1 5½	1 1¼
B_1	Guildford ..	S. Counties	1 3	11¼
A	HALIFAX ..	Yorkshire	1 5½	1 1¼
A	Hanley ..	Mid. Counties	1 5½	1 1¼
A	Harrogate ..	Yorkshire	1 5½	1 1¼
A	Hartlepools ..	N.E. Coast	1 5½	1 1¼
B	Harwich ..	E. Counties	1 3½	11½
B_2	Hastings ..	S. Counties	1 2½	11
A_3	Hatfield ..	S. Counties	1 4	1 0
B	Hereford ..	S.W. Counties	1 3½	11½
A_3	Hertford ..	E. Counties	1 4	1 0
A	Heysham ..	N.W. Counties	1 5½	1 1¼
A	Howden ..	N.E. Coast	1 5½	1 1¼
A	Huddersfield ..	Yorkshire	1 5½	1 1¼
A	Hull	Yorkshire	1 5½	1 1¼
A	ILKLEY ..	Yorkshire	1 5½	1 1¼
A	Immingham ..	Mid. Counties	1 5½	1 1¼
A_3	Ipswich ..	E. Counties	1 4	1 0
B_2	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1¼
A	KEIGHLEY ..	Yorkshire	1 5½	1 1¼
B	Kendal ..	N.W. Counties	1 3½	11½
B	Keswick ..	N.W. Counties	1 3½	11½
A	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster	Mid. Counties	1 4½	1 0½
B_2	King's Lynn ..	E. Counties	1 2½	11
A	LANCASTER ..	N.W. Counties	1 5½	1 1¼
A_1	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1¼
A	Leek	Mid. Counties	1 5½	1 1¼
A	Leicester ..	Mid. Counties	1 5½	1 1¼
A	Leigh ..	N.W. Counties	1 5½	1 1¼
B_3	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln ..	Mid. Counties	1 5½	1 1¼
	Liverpool ..	N.W. Counties	*1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly ..	S. Wales & M.	1 5½	1 1¼
	London (12-miles radius)		1 7	1 2½
	Do. (12-15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1¼
A	Loughborough	Mid. Counties	1 5½	1 1¼
A_3	Luton	E. Counties	1 4	1 0
A	Lytham ..	N.W. Counties	1 5½	1 1¼
A_1	MACCLESFIELD	N.W. Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11½
A_3	Malvern ..	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1¼
A	Mansfield ..	Mid. Counties	1 5½	1 1¼
B_1	Margate ..	S. Counties	1 3	11¼
A	Matlock ..	Mid. Counties	1 4	1 0
A_1	Merthyr ..	S. Wales & M.	1 5	1 0½
A	Middesbrough	N.E. Coast	1 5½	1 1¼
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1 2½	11
A	Morecambe ..	N.W. Counties	1 5½	1 1¼
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1¼
A	Nelson ..	N.W. Counties	1 5½	1 1¼
A	Newcastle ..	N.E. Coast	1 5½	1 1¼
A	Newport ..	S. Wales & M.	1 5½	1 1¼
A	Normanton ..	Yorkshire	1 5½	1 1¼
A_1	Northampton ..	Mid. Counties	1 5	1 0½
A	North Staffs ..	Mid. Counties	1 5½	1 1¼
A	North Shields ..	N.E. Coast	1 5½	1 1¼
A_2	Norwich ..	E. Counties	1 4½	1 0½
A	Nottingham ..	Mid. Counties	1 5½	1 1¼
A	Nuneaton ..	Mid. Counties	1 5½	1 1¼
A_2	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham ..	N.W. Counties	1 5½	1 1¼
A_3	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford ..	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	*1 5½	1 1¼
B_3	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth ..	Scotland	*1 5½	1 1¼
A_2	Peterborough ..	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	*1 5½	1 1¼
A	Pontefract ..	Yorkshire	1 5½	1 1¼
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_3	Portsmouth ..	S. Counties	1 4	1 0
A	Preston ..	N.W. Counties	1 5½	1 1¼
A	QUEENSFERRY	N.W. Counties	1 5½	1 1¼
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate ..	S. Counties	1 3½	11½
A_3	Retford ..	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A_3	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1¼
B	Rochester ..	S. Counties	1 3½	11½
A_1	Ruabon ..	N.W. Counties	1 5	1 0½
A	Rugby ..	Mid. Counties	1 5½	1 1¼
A_3	Rugeley ..	Mid. Counties	1 4	1 0
A	Runcorn ..	N.W. Counties	1 5½	1 1¼
A_2	ST. ALBANS ..	E. Counties	1 4½	1 0½
A	St. Helens ..	N.W. Counties	1 5½	1 1¼
B_2	Salisbury ..	S.W. Counties	1 2	10½
A_1	Scarborough ..	Yorkshire	1 5	1 0½
A	Scunthorpe ..	Mid. Counties	1 5½	1 1¼
A	Sheffield ..	Yorkshire	1 5½	1 1¼
A	Shipley ..	Yorkshire	1 5½	1 1¼
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton ..	Yorkshire	1 4½	1 0½
A_3	Slough ..	S. Counties	1 4	1 0
A_2	Solihull ..	Mid. Counties	1 4½	1 0½
A_2	Southampton ..	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport ..	N.W. Counties	1 5½	1 1¼
A	S. Shields ..	N.E. Coast	1 5½	1 1¼
A_2	Stafford ..	Mid. Counties	1 4½	1 0½
A	Stockport ..	N.W. Counties	1 5½	1 1¼
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1¼
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1¼
B	Stroud ..	S.W. Counties	1 3½	11½
A	Sunderland ..	N.E. Coast	1 5½	1 1¼
A	Swadlincote ..	Mid. Counties	1 5½	1 1¼
A	Swansea ..	S. Wales & M.	1 5½	1 1¼
A_3	Swindon ..	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton ..	S.W. Counties	1 3½	11½
A	Teesside Dist. ..	N.E. Counties	1 5½	1 1¼
A_3	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1¼
A_1	Torquay ..	S.W. Counties	1 5	1 0½
C	Truro ..	S.W. Counties	1 1½	10¼
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall ..	Mid. Counties	1 5½	1 1¼
A	Tyne District ..	N.E. Coast	1 5½	1 1¼
A	WAKEFIELD	Yorkshire	1 5½	1 1¼
A	Walsall ..	Mid. Counties	1 5½	1 1¼
A	Warrington ..	N.W. Counties	1 5½	1 1¼
A_1	Warwick ..	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid. Counties	1 5½	1 1¼
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby ..	Yorkshire	1 4½	1 0½
A	Widnes ..	N.W. Counties	1 5½	1 1¼
A	Wigan	N.W. Counties	1 5½	1 1¼
B_1	Winchester ..	S. Counties	1 3	11¼
A_3	Windsor ..	S. Counties	1 4	1 0
A	Wolverhampton	Mid. Counties	1 5½	1 1¼
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_2	Worksop ..	Yorkshire	1 4	1 0
A_1	Wrexham ..	N.W. Counties	1 5	1 0½
A_3	Wycombe ..	S. Counties	1 4	1 0
B_1	YARMOUTH ..	E. Counties	1 3	11¼
B_1	Yeovil	S.W. Counties	1 3	11¼
A	York	Yorkshire	1 5½	1 1¼

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	£ s. d.
Bricklayer . . . . . per hour	1 7
Carpenter . . . . . ,,	1 7
Joiner . . . . . ,,	1 7
Machinist . . . . . ,,	1 8
Mason (Banker) . . . . . ,,	1 7
,, (Fixer) . . . . . ,,	1 8
Plumber . . . . . ,,	1 7
Painter . . . . . ,,	1 6
Paperhanger . . . . . ,,	1 6
Glazier . . . . . ,,	1 7
Slater . . . . . ,,	1 7
Scaffolder . . . . . ,,	1 3
Timberman . . . . . ,,	1 3
Navvy . . . . . ,,	1 2¼
General Labourer . . . . . ,,	1 2¼
Lorryman . . . . . ,,	1 5
Crane Driver . . . . . ,,	1 6
Watchman . . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£ s. d.
Grey Stone Lime . . . . . per ton	2 2 0
Blue Lias Lime . . . . . ,,	1 16 6
Hydrated Lime . . . . . ,,	3 0 9
Portland Cement . . . . . ,,	2 6 0
Rapid Hardening Cement . . . . . ,,	2 13 6
White Portland Cement . . . . . ,,	8 15 0
Thames Ballast . . . . . per Y.C.	6 3
¾" Crushed Ballast . . . . . ,,	6 9
Building Sand . . . . . ,,	7 3
Washed Sand . . . . . ,,	8 3
2" Broken Brick . . . . . ,,	8 0
¾" ,, ,, ... ,,	10 3
Pan Breeze . . . . . ,,	6 6
Coke Breeze . . . . . ,,	8 9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

	4" s. d.	6" s. d.
Straight Pipes . . per F.R	0 9	1 1
Bends . . . . each	1 9	2 6
Taper Bends . . . ,,	3 6	5 3
Rest Bends . . . ,,	4 3	6 3
Single junctions . . ,,	3 6	5 3
Double . . . ,,	4 9	6 6
Straight channels . . per F.R.	1 6	2 6
¾" Channel bends . . each	2 9	4 0
Channel junctions . ,,	4 6	6 6
Channel tapers . . ,,	2 9	4 0
Yard gullies . . ,,	6 9	8 9
Interceptors . . ,,	16 0	19 6
IRON DRAINS:		
Iron drain pipe . . per F.R.	1 6	2 6
Bends . . . . each	5 0	10 6
Inspection bends . . ,,	9 0	15 0
Single junctions . . ,,	8 9	18 0
Double junctions . . ,,	13 6	30 0
Lead wool . . . lb.	6	—
Gaskin . . . ,,	5	—

BRICKLAYER

	£ s. d.
Flettons . . . . per M.	2 18 0
Grooved do. . . . . ,,	3 0 0
Phorpres bricks . . . . ,,	2 18 0
Stocks, 1st quality . . . ,,	4 11 0
,, 2nd ,, . . . ,,	4 2 6
Blue Bricks, Pressed . . . ,,	8 17 6
,, Wirecuts . . . ,,	7 17 6
,, Bindles . . . ,,	7 0 0
,, Bullnose . . . ,,	9 0 0
Red Sand-faced Facings . . ,,	6 18 6
Red Rubbers for Arches . . ,,	12 0 0
Multicoloured Facings . . ,,	7 10 0
Luton Facings . . . ,,	7 10 0
Phorpres White Facings . . ,,	3 17 3
Phorpres Rustic Facings . . ,,	3 12 3
Midhurst White Facings . . ,,	5 0 0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:	
Stretchers . . . . ,,	21 0 0
Headers . . . . ,,	20 10 0
Bullnose . . . . ,,	27 10 0
Double Stretchers . . ,,	29 10 0
Double Headers . . ,,	26 10 0
Glazed Second Quality, *Less* . . ,,	1 0 0
,, Buffs and Creams, *Add* . ,,	2 0 0
,, Other Colours . . ,,	5 10 0
2" Breeze Partition Blocks . per Y.S.	1 7
2½" ,, ,, ,, . . ,,	1 10
3" ,, ,, ,, . . ,,	2 1
4" ,, ,, ,, . . ,,	2 6

MASON

	s. d.
The following d/d F.O.R. at Nine Elms:	
Portland stone, Whitbed . . F.C.	4 4½
,, ,, Basebed . . ,,	4 9
Bath stone . . . . ,,	2 11
York stone . . . . ,,	6 6
,, ,, Sawn templates . ,,	7 6
,, ,, Paving, 2" . F.S.	1 8
,, ,, ,, 3" . ,,	2 6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£ s. d.
24" × 12" Duchesses . . . per M.	28 17 6
22" × 12" Marchionesses . . ,,	24 10 0
20" × 10" Countesses . . ,,	19 5 0
18" × 10" Viscountesses . . ,,	15 10 0
18" × 9" Ladies . . . ,,	13 17 6
Westmorland green (random sizes) . per ton	8 10 0
Old Delabole slates d/d in full truck loads to Nine Elms Station:	
20" × 10" medium grey per 1,000 (actual)	21 11 6
,, green ,, ,,	24 7 4
Best machine roofing tiles . . ,,	4 10 0
Best hand-made do. . . . ,,	5 0 0
Hips and valleys . . . each	9½
,, hand-made . . . ,,	10
Nails, compo . . . . lb.	1 4
,, copper . . . . ,,	1 6

CARPENTER AND JOINER

	s. d.
Good carcassing timber . . F.C.	2 2
Birch . . . . as 1" F.S.	9
Deal, Joiner's . . . ,, ,,	5
,, ,, 2nds . . ,, ,,	4
Mahogany, Honduras . . ,, ,,	1 3
,, African . . ,, ,,	1 1
,, Cuban . . ,, ,,	2 6
Oak, plain Japanese . . ,, ,,	1 0
,, Figured ,, . . ,, ,,	1 3
,, Plain Japanese . . ,, ,,	1 2
,, Figured ,, . . ,, ,,	1 5
,, Austrian wainscot . . ,, ,,	1 6
,, English . . . ,, ,,	1 11
Pine, Yellow . . . ,, ,,	1 0
,, Oregon . . . ,, ,,	4
,, British Columbian . . ,, ,,	4
Teak, Moulmein . . ,, ,,	1 3
,, Burma . . ,, ,,	1 2
Walnut, American . . ,, ,,	2 3
,, French . . ,, ,,	2 3
Whitewood, American . . ,, ,,	1 1
Deal floorings, ⅜" . . . Sq.	18 6
,, ½" . . . ,,	1 1 6
,, ¾" . . . ,,	1 2 0
,, 1" . . . ,,	1 5 0
,, 1¼" . . . ,,	1 10 0
,, 1½" . . . ,,	1 14 0
Deal matchings ⅜" . . . ,,	15 6
,, ½" . . . ,,	1 4 0
,, 1" . . . ,,	16 0
Rough boarding ½" . . . ,,	18 0
,, 1" . . . ,,	1 6 0
,, 1½" . . . ,,	

Plywood, per ft. sup.

Thickness	⅛" d.	¼" d.	⅜" d.	½" d.
Qualities	AA. A. B.	AA. A. B.	AA. A. B.	AA. A. B.
Birch	4 3 2	5 4 3	7½ 6 4½	8½ 7 6
Alder	3½ 3 2	5 4 3	6½ 5½ 4½	8 7 6
Gaboon Mahogany	4 3 3	6½ 5½ 4½	9½ 7½ –	1/0½ 10 –
Figured Oak 1 side	8½ 7 –	10 8 –	11½ – –	1/6 – –
Plain Oak 1 side	6½ 6 –	7½ 7 –	9½ – –	1/– – –
Oregon Pine	5 4 –	5½ 5 –	6 – –	– – –

	d.
Scotch glue . . . . lb.	8

SMITH AND FOUNDER

Tubes and Fittings:

(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	¼"	⅜"	½"	¾"	1"	1¼"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10		
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9		
,, 3"-11½" long ,,	7	9	1/3	1/8	3/–		
Long screws, 12"-23½" long ,,	11	1/3	2/2	2/10	5/3		
,, ,, 3"M-1½" long ,,	8	10	1/5	1/11	3/6		
Bends . . . ,,	8	11	1/7½	2/7½	5/2		
Springs not socketed . ,,	5	7	1/1½	1/11½	3/11		
Socket unions . . ,,	2/–	3/–	5/6	6/9	10/–		
Elbows, square . . ,,	10	1/1	1/6	2/2	4/3		
Tees . . . ,,	1/–	1/3	1/10	2/6	5/1		
Crosses . . . ,,	2/2	2/9	4/1	5/6	10/6		
Plain Sockets and nipples ,,	3	4	6	8	1/3		
Diminished sockets . ,,	4	6	9	1/–	2/–		
Flanges . . . ,,	9	1/–	1/4	1/9	2/9		
Caps . . . ,,	3½	5	8	1/–	2/–		
Backnuts . . . ,,	2	3	5	6	1/1		
Iron main cocks . . ,,	1/6	2/3	4/2	5/4	11/6		
,, ,, with brass plugs ,,	—	4/–	7/6	10/–	21/–		

Discounts:

TUBES.

Per cent.		Per cent.
Gas . . . 65	Galvanized gas .	52½
Water . . . 61½	,, water	47½
Steam . . . 57½	,, steam	42½

FITTINGS.

Gas . . .	57½	Galvanized gas . 47½
Water . . .	52½	,, water 42½
Steam . . .	47½	,, steam 37½

SMITH AND FOUNDER—*continued*

	s. d.
Rolled steel joists cut to length . . . cwt.	10 9
Mild steel reinforcing rods, ⅜" . . ,,	8 6
,, ,, ½" . . ,,	8 3
,, ,, ⅝" . . ,,	8 0
,, ,, ¾" . . ,,	7 6
,, ,, ⅞" . . ,,	7 6
,, ,, 1" . . ,,	7 6
,, ,, 1¼" . . ,,	7 6
,, ,, 1½" . . ,,	7 6

Cast-iron rain-water pipes of	3" s. d.	4" s. d.
ordinary thickness metal . F.R	8	10
Shoes . . . . each	2 0	3 0
Anti-splash shoes . . ,,	4 6	8 0
Boots . . . . ,,	3 0	4 0
Bends . . . . ,,	2 7	3 9
,, with access door . . ,,	—	6 3
Heads . . . . ,,	4 0	5 0
Swan-necks up to 9" offsets . ,,	3 9	6 0
Plinth bends, 4½" to 6" . . ,,	3 9	5 3
Half-round rain-water gutters of ordinary thickness metal . F.R.	5	6
Stop ends . . . . each	6	6
Angles . . . . ,,	1 7	1 11
Obtuse angles . . . ,,	2 0	2 6
Outlets . . . . ,,	1 9	2 3

PLUMBER

	£ s. d.
Lead, milled sheets . . . cwt.	1 0 6
,, drawn pipes . . . ,,	17 6
,, soil pipe . . . ,,	1 0 6
,, scrap . . . ,,	11 0
Solder, plumbers' . . . lb.	10
,, fine do. . . . ,,	1 0
Copper, sheet . . . ,,	8½
,, tubes . . . ,,	11

L.C.C soil and waste pipes:	3"	4"	6"
Plain cast . . F.R.	1 0	1 2	2 6
Coated . . ,,	1 1	1 3	2 8
Galvanized . . ,,	2 0	2 6	4 6
Holderbats . . each	3 10	4 0	4 9
Bends . . . ,,	3 9	5 3	10 3
Shoes . . . ,,	2 10	4 4	9 6
Heads . . . ,,	4 8	8 5	12 9

PLASTERER

	£ s. d.
Lime, chalk . . . per ton	2 5 0
Plaster, coarse . . . ,,	2 10 0
,, fine . . . ,,	4 15 0
Hydrated lime . . . ,,	3 0 9
Sirapite . . . ,,	3 6 0
Keene's cement . . . ,,	5 0 0
Sand, washed . . . Y.C.	11 6
Hair . . . . lb.	6
Laths, sawn . . . bundle	2 4
,, rent . . . ,,	3 9
Lath nails . . . lb.	3½

GLAZIER

	s. d.	s. d.
Sheet glass, 21 oz., squares n/e 2 ft.	s. F.S.	2½
,, ,, 26 oz. ,, ,, ,, ,,		3½
Arctic glass, white . . . ,,		7
Cathedral glass, white, dbl.-rolled, plain, hammered, rimpled, waterwite,		6½
¼" Hartley's rough rolled . . ,,		7
¼" ,, wired cast . . ,,		10
¼" Georgian wired cast . . ,,		11
¼" Polished plate, n/e 1 ft. . ,,	†10 to‡1	1
,, ,, 2 . ,,	†1 2 ,, ‡1	4
,, ,, 3 . ,,	†1 8 ,, ‡1	11
,, ,, 4 . ,,	†2 3 ,, ‡2	6
,, ,, 6 . ,,	†2 7 ,, ‡2	9
,, ,, 8 . ,,	†2 9 ,, ‡3	2
,, ,, 12 . ,,	†3 1 ,, ‡3	7
,, ,, 20 . ,,	†3 7 ,, ‡4	2
,, ,, 45 . ,,	†3 11 ,, ‡4	7
,, ,, 65 . ,,	†4 4 ,, ‡4	11
,, ,, 90 . ,,	†4 9 ,, ‡5	5
,, ,, 100 . ,,	†5 0 ,, ‡5	7
Vita glass, sheet, n/e 1 ft. . ,,		1 0
,, ,, ,, ,, 2 . ,,		1 3
,, ,, ,, over 2 . ,,		1 9
,, ,, plate, n/e 1 ft. ,,		1 6
,, ,, ,, 2 . ,,		3 0
,, ,, ,, 5 . ,,		4 0
,, ,, ,, 7 . ,,		5 0
,, ,, ,, 15 . ,,		6 0
,, ,, over 15 . ,,		7 6
Putty, linseed oil . . lb.		3

†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

	£ s. d.
White lead . . . . cwt.	2 8 0
Linseed oil . . . . gall.	2 2½
Boiled oil . . . . ,,	2 4½
Turpentine . . . . ,,	4 1½
Patent knotting . . . ,,	14 0
Distemper, washable . . cwt.	2 6 0
,, ordinary . . ,,	2 0 0
Whitening . . . . ,,	4 0
Size, double . . . firkin	3 0
Copal varnish . . . gall.	13 0
Flat varnish . . . ,,	14 0
Outside varnish . . . ,,	16 0
White enamel . . . ,,	1 15 0
Ready-mixed paint . . ,,	13 6
Brunswick black . . . ,,	7 6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR	£ s. d
Digging over surface n/e 12″ deep and cart away . . . Y.S.	2 9
,, to reduce levels n/e 5′ 0″ deep and cart away . . Y.C.	8 6
,, to form basement n/e 5′ 0″ deep and cart away . . ,,	9 0
,, ,, 10′ 0″ deep and cart away . . ,,	9 6
,, ,, 15′ 0″ deep and cart away . . ,,	10 0
If in stiff clay . . . . . add ,,	2 6
If in underpinning . . . . . ,, ,,	4 0
Planking and strutting to sides of excavation . . . . F.S.	1 0
,, ,, to pier holes . . . . ,,	5
,, ,, to trenches . . . . ,,	5
,, ,, extra, only if left in . . . . ,,	3
Hardcore, filled in and rammed . . . . Y.C.	10 0
Portland cement concrete in foundations (6-1) . . . ,,	1 6 0
,, ,, (4-2-1) . . ,,	1 12 6
,, ,, underpinning . . ,,	1 16 0
Finishing surface of concrete, spade face . . . . Y.S.	7

DRAINLAYER		4″	6″
		s. d.	s. d.
Stoneware drains, laid complete (digging and concrete to be priced separately) . . . . F.R.		1 6	2 3
Extra, only for bends . . . . Each		2 8	3 9
,, junctions . . . . ,,		3 9	4 6
Gullies and gratings . . . . ,,		16 6	18 0
Cast iron drains, and laying and jointing . . F.R.		4 9	6 9
Extra, only for bends . . . . Each		10 6	15 6

BRICKLAYER	£ s. d.
Brickwork, Flettons in lime mortar . . . . Per Rod	27 10 0
,, ,, in cement . . . . ,,	28 15 0
,, Stocks in cement . . . . ,,	35 0 0
,, Blues in cement . . . . ,,	52 0 0
Extra only for circular on plan . . . . ,,	2 0 0
,, backing to masonry . . . . ,,	1 10 0
,, raising on old walls . . . . ,,	2 0 0
,, underpinning . . . . ,,	5 10 0
Fair Face and pointing internally . . . . F.S.	1½
Extra over fletton brickwork for picked stock facings and pointing ,,	8¼
,, ,, ,, red brick facings and pointing . ,,	11
,, ,, ,, blue brick facings and pointing . ,,	1 4
,, ,, ,, glazed brick facings and pointing ,,	3 6
Tuck pointing . . . . . ,,	7
Weather pointing in cement . . . . . ,,	3½
Slate dampcourse . . . . . ,,	10
Vertical dampcourse . . . . . ,,	1 1

ASPHALTER	s. d.
½″ Horizontal dampcourse . . . . . Y.S.	4 6
½″ Vertical dampcourse . . . . . ,,	6 9
½″ paving or flat . . . . . ,,	4 0
1″ paving or flat . . . . . ,,	5 6
1″ × 6″ skirting . . . . . F.R.	1 0
Angle fillet . . . . . ,,	2
Rounded angle . . . . . ,,	2
Cesspools . . . . . Each	5 0

MASON	s. d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete . . . . . F.C.	17 9
Bath stone and do., all as last . . . . . ,,	13 6
Artificial stone and do. . . . . ,,	13 0
York stone templates, fixed complete . . . . . ,,	10 6
,, thresholds . . . . . ,,	13 6
,, sills . . . . . ,,	1 0 6

SLATER AND TILER	£ s. d.
Slating, Bangor or equal, laid to a 3″ lap, and fixing with compo nails, 20″ × 10″ . . . . . Sqr.	3 10 0
Do., 18″ × 9″ . . . . . ,,	3 7 0
Do., 24″ × 12″ . . . . . ,,	3 17 0
Westmorland slating, laid with diminished courses . . . . ,,	6 0 0
Tiling, best hand-made sand-faced, laid to a 4″ gauge, nailed every fourth course . . . . . ,,	3 0 0
Do., ail as last, but of machine-made tiles. . . . . ,,	2 16 0
20″ × 10″ medium Old Delabole slating, laid to a 3″ lap (grey) . ,,	4 6 0
,, ,, ,, ,, ,, ,, (green) . ,,	4 15 0

CARPENTER AND JOINER	£ s. d.
Flat boarded centering to concrete floors, including all strutting . Sqr.	2 5 0
Shuttering to sides and soffits of beams . . . . . F.S.	8
,, to stanchions . . . . . ,,	8
,, to staircases . . . . . ,,	1 8
Fir and fixing in wall plates, lintols, etc. . . . . F.C.	3 9
Fir framed in floors . . . . . ,,	4 6
,, ,, roofs. . . . . ,,	6 6
,, ,, trusses . . . . . ,,	7 6
,, ,, partitions . . . . . ,,	8 6
⅝″ deal sawn boarding and fixing to joists . . . . . Sqr.	1 14 6
1″ ,, ,, ,, ,, ... ,,	1 17 6
1½″ ,, ,, ,, ,, ... ,,	2 3 0
3″ × 2″ fir battening for Countess slating . . . . . ,,	9 6
Do. for 4″ gauge tiling . . . . . ,,	12 0
Stout feather-edged tilting fillet . . . . . F.R.	4½
Patent inodorous felt, 1 ply . . . . . Y.S.	2 3
,, ,, ,, 2 ,, ... ,,	2 9
,, ,, ,, 3 ,, ... ,,	3 3
Stout herringbone strutting to 9″ joists . . . . . F.R.	10½
1″ deal gutter boards and bearers . . . . . F.S.	1 2
1½″ ,, ,, ,, ,, ... ,,	1 6
2″ deal wrought rounded roll . . . . . F.R.	8
1″ deal grooved and tongued flooring, laid complete, including cleaning off . . . . . Sqr.	2 1 0
1¼″ do. . . . . ,,	2 10 0
1½″ do. . . . . ,,	2 17 0
1″ deal moulded skirting, fixed on, and including grounds plugged to wall . . . . . F.S.	1 6
1¼″ do. . . . . ,,	1 9

CARPENTER AND JOINER—*continued*	s. d.
1½″ deal moulded sashes of average size . . . . . F.S.	1 9½
2″ ,, ,, ,, ,, ... ,,	1 11½
1½″ deal cased frames double hung, of 6″ × 3″ oak sills, 1¼″ pulley stiles, 1½″ heads, 1″ inside and outside linings, ⅞″ parting beads, and with brass faced axle pulleys, etc., fixed complete . . ,,	3 7
2″ ,, ,, ,, ,, ... ,,	3 10
Extra only for moulded horns . . . . . Each	6
1½″ deal four-panel square, both sides, door . . . . F.S.	2 0
2″ ,, ,, ,, ,, ... ,,	2 8
1½″ ,, but moulded both sides . . . . . ,,	2 4
2″ ,, ,, ,, ,, ... ,,	3 0
4″ × 3″ deal, rebated and moulded frames . . . . F.R.	1 0
4½″ × 3½″ ,, ,, ,, ,, ... ,,	1 4
1¼″ deal tongued and moulded window board, on and including deal bearers . . . . . F.S.	1 9
1¼″ deal treads, 1″ risers in staircases, and tongued and grooved together on and including strong fir carriages . . . ,,	2 6
1¼″ deal moulded wall strings . . . . . ,,	2 1
1½″ ,, outer strings . . . . . ,,	2 4
Ends of treads and risers housed to string . . . . Each	1 9
3″ × 2″ deal moulded handrail . . . . . F.R.	1 3
1″ × 1″ deal balusters and housing each end . . . . Each	2 0
1½″ × 1½″ ,, ,, ,, ,, ... ,,	2 9
3″ × 3″ deal wrought framed newels . . . . F.R.	1 3
Extra only for newel caps . . . . . Each	6 0
Do., pendants . . . . . ,,	6 0

SMITH AND FOUNDER	£ s. d.
Rolled steel joists, cut to length, and hoisting and fixing in position . . . . . Per cwt.	15 6
Riveted plate or compound girders, and hoisting and fixing in position . . . . . ,,	19 6
Do. stanchions with riveted caps and bases and do. . . . ,,	19 0
Mild steel bar reinforcement, ½″ and up, bent and fixed complete. ,,	17 6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g. . . . . F.S.	11
Wrot iron caulked and cambered chimney bars . . . . Per cwt.	1 10 0

PLUMBER									£ s. d
Milled lead and labour in flats, gutters, etc. . . . . Per cwt.									1 14 0
Do. in flashings . . . . . ,,									1 17 6
Do. in covering to turrets, etc. . . . . ,,									2 3 6
Do. in soakers . . . . . ,,									1 9 6
Labour to welted edge . . . . . F.R.									3½
Open copper nailing . . . . . ,,									3½
Close ,, ,, ... ,,									4½
	½″		¾″		1″		1¼″		2″		4″	
Lead service pipe and fixing with pipe hooks . . . F.R.	s. d 1 0		s. d. 1 2		s. d. 1 5		s. d. 2 1		s. d. 3 0		s. d. —	
Do. soil pipe and fixing with cast lead tacks . . .	—		—		—		—		—		5 9	
Extra, only to bends Each	—		—		—		—		2 3		6 3	
Do. to stop ends . ,,	6½		8		9		11		1 0		—	
Boiler screws and unions . . ,,	3 3		3 9		5 0		8 0		—		—	
Lead traps . . ,,	—		—		—		6 3		8 9		—	
Screw down bib valves . . ,,	6 9		9 6		11 0		—		—		—	
Do. stop cocks . . ,,	9 0		11 0		14 6		20 6		47 0		—	
4″ cast-iron ½-rd. gutter and fixing . . . . . F.R.									1 0			
Extra, only stop ends . . . . . Each									1 0			
Do. angles . . . . . ,,									1 6			
Do. outlets . . . . . ,,									2 9			
4″ dia. cast-iron rain-water pipe and fixing with ears cast on . F.R.									1 2			
Extra, only for shoes . . . . . Each									1 3			
Do. for plain heads . . . . . ,,									5 6			

PLASTERER AND TILING	s. d.
Expanded metal lathing, small mesh . . . . . Y.S.	2 3
Do. in n/w to beams, stanchions, etc. . . . . ,,	3 6
Lathing with sawn laths to ceilings . . . . . ,,	1 4
½″ screeding in Portland cement and sand for tiling, wood block floor, etc. . . . . ,,	1 8
Do. vertical . . . . . ,,	2 1
Rough render on walls . . . . . ,,	1 3
Render, float and set in lime and hair . . . . . ,,	1 11
Render and set in Sirapite . . . . . ,,	2 1
Render, backing in cement and sand, and set in Keene's cement . ,,	2 10
Extra, only if on lathing . . . . . ,,	4
Keene's cement, angle and arris . . . . . F.R.	6
Arris . . . . . ,,	2
Rounded angle, small . . . . . ,,	3
Plain cornices in plaster, including dubbing out, per 1″ girth . ,,	1½
1″ granolithic pavings . . . . . Y.S.	3 6
1½″ ,, ,, ,, ,, ... ,,	4 6
6″ × 6″ white glazed wall tiling and fixing on prepared screed . ,,	17 6
9″ × 3″ ,, ,, ,, ,, ... ,,	1 2 6
Extra, only for small quadrant angle . . . . . F.R.	8

GLAZIER	s. d.
21 oz. sheet glass and glazing with putty . . . . . F.S.	7¼
26 oz. do. and do. . . . . ,,	8¾
Arctic glass and glazing with putty . . . . . ,,	1 1
Cathedral glass and do. . . . . ,,	1 2
Glazing only, British polished plate . . . . . ,,	7
Extra, only if in beads . . . . . ,,	2
Washleather . . . . . F.R.	4

PAINTER	s. d.
Clearcolle and whiten ceilings . . . . . Y.S.	6½
Do. and distemper walls . . . . . ,,	9
Do. with washable distemper . . . . . ,,	1 1
Knot, stop, prime and paint four coats o foil colour on plain surfaces ,,	3 3
Do. on woodwork . . . . . ,,	3 6
Do. on steelwork . . . . . ,,	3 0
Do. and brush grain and twice varnish . . . . . ,,	5 0
Stain and twice varnish woodwork . . . . . ,,	1 11
Stain and wax-polish woodwork . . . . . ,,	4 6
French polishing . . . . . F.S.	1 2
Stripping off old paper . . . . . Piece	2 0
Hanging ordinary paper . . . . . from ,,	2 9

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NATURAL LIGHTING:

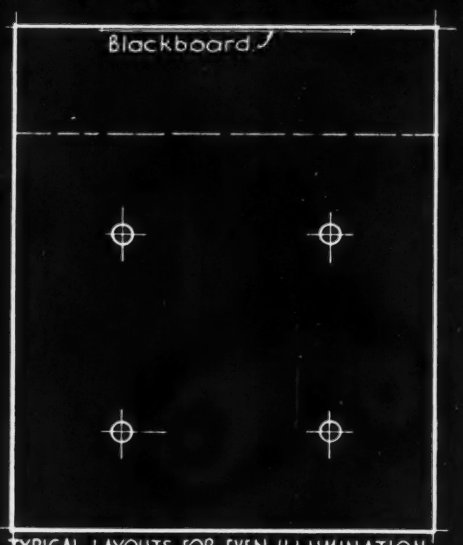
1. No position in a classroom from which the sky is not visible from desks and tables is fit for use as a schoolplace
2. The area of sky visible should be sufficient to afford an illumination on a horizontal plane at table height equivalent to a daylight factor of at least 0·5%, preferably 1%.
3. Windows for lighting should be on the left hand side of pupils.
4. Windows on right hand side, if any, should be for ventilation & should be capable of being darkened.
5. Top light only is not suitable.
6. Window heads preferably horizontal & close to ceiling.
7. Heavy mullions, transomes, glazing bars etc. are not advisable.
8. Glass preferably clear, & smooth faced for easy cleaning.
9. Ceiling preferably white.
10. Walls preferably of light tint only.
11. Desks & equipment preferably light in colour.
12. Reflecting surfaces should be avoided.

ARTIFICIAL LIGHTING:

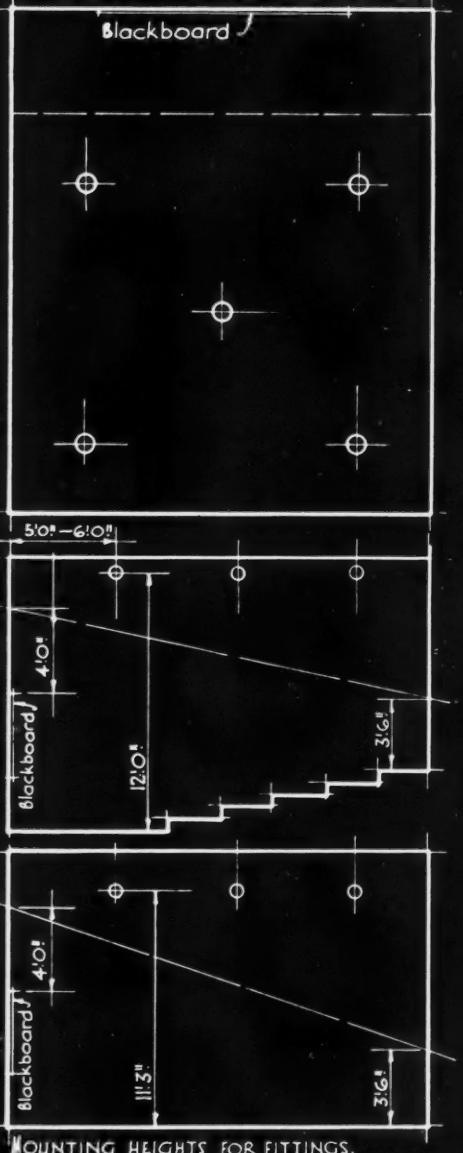
1. Minimum illumination on desks & tables:
   5 foot candles for ordinary classrooms
   8 foot candles for Art & sewing rooms, workshops etc.
   on blackboards, 60% more than on desks.
2. No incandescent surface nor brightly illuminated reflector or similar surface forming part of the lighting fitting should be visible to the eyes of the teacher or pupils.
3. Sources of light should be surrounded by a diffusing medium, such that its average brightness does not exceed 5 candles per square inch of surface area.
4. No source of light should be below a line drawn from a point 3'6" above the floor to a point 4'0" above the upper edge of the blackboard surface unless completely screened from the eyes of the pupils by an opaque screen
5. Light fittings should be arrainged to avoid shadows from pupils or fittings.
6. Reflection. Blackboards, walls, fittings, books etc. should of a non-reflecting surface finish.
7. For an average classroom (480 sq ft.) allow for four general lights & two lights to the blackboard.

Reference:
One foot-candle may be defined as the illumination on a surface distant 1'0" from a source of 1 candle power & perpendicular to the direction from which the light is received.

based on a report of the Illuminating Engineering Society. 1931.



TYPICAL LAYOUTS FOR EVEN ILLUMINATION.



MOUNTING HEIGHTS FOR FITTINGS.

INFORMATION SHEET : SCHOOLS : LIGHTING OF CLASSROOMS.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1.

Supplement to THE ARCHITECTS' JOURNAL for January 25, 1934

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INFORMATION SHEET

• 75 •

SCHOOLS

(LIGHTING)

Description :

The lighting of schools has, in the past, been treated in a very general way and not on the scientific basis that the subject deserves.

In recent years several investigations have been carried out; the summary given on this Sheet represents in a concise form the results of one of these enquiries, which was conducted on behalf of the Illuminating Engineering Society.

Satisfactory lighting is not obtained merely by providing ample light sources: the notes given on this Sheet are therefore intended to serve as a guide to those other details which require careful consideration.

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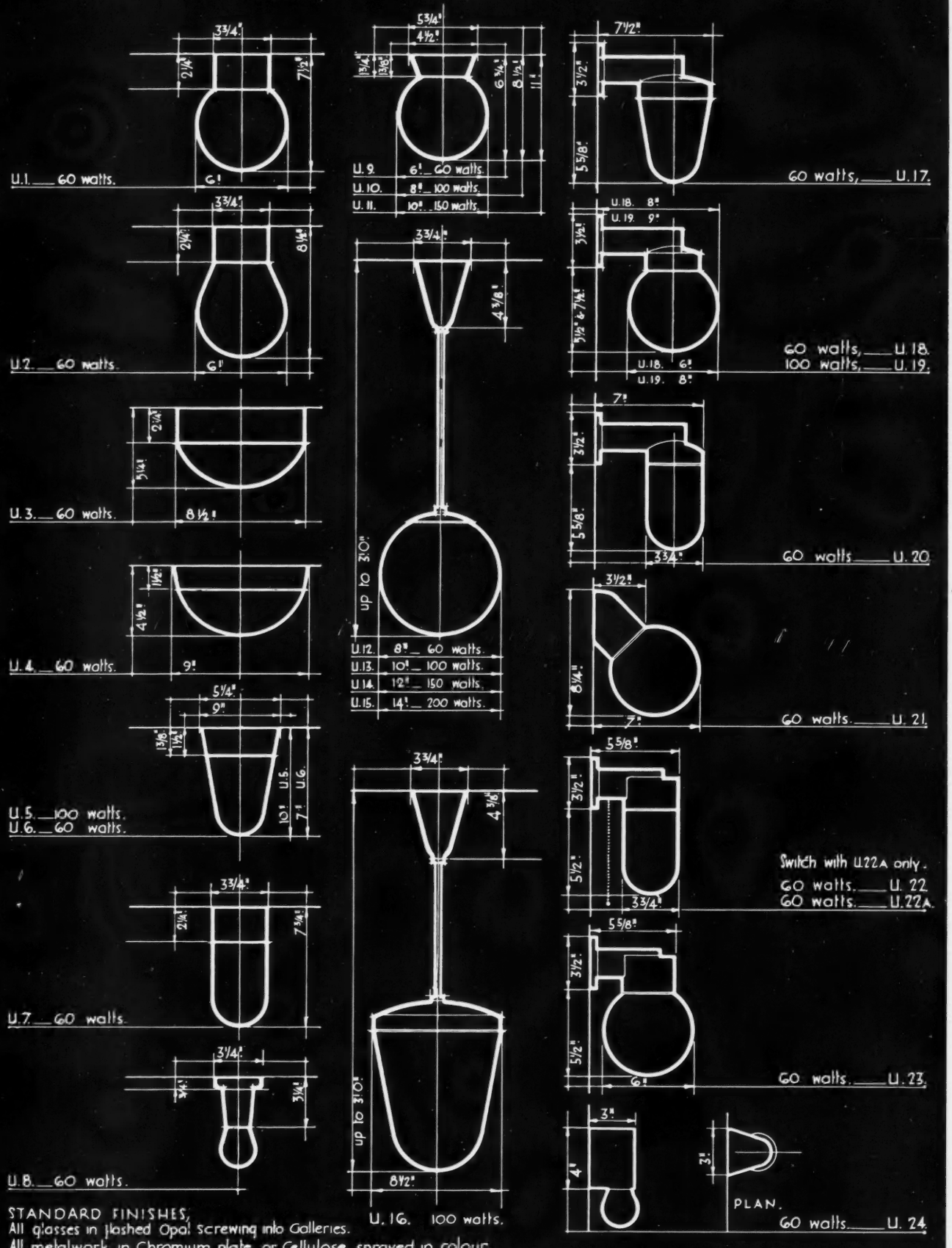

STANDARD FINISHES,
All glasses in flashed Opal screwing into Galleries.
All metalwork in Chromium plate or Cellulose sprayed in colour.

Information from Troughton & Young Ltd.

INFORMATION SHEET : LIGHTING FITTINGS : ULTRALUX.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.1.

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

• 76 •

LIGHTING FITTINGS

Type Illustrated : Ultralux

Description :

Ultralux fittings, a few examples of which are shown on the Sheet overleaf, are made with screw-in glasses fitting into metal threaded galleries, which form a dust-proof joint between the glass and metal. The glass used is flashed opal, which gives the minimum absorption with correct diffusion. Ultralux fittings are fixed easily into any position and they are also drilled to fit B.S.I. conduit boxes. They are fitted with the highest quality lamp holders with heavy cast ¾ in. threaded domes and metal bushed wiring entries.

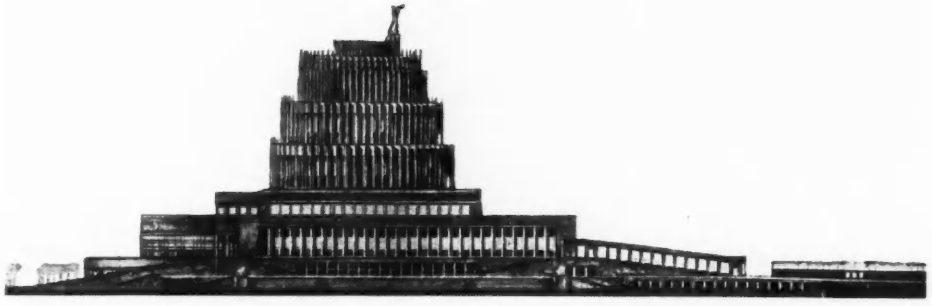
Name of Manufacturers : Troughton & Young Ltd.

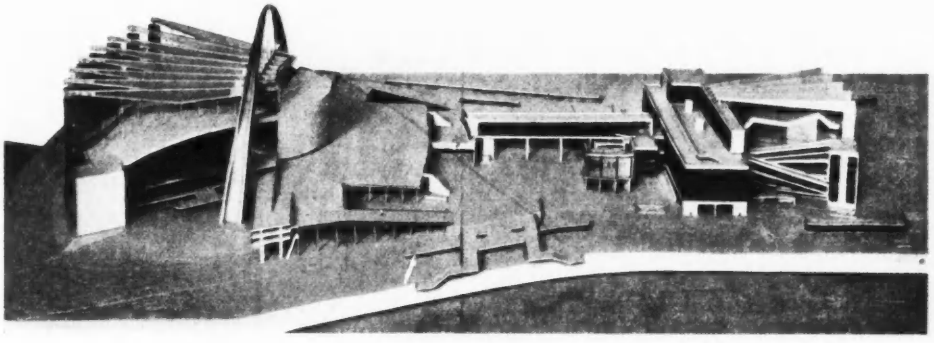
Address 143 Knightsbridge London, S.W.1

Telephone Kensington 8881

SOVIET ARCHITECTURE

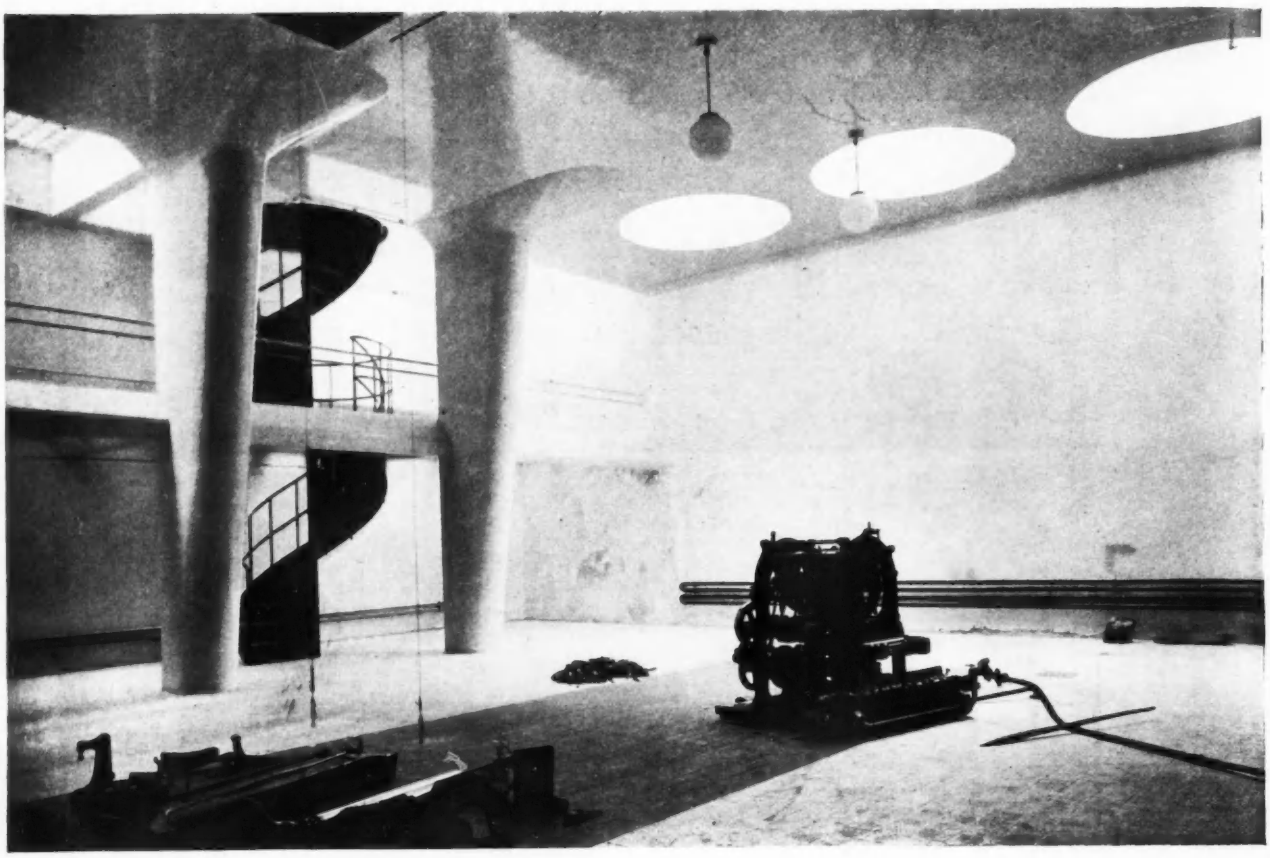
THE PALACE OF THE SOVIETS, MOSCOW





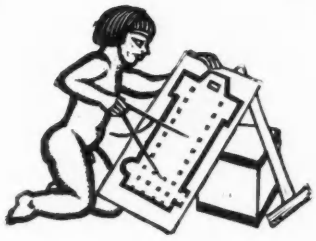
ABOVE: The winning scheme in the competition for the Palace of the Soviets, Moscow. The halls are arranged one above another, gradually diminishing in size.

Below: Project by Le Corbusier, providing two separate halls. In front of the larger hall is a platform to be used for the massing of processions. A sound reflector would enable a speaker to address demonstrators collected there. The roof is suspended from a reinforced concrete arch.



FLAT SLAB CONSTRUCTION

A form of reinforced concrete design employed by Alvar Aalto in his "Jurun Sanomat" Building, Abo, Finland, of which this is a view in the Linotype Room. The contemporary possibilities of reinforced concrete, particularly as they will be expanded by the acceptance of the new Code of Practice, are discussed in the Information Supplement in this issue.



THE CONCRETE CODE

THE recently published Report of the Reinforced Concrete Structures Committee of the Building Research Board, with Recommendations for a Code of Practice for the Use of Reinforced Concrete in Buildings, promises to be of far-reaching importance for the development of reinforced concrete in this country, if adopted by the L.C.C. and local authorities outside London.

The old L.C.C. regulations, confusing in form, partly inconsistent and reactionary in substance, and limited in scope to a particular type of construction, constituted a serious impediment to rational design, and reinforced concrete designers preferred, wherever possible, to ignore them entirely, and to base their calculations on the theory of reinforced concrete as embodied in continental practice. The new code changes all this. It brings the English code into line with recent continental codes, and promises to be a help instead of a hindrance to the designer.

True, the scope is still limited to buildings. And even inside this sphere there are many points and many types of construction on which some additional guidance would have been welcome. No advice is given as to the desirability of providing expansion joints in large blocks; temperature stresses and the effect of shrinkage have been neglected, even in the case of "special grade" concrete, the use of which is subject to the condition that the structure "shall be calculated and designed as a continuous monolithic framework"; nothing is said about piling, about columns reinforced with structural steel or cast iron sections in accordance with Emperger's method, about arched roofs or the theory of their slabs as applied to domes, vaults, etc., and no guidance is given on the design of their walls, curved or straight, acting as beams or as load-carrying members. All these types of construction are covered by one clause, No. 902, which says, generally, that such constructions must be of a strength and durability equal to that demanded by the code. However, they are not excluded, although subject to the mercy of local surveyors, and it is to be hoped that additions to the code will be made later. The proposed code avoids formulæ as far as possible, but states, in general terms, the basic theory of design, and the constants and other quantities to be used. This makes for simplicity, and avoids the pedantic insistence on certain predetermined methods of calculation, but it leaves, perhaps, more freedom of interpretation to the district surveyor, and does not therefore entirely remove the inconvenience to the designer being uncertain of what exactly will be passed.

The arrangement of the various clauses is excellent. The code is divided into ten sections, nine appendices and an index. *Section 1* contains the definitions of the terms and the notations used throughout the code. *Section 2* gives specifications for the various materials. Portland, blast furnace cement and high alumina cement are included. The clauses on aggregate are a distinct improvement on the old code. They are stricter, and reference is made to the standard tests given in appendices II, III and IV, yet no material is excluded if it can be shown by approved tests that the concrete produced therefrom is of the standard required. As regards steel, welding is now permitted in some cases. *Section 3* deals with strength requirements and permissible stresses. In this section recognition has at last been given to the fact that nowadays it is possible, by exercising special care, to produce a concrete of consistently high quality. Concrete is therefore divided into three grades: ordinary, high and special grade, according to the amount of supervision given and tests carried out.

Section 4 gives sound rules referring to workmanship. *Sections 5 to 9*, inclusive, deal with the design of various units. The general assumptions are as before, except for the variation in the modular ratio. *Section 10* deals with tests on structures. *Appendix I* contains general building clauses, and follows closely the code of practice for structural steel. Slab loads have been added, and they seem to be very conservative. Is it, for instance, necessary to calculate *all* flat roofs for 50 lb. per sq. ft.? A distinction could surely be made between roofs used as roof gardens, etc., and those where no access is provided.

This new code, which is the subject of the Information Supplement published in this issue, is a very definite step in the right direction; but so long as English engineers are debarred from building structures of a type that has been proved successful over a number of years on the Continent, and so long as a building in Berks would be considered unsafe if moved into Bucks, then no new code can be considered as final.

The Architects' Journal
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London

NOTES & TOPICS

A SMALL HOUSE—BUT NOT YET

ONE gets a useful sidelight on the effect of the Government's Housing Act of 1933 from a recent report of the Halifax Building Society, which is making a praiseworthy effort to operate the Act.

*

It will be remembered that the Act made it possible to borrow up to 90 per cent. of Building Society money for small housing, and so far very little has been borrowed.

*

The Halifax Building Society are now building experimental houses under this Act—but not at rents of less than 10s. a week exclusive of rates. From this one may take it that the Act is not going to provide sufficient solution of the problem to enable the Government to continue to drop all interest in small house building, while it beats the drum for slum clearance.

*

Given a few more months of trial, some supplementary policy will have to be devised to encourage this type of building.

A LESSON BADLY LEARNT

In the morning papers the other day I saw references to a proposed exhibition to be held in 1935, on the lines of the British Empire Exhibition of 1924. That in itself struck me as being a good idea, provided that the date gives time to organize it.

*

What did surprise me was that there is discussion as to whether the site shall be "the Crystal Palace or Hyde Park near Prince of Wales Gate."

*

In no country but this one would there be the least hesitation. Paris, for example—exhibition bang in the middle of things; where, of course, it should be.

*

It is commonly recognized, now, that the Wembley affair would not have been a failure if it had been nearer to the centre of London. Yet now we consider Sydenham. Why not Basingstoke?

*

But at least let us have in control of this show somebody who is known and whose judgment inspires confidence. What about Mr. Frank Pick?

FREDERICK CHATTERTON

Few names are better known throughout the building industry than that of Frederick Chatterton; and many individuals, as well as firms, will learn with regret that, after some fourteen years as editor, he has recently resigned from *Specification*.

*

That prodigious annual has long been one of the most valuable and important works of reference in an architect's office. It was largely Chatterton's effort which made it so. It was, I believe, he who started the technical articles, which remain practically the only periodically recurring statements, by experts, on the most up-to-date methods in specialised planning and equipment.

*

From a purely personal point of view, too, I shall miss him, with his genial affability, kindly humour and tact. It was always our habit to indulge in a little "leg-pulling" when we met, because he had all the fun which one associates with large men.

*

Chatterton himself is one of the greatest living authorities on building materials and processes. The reputation of *Specification* is largely due to his intensive investigation of the technical side of building.

*

His untiring research, combined with his thorough knowledge of the building trade, accumulated not only during his period of private practice, but also during his long association with *Specification*, gave him opportunities

Frederick Chatterton, F.R.I.B.A., who has recently retired from the Editorship of "Specification."

of acquiring a fund of knowledge which is probably unique among architects.

*

Although he has worked largely behind the scenes, there is hardly a member of the profession of the building trade who has not at some time or another had reason to be indebted to him for his labours.

*

I understand that Mr. Chatterton is resuming private practice, and will devote himself more particularly to the consulting side.

534

A number of papers I see have taken this JOURNAL to task for its remarks on the new Cunarder.

*

"THE ARCHITECTS JOURNAL," says *The Journal of Commerce*, "makes assertions to the effect that speed is quite unimportant. . . . Does THE ARCHITECTS' JOURNAL really believe that their popularity (German and Italian liners) with passengers has been solely due to their interior design and decoration?"

*

I have looked through the issue in question again, but can find no remark to the effect that speed is quite unimportant. Speed *is* important. But it is not the only important factor in ship design any more than it is the only important factor in car design. How many people would buy a fast car whose interior was like an olde-worlde shippe?

TELLING THE WORLD

I am full of praise for the recent action of the Hampshire and Isle of Wight Architectural Association. This body took stand space at the Southampton Trades and Industries Fair, and showed a number of photographs borrowed from the Building Centre.

*

Members themselves took turns on the stand and "put across" architecture and architects to the most valuable type of public of all. Total cost: £20 to £25.

*

As a result some architects got enquiries, some were asked to lecture. *And:* the promoters have asked the Association to collaborate in laying out the next Fair.

WILLIAM SCORER

The recent death of William Scorer must cause deep regret to all members of the R.I.B.A. There cannot be a single member who is not familiar with Scorer's figure in the general office.

*

He joined the R.I.B.A. staff during the war, and was at work there until a few days before his death. He celebrated his ninetieth birthday just before Christmas.

*

For years visitors and members have seen the white-bearded, skull-capped figure sitting quietly at work by the fireplace; for a long time I never knew his name, so quietly and diligently did he carry out his duties.

NO WELCOME FROM SIR OSWALD MOSLEY

There came to my breakfast table this morning a copy of the *Fascist Week* with my attention directed by red lines to an article condemning the R.I.B.A. for its welcome to foreign architects who take up practice in this country.

An American's idea of the high-speed liner of the future.

By foreign I gather that one reads German—or Jew—and the article goes on to remind the R.I.B.A. that their primary duty is to safeguard the interests of British architects. As a matter of fact, the primary duty of the R.I.B.A., not being a Trade Union, is to promote good architecture, by the doing of which they are the more likely to promote those interests which Sir Oswald Mosley's organisation is so anxious to safeguard.

THE SLOGAN AND THE STREET

The Building Surveyor of Liverpool has expressed the view that illuminated signs on elevations of buildings for the display of trade slogans should be forbidden.

*

In the new rules regarding the control of advertisements and signs, Liverpool suggests that not more than 25 per cent of the superficial area of the frontage of buildings above the ground floor level should be devoted to advertising matter.

*

In concentrating on area, and on the individual character of advertisements, these regulations omit any reference to the relation of the displayed matter to the design of a façade. Even if they are ratified, these new regulations will not save Liverpool from conflicts in every street.

*

Every street will be a brawl until architects and local authorities realize that advertisements should not be *applied* but *incorporated* in an elevation. ASTRAGAL

Two additional Information Sheets are presented with this issue. These Sheets comprise the first and second of a series of six dealing with the new Concrete Code, which is the subject of this week's Information Supplement. Next week we propose to publish another Supplement dealing with calculations for steelwork.

We also publish the Index to THE ARCHITECTS' JOURNAL *for July to December, 1933.*

NEWS

POINTS FROM THIS ISSUE

The new concrete code promises to be a help instead of a hindrance to the designer 165

It is proposed to institute an annual contest in some problem of design between the young architects of Great Britain and France 167

It is a pity that Scottish architects are not given an opportunity to ensure that the fitting out of Cunarder 534 (now on the stocks at Clydebank) will be up to the standard of the design of the ship itself 174

A change that is bound to take place within the next thirty years will be the increasing nationalization of architects 190

BRIGHTON REGIONAL PLANNING COMMITTEE

Why have the Aldermen and Councillors of the Brighton Town Council so indignantly resigned from the Regional Planning Committee? It is possible that the letters, which appeared in London newspapers, signed by Lord Gage (who has become the protagonist of town planning in the House of Lords) and by Lord Buxton, angered the elected representatives of the ratepayers of Brighton.

It must be remembered that the ratepayers are paying three-fifths of the cost of the regional planning, and Brighton, scared by the terrifying spectacle of Peacehaven, has recently done much to protect the Downs. The sooner the quarrel is patched up and the Committee reconstituted, the better for the preservation of one of the most beautiful parts of the South Coast.

ARCHITECTS FOR THE PEOPLE'S PALACE

The Governors of the People's Palace, Mile End Road, have appointed as joint architects for the new building, to take the place of that burnt down in February, 1931, Messrs. Campbell Jones, Sons and Smithers, and Mr. George Coles, F.R.I.B.A.

£12,000,000 HOUSING SCHEME

The Leeds Corporation Housing Committee has approved a scheme to spend £12,000,000 on houses to replace houses affected by slum clearance.

The scheme will be brought before the City Council at their next meeting.

The mover of the resolution, the Rev. C. Jenkinson, stated that it was proposed to spread the scheme of building over six years.

THE ARCHITECTS' DIARY

Thursday, February 1

INSTITUTION OF ELECTRICAL ENGINEERS. *At Savoy Place, Victoria Embankment, W.C.2. "Research in the British Post Office." (To be illustrated by a Talking Film.) By B. S. Cohen, O.B.E.* 6 p.m.

AUCTIONEER'S AND ESTATE AGENTS' INSTITUTE. *At 29 Lincoln's Inn Fields, W.C.2. "The Effect of Non-Disclosure and Misdescription on Sales of Land." By David Lawrence, B.Sc. (Lond.).* 7 p.m.

VICTORIA AND ALBERT MUSEUM. *In the Lecture Hall of the Museum, South Kensington, S.W. "English Alabasters." By Dr. W. L. Hildburgh, F.S.A.* 5 p.m.

Friday, February 2

INSTITUTION OF ELECTRICAL ENGINEERS. *(Sheffield Sub-centre) Annual Supper-Dance.*

Monday, February 5

R.I.B.A. *At 9 Conduit Street, W.1. "Architectural Backgrounds in Italian Painting" By Kenneth Clark, M.A.* 8 p.m.

INSTITUTION OF ELECTRICAL ENGINEERS. *(Hampshire Sub-centre) At Kimbell's Café, Southsea. Conversazione and Dance* 7.30 p.m.

Tuesday, February 6

INSTITUTION OF HEATING AND VENTILATING ENGINEERS. *At the Borough Polytechnic, Borough Road, Southwark, S.E.1. "Electricity applied to Heating, with ascertained running cost." By S. A. Williams.*

INSTITUTION OF ELECTRICAL ENGINEERS. *(North Midland Centre) At the Hotel Metropole, King Street, Leeds." The Heating of Domestic Pendant Lamp Fittings and their connecting Leads." By P. D. Morgan, M.Sc. (Eng.), H. G. Taylor, M.Sc. (Eng.) and W. Lethersich, B.Sc.* 7 p.m. *(North-western centre). At the Engineer's Club, 17 Albert Square, Manchester. "The Measurement of Noise, with special reference to Engineering Noise Problems." By B. A. G. Churcher, A. J. King, B.Sc. Tech., and H. Davis.* 7 p.m. *(East Midland Sub-Centre.) At the College, Loughborough, "Metering." By W. Lawson.* 6.45 p.m.

Wednesday, February 7

UNIVERSITY COLLEGE. *At Gower Street, W.C.1. "Modern Danish Architecture. No. 1. By J. H. Hebrea.* 5.30 p.m. *British Wood Preserving Association. At the Auctioneers' and Estate Agents' Institute, 29 Lincoln's Inn Fields, W.C.2. "The Use of Treated Timber in Railway Stock." By W. H. Brown.* 6 p.m.

ROYAL SOCIETY OF ARTS. *At John Street, Adelphi, W.C.2. "The Human Element in Industry." By Robert R. Hyde.* 8 p.m. *Architectural Association. At 34-36 Bedford Square, W.C.1. "Exhibition Illustrating Town and Country Planning Schemes." Until February 10.*

L.C.C. CENTRAL SCHOOL OF ARTS AND CRAFTS. *At Southampton Row, W.C.1. "English Mediæval Architecture 4. Parapets, Ornaments, Fittings." By Sir Banister Fletcher, F.S.A., P.P.R.I.B.A.* 6 p.m.

ST. PANCRAS HOUSING SOCIETY

The ninth annual meeting of the St. Pancras House Improvement Society was held yesterday.

This Society has recently experimented in some new flats with painted walls and in two flats have used special plaster. The first is known as the "anti-bug" plaster, and the second is a "hard" plaster that is supposed not to crack. The problem of taking old furniture into new flats is also being tackled, and the Society is hoping to carry out some process of "dis-infestation" of all furniture, as practised in Derby, Rotherham, and Manchester and other towns to help the tenants in their efforts for cleansing.

WELSH SCHOOL OF ARCHITECTURE

Seven designs for an aerodrome for Cardiff, prepared as part of the normal work of the fifth-year course in the Welsh School of Architecture, were on exhibition at the Technical College, Cardiff, last week.

The special prize offered by Mr. Robert J. Webber, J.P. (managing director, Western Mail and Echo, Ltd.), for the best design submitted, was awarded to L. F. Hurley, the design by D. W. Roberts being placed second, and that by C. H. Francis third.

The judges who made the award were Messrs. T. Alwyn Lloyd, F.R.I.B.A., Percy Thomas, F.R.I.B.A., Lewis John, M.A., B.ARCH., A.R.I.B.A., and W. S. Purchon, M.A., A.R.I.B.A., head of the Welsh School of Architecture.

EXHIBITIONS

An exhibition of watercolours and drawings by Paul Nash, Frank Dobson, P. H. Jowett, Adrian Allinson and Isabel Nicholas is to be held at the Redfern Gallery, Old Bond Street, W.1, from February 2 until February 24.

An exhibition of etchings and engravings by Fellows and Associates of the Royal Society of Painter-Etchers and Engravers is to be opened at the Society's Galleries, 5a, Pall Mall East, S.W.1, on Saturday next, February 3.

BUILDING SOCIETIES

Sir Harold Bellman, Chairman of the National Association of Building Societies, in the course of a speech at the opening of the new Head Offices of the Wellingborough Building Society last week, said: "Building Societies have promised their co-operation in a scheme designed to facilitate the building of houses in considerable numbers for letting to the lower paid wage earners. The Government knows that Building Societies are prepared to hypothecate many million pounds sterling to lubricate this scheme, and the terms upon which the financial aspect of Building Societies' co-operation has been promised reflect the sincerity of the desire of Building Societies to aid the State in every possible practical way. Already a substantial volume of business under this scheme is in process of negotiation, but the schemes already developed involve the use of only a comparatively small percentage of the reservoir of money made available by Building Societies. It is to be devoutly hoped that private enterprise, whether in the guise of the investor in house property or the builder himself, will give this scheme most earnest consideration and that local authorities will respond to the invitation of the Ministry of Health to explore the possibilities of putting this scheme into operation forthwith, in order that a substantial number of houses may be built for letting at a comparatively low rental."

REGISTRATION:

Unattached Architects

The following ten candidates have been nominated (and are willing to serve if elected) on the Architects' Registration Council as representatives of the 1,060 registered persons who are *not* architect members of the R.I.B.A., I.A.A.S., F.A., A.A.(London), A.A.S.T.A., or of their

provincial associations: Messrs. L. E. Baker, of Palmer's Green, N.13; E. W. Chapman, of Brockley Rise, S.E.23; A. E. Heckler, of Wimbledon, S.W.19; A. B. Houchin, of Westminster, S.W.; E. J. Messent, of Kensington, W.8; Claude E. New, of Bucklersbury, E.C.; L. E. J. Reynolds, of Ilford; Raymond Walker, of Hart St., Bloomsbury, W.C.; A. Randall Wells, of Upper Mall, Chiswick; J. B. Wikeley, of Deasgate, Grimsby. (Mr. Wells is now serving as a member of the Council.)

Mr. E. W. Chapman received his early training with Messrs. C. R. Dunch and Son, as architect and surveyor; then with T. W. Aldwinckle, F.R.I.B.A. on hospital work. He entered the Civil Service in 1913 in the Post Office, London Telephone Service, on the design of London telephone exchanges.

After serving in the Royal Engineers during the war, Mr. Chapman was transferred to H.M. Office of Works, Chief Architect's Division, dealing with the design and erection of post offices, etc.

He was Hon. Secretary of the H.M.O.W. Association of Architectural Surveying and Civil Engineering Assistants.

Mr. E. J. Messent was articled to the late Mr. Frank Sumner, M.I.C.E., Borough Engineer of Woolwich. Subsequently he served under the following local authorities: Southend-on-Sea (Borough Engineer and Surveyor, Mr. E. J. Elford, M.I.C.E.); City of Westminster (City Engineer and Surveyor, Mr. L. J. Veit, F.S.I., O.B.E.). He was appointed borough engineer and surveyor to the Royal Borough of Kensington in 1926. His architectural work has included the erection of working class cottages and flats, new depot buildings, alterations, Kensington Town Hall, and (in collaboration with the late Mr. F. E. Williams, F.R.I.B.A.) the remodelling of the Central Library, Kensington. He is an Associate Member of the Institution of Civil Engineers and a member of the Institution of Municipal and County Engineers.

Mr. L. E. J. Reynolds, M.C., M.INST.C.E., M.INST.M.&CY.E., served three years as articled pupil to Mr. E. J. Reynolds, A.M.INST.C.E., former Engineer and Surveyor to the Friern Barnet Urban District Council. He occupied the position of deputy engineer and surveyor to the Friern Barnet Urban District Council, 1919–1927, and was appointed deputy borough engineer and surveyor to Ilford in 1927. He was promoted to the position of borough engineer and surveyor to Ilford, and architect to the Education Committee in 1929.

Mr. A. Randall Wells is the son of Arthur Wells, F.R.I.B.A. He left a private school at St. Leonards at the age of 16; and worked for one year at the joiner's bench; three years with the Coalbrookdale Iron Co.; and attended the Royal College of Art, South Kensington. He also worked as assistant to Arthur Wells, Arthur Keen, Ernest Newton, E. J. May, Ambrose Poynter, F. W. Troup and W. R. Lethaby.

He was joint architect (with E. S. Prior) for Roker Church, Sunderland, and was awarded a £100 prize for a cottage at Letchworth First Garden City Exhibition. He has also designed numerous cottages in various parts of the country and undertaken restoration work for the S.P.A.B.

Mr. J. B. Wikeley, M.ENG., A.M.INST.C.E., graduated at the University of Sheffield in 1922 with honours in Civil Engineering and Surveying, proceeding to the degree of Master of Engineering in 1923. He is a Chartered Civil Engineer, being elected an Associate Member of the Institute of Civil Engineers in 1928, and is a member of the Institution of Municipal and County Engineers.

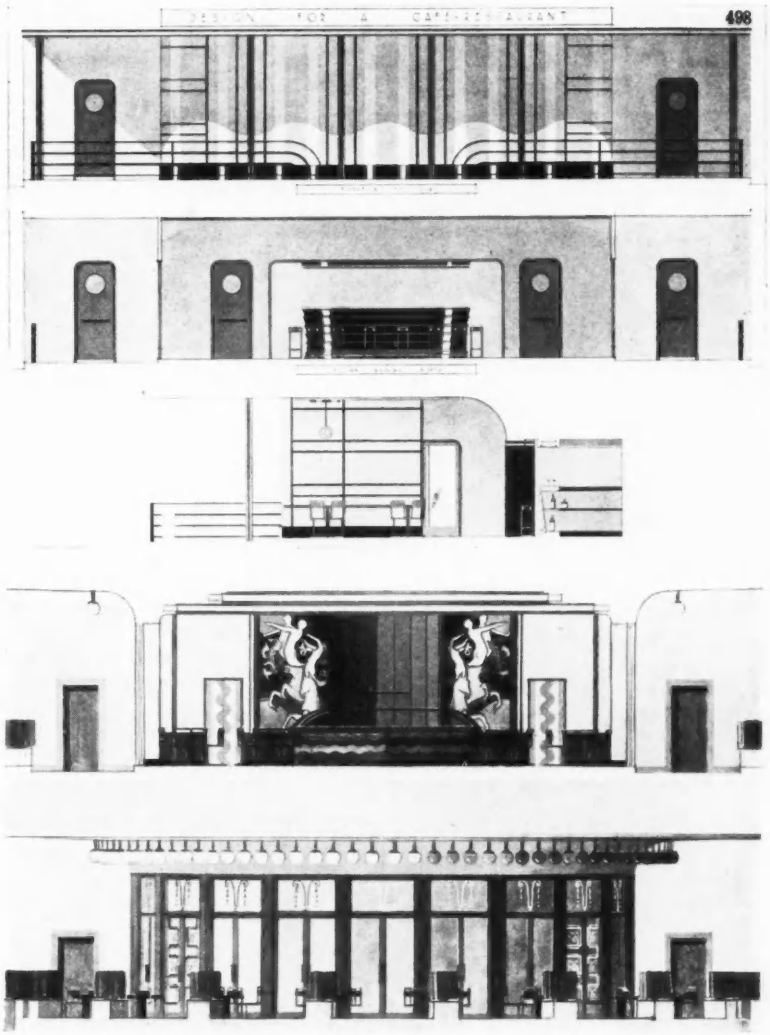
He has held appointments as assistant engineer to the Warwick Canal Navigations, engineering assistant to the Corporations of Pontefract and Sheffield and as deputy engineer and later engineer and surveyor to the Foleshill R.C.D.

Mr. Wikeley was appointed engineer and surveyor and architect to the Grimsby R.D.C. in 1930.

Mr. Raymond Walker received his architectural education at the Leeds School of Art. He was draughtsman to Mr. Chorley, F.R.I.B.A., in Leeds for two years, going to the Architectural Association in 1925, where he studied for another two years. On leaving he was employed by Mr. Owen Little, F.R.I.B.A., and later by Mr. Ford, A.R.I.B.A., both in London, and in 1929 set up in partnership with Mr. R. T. Westendarp, A.R.I.B.A.

He has passed the External Intermediate Examination of the R.I.B.A., and the Final of the I.A.A.S.

The unattached architects are entitled to three representatives on the Council. Voting papers should be submitted to the Registrar, Architects' Registration Council of the United Kingdom, 18, Abingdon Street, S.W.1, by February 7.



The premiated designs in the competition for the decoration of a café-restaurant. Above: Design placed first: By H. F. Hoar, in collaboration with W. F. B. Lovett. Below: Design placed second: By L. H. Bucknell, in collaboration with Miss Ruth Ellis. *(See Competition News on page 170.)*

R. I. B. A.

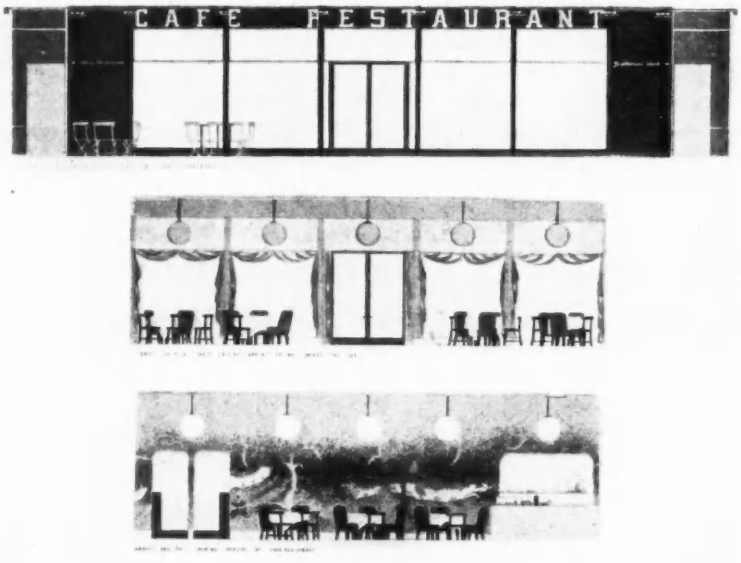
A LINK BETWEEN THE SCHOOLS OF ENGLAND AND FRANCE

In a few weeks' time there will be exhibited at the Galleries of the Institute a unique collection of drawings, executed by advanced students of the National School of Fine Arts of France and those of some twelve schools of architecture in various parts of the United Kingdom in friendly rivalry for the Eustache-Rougevin Prize, one of the most important tests in decorative composition of the Ecole des Beaux-Arts.

This interesting experiment in architectural training has been promoted by the Franco-British Union of Architects.

The idea, of which this exhibition will be the first fruits, is to institute an annual contest in some problem of design between the young architects of Great Britain and France.

The conditions which have been jointly agreed between the Director of the French



Design placed third in the Competition for the Decoration of a café-restaurant. By Thomas T. Hewitson. (See Competition News).

National School and the Board of Architectural Education of Great Britain provide for a joint competition on a programme set by the Ecole des Beaux-Arts. The programme decided upon for this year's joint competition is the famous Eustache-Rougevin Prize of the Ecole des Beaux-Arts, which is awarded annually to students in the " first (or advanced) Class " of that School for a study in decorative composition executed in seven days, from a programme set by the professors of the French National School.

The conditions are as follow : The competitors, in both England and in France, will work under the same conditions ; on the first day between 9 a.m. and 9 p.m. they must produce a rough sketch, without outside help or assistance and working in separate cubicles. During the rest of the week this rough sketch (which forms the basis of the design and may not be radically altered) is elaborated in the School, and on the final day the competitors prepare their finished drawing in twelve hours, working again *en loge* or in separate cubicles.

Method of Judging : From this stage there is a slight difference in procedure. In Paris the *rendus* or finished drawings, are judged by the jury of the Ecole des Beaux-Arts. In England the designs will first be judged by the professors of each of the twelve schools concerned and the design placed first will then be sent to the Royal Institute of British Architects, where a special jury, composed of members of the Franco-British Union of Architects (many of whom are themselves old students of the Ecole des Beaux-Arts) and members of the Board of Architectural Education, will make an examination of the twelve drawings selected by the schools to determine their order of merit.

A Medal to be awarded : A special medal will be awarded by the British and French sections of the Franco-British Union of Architects to the project placed first by the respective juries in each country. The twelve designs judged to be the best interpretation of the programme by the British jury will be sent to Paris and will be publicly exhibited with the selected French projects from February 26 to 28, and the whole of the selected designs will also be on view at the R.I.B.A. Galleries in London from March 7 to 14.

COMPETITION

NEWS

BEXHILL COMPETITION

The premiated designs in the Bexhill Competition will be on exhibition at the Building Centre, 158 New Bond Street, W.1, from February 19 until March 3. We understand that the result will be announced on Monday or Tuesday of next week.

COMPETITION RESULT

The assessors (Messrs. G. Grey Wornum, F.R.I.B.A., G. Alan Fortescue, F.R.I.B.A. and Louis de Soissons, F.R.I.B.A.) in the competition promoted by Jenson and Nicholson, for the decoration of a café-restaurant, have made their awards as follows :—

FIRST PRIZE (50 Guineas) : Mr. H. F. Hoar, B.A., A.R.I.B.A., A.M.T.P.I., working in conjunction with Mr. W. F. B. Lovett, B.A., of London.

SECOND PRIZE (15 Guineas) : Mr. L. H. Bucknell, F.R.I.B.A. (working in conjunction with Miss Ruth Ellis, A.R.I.B.A.), of London.

THIRD PRIZE (10 Guineas) : Mr. Thomas T. Hewitson, A.R.I.B.A., of Birmingham.

STOCKHOLM COMPETITION

In our issue for January 18 we stated that it was probable that the authors of Plan No. 145 in the Stockholm Competition would be disqualified owing to a technical infringement of the Competition rules. This statement has now been confirmed by the Stockholm authorities. In consequence, Plan No. 233 (by Charles A. Platt, William Platt, Geoffrey Platt and John M. Gates, New York) has been promoted to a share of the prize, together with Plans 271 and 295 ; and Plan No. 100 (by Hanz Holzbauer and Ing. Franz Stamm, Berlin and Holzhausen am Ammersee), has been promoted to the purchase class.

OBITUARY

WILLIAM SCORER

We regret to announce the death of Mr. William Scorer, A.R.I.B.A., the oldest in years of the R.I.B.A. staff. Mr. Scorer, who kept his ninetieth birthday shortly before Christmas, was at work in the Institute until a week before his death on January 22 (states the *R.I.B.A. Journal*) He first came to the R.I.B.A. during the war to assist in clerical work, having previously been in practice as an architect in Lincoln, where for a time he was diocesan architect.

H. K. BROMHEAD

We regret to record the death, in his ninety-sixth year, of Mr. Horatio K. Bromhead, F.R.I.B.A., of Garnethill, Glasgow. He had been living in retirement for some time. Mr. Bromhead took an active part in the founding of the original Glasgow Institute of Architects, and in the early years of the organization he was, for a period, president and a member of the Council.

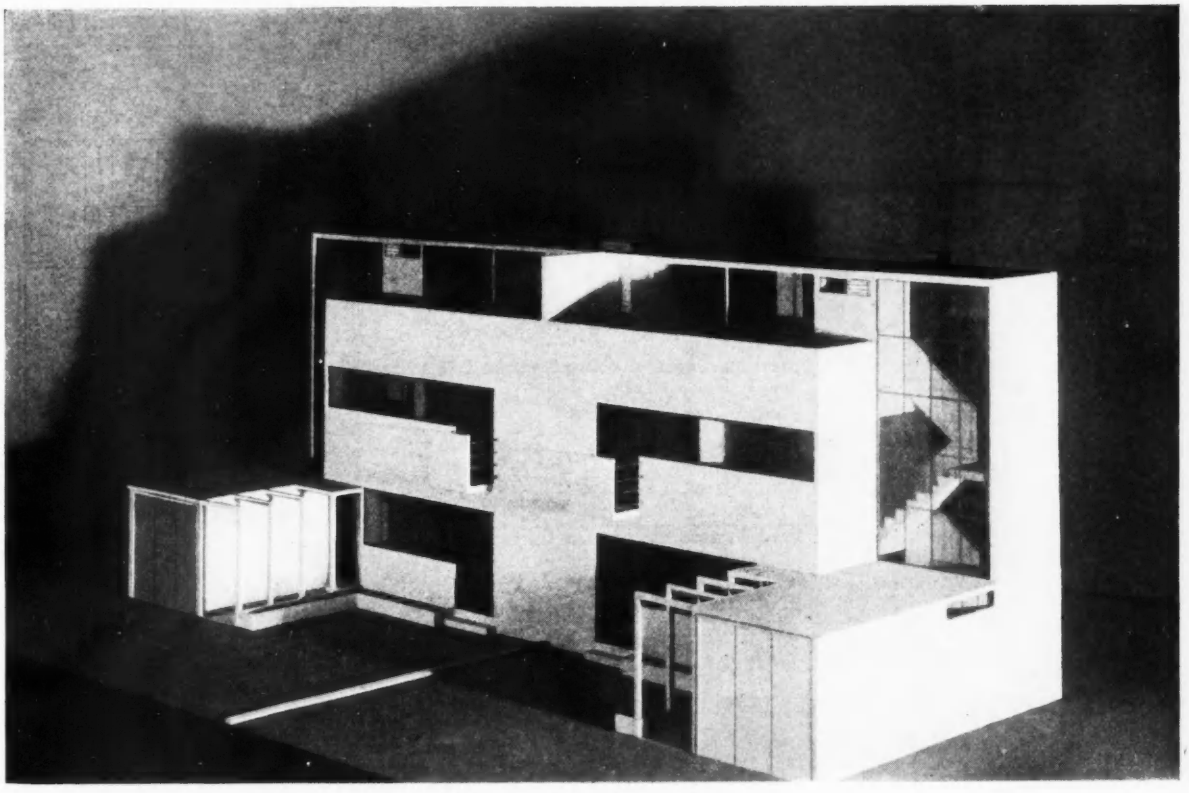
Mr. William G. R. Sprague, of Maidenhead, a member of the firm of Sprague and Burton, architects, left £397 (n.p. nil).

THIS ARSHETECTURE

Architects and town-planning experts are employed by the company developing the estate, but there is very little scope for artistic development. The striking mass-production factories of West London are unique and have no place in ordinary industries. But an architect should design the offices, as these may be made a valuable advertisement.

The problem of high rents has been solved by moving industries to the country—a change made possible by the development of motor transport. On the industrial estate, centralized transport and cleaning is an important advantage, but the single factory can be planted anywhere if it has its own lorries. — From an article entitled " *Production Engineers' Requirements* " in *The Times* Trade and Engineering Supplement.

PROPOSED HOUSES AT RUISLIP, MIDDX.



The main elevation.

A new treatment of the semi-detached house appears in the models on this and the following pages, and a glance at the drawings and photographs shows some of the obvious advantages that are gained by boldly breaking with convention and aiming to fulfil the needs of modern living.

The houses are to be constructed entirely in reinforced concrete, and to sell, with land, at £995.

The most striking feature is the open staircase, which can be made more private if desired by the use of semi-obscure, instead of clear glass. It allows sunshine to stream into the halls and passages, making them as light and airy as the living rooms all day, not merely lit in patches according to the sun's position over the house.

Part of the flat roof is under cover to give shade in summer and protection from showers. It provides a safe playing space for children and privacy for sun-bathers. An extra box-room on the roof forms a useful store for deck chairs, etc.

As the houses are insulated, they are warm in winter and cool in summer, in spite of the large windows in every room.

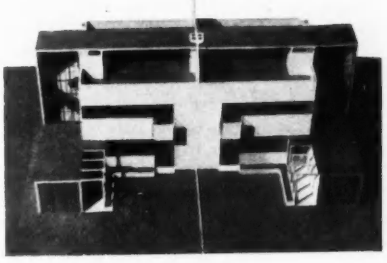
The architects' aim in planning has been to provide the maximum amount of space and at the same time give ample cupboard accommodation. The bedrooms all have built-in wardrobes, there is a properly aired linen cupboard and special service arrangements between the kitchen and dining room. The dining room is designed as a recess to the living room. The plan shows a book-case dividing the two rooms, but they can actually be screened off by curtains or folding partitions, or thrown into one. The hall can also be thrown into the living room by opening the sliding doors, so that for purposes of entertaining the whole ground floor can be turned into one room.

The garage can be entered under cover from the front door, a more economical arrangement than entering directly from the house, which increases the insurance premium.

The construction being entirely of reinforced concrete, enables the houses to be rated more cheaply for fire insurance than a house with the more usual joist and board floors. It is also claimed that expenses for wear and tear and general upkeep are diminished.

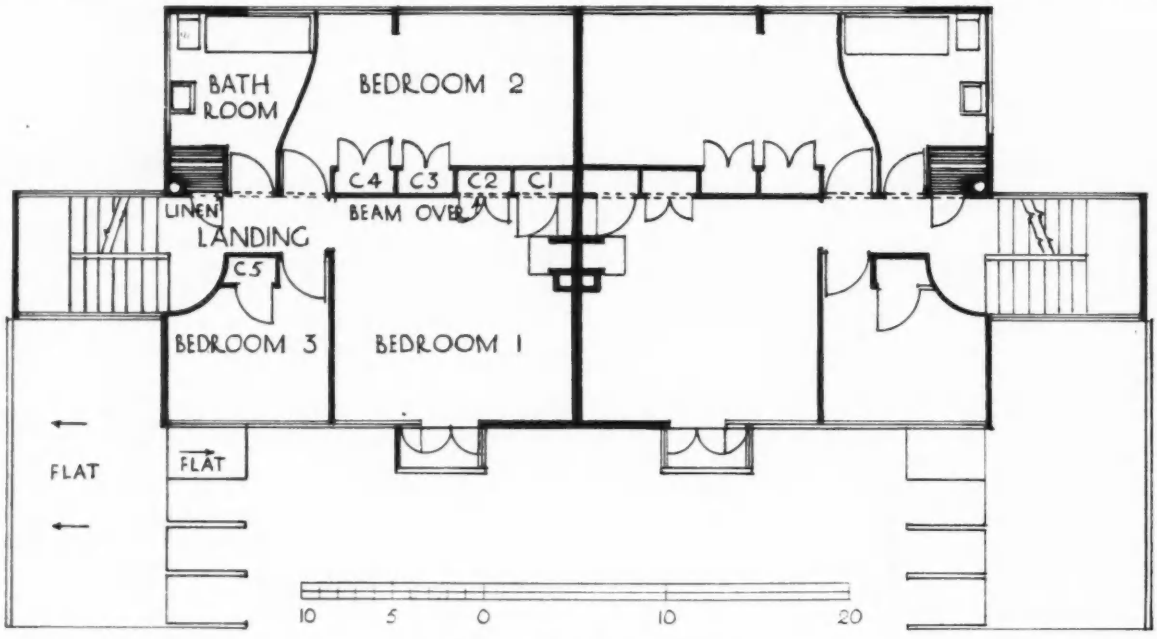
It is proposed to erect these houses, and others at a higher price, at Ruislip, on a site situated near the shops and railway station, but apart from other developments. There are public open spaces in front and at the rear, and the scheme will develop along certain lines which have already been planned to take advantage of the amenities of the district.

The models are the work of Messrs. Judd and Freeborn.

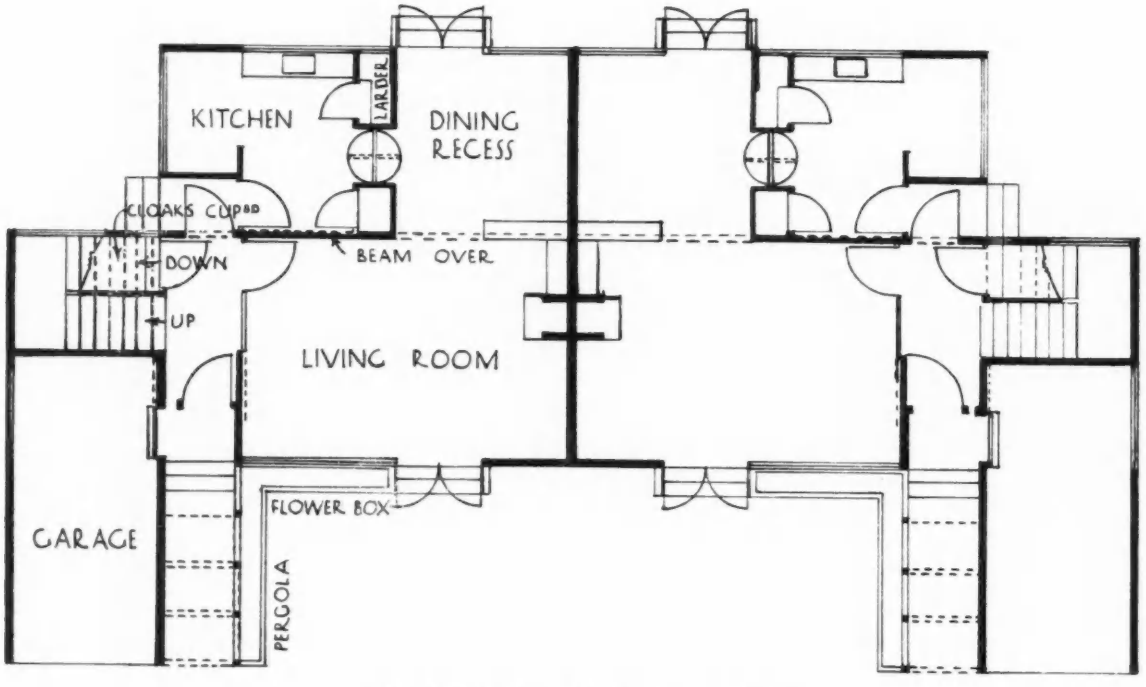


BY CONNELL AND WARD

PROPOSED HOUSES AT RUISLIP:

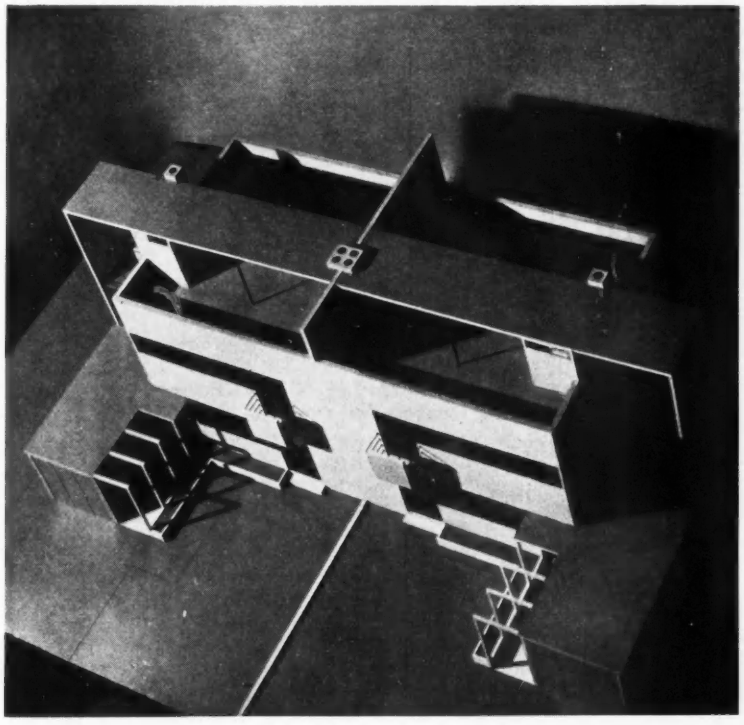


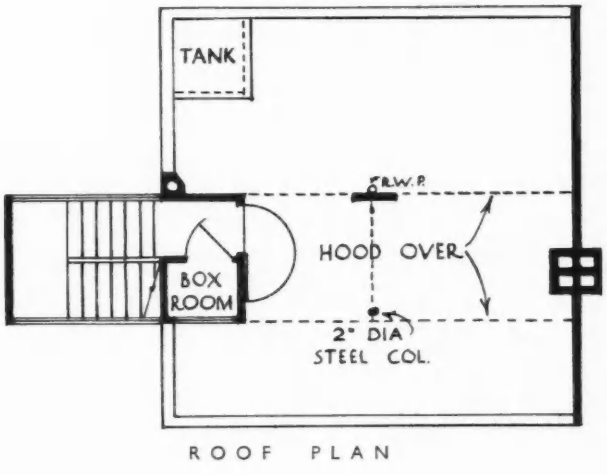
FIRST FLOOR PLAN



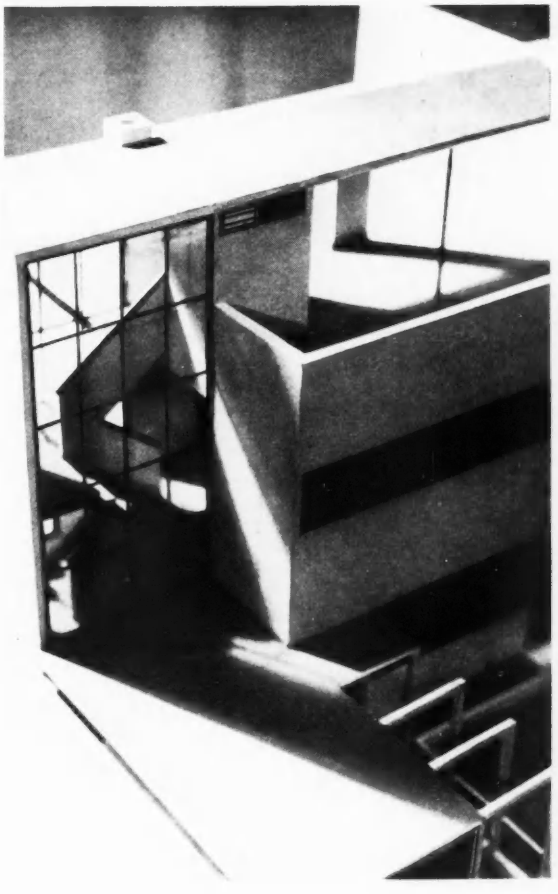
GROUND FLOOR PLAN

BY CONNELL AND WARD





ROOF PLAN



The photograph above shows the hood over the flat roof of the houses, and the pergolas and flower boxes leading to the front door. On the right is a close-up view of the glass wall to the staircase.

LETTERS FROM READERS

ROBERT HURD, B.A.Arch., A.R.I.A.S.

DOUGLAS S. ANDREWS
(Principal, Leeds College of Art)

JOHN G. MARTIN
(Secretary, National Housing and Town Planning Council)

JOHN GLOAG

Cunarder No. 534

SIR,—In your leading article in last week's issue you refer to "English" fitting out, "English" turbines and "English" engineers in connection with modern shipbuilding design, mostly carried out on the Clyde.

It would be refreshing if your JOURNAL would use the term "British" when it means British, "English" when it means English, and "Scottish" when it means Scottish; though we in Scotland are only too well aware of the effort it is for a London journal to remember that "England" is not synonymous with "Britain," still less with "Scotland."

There should, however, be no difficulty in this case. You are quite rightly criticizing the *fitting out* of modern liners. It is indeed abominable; but let us be fair about it. Much of the bad taste is presumably due to lack of initiative or ignorance on the part of the furnishing firms who undertake inclusive contracts for shipping companies. If the furnishing, or fitting out, has been carried out, as it generally is, by a London firm, then let them have the credit, or notoriety, for the results; but the actual design and building of such liners as the *Empress of Britain* and *Cunarder No. 534*, which you praise, is a product of Scottish brains and Scottish craftsmanship. You might allow us the credit for that. There is no value in criticism unless it directed pretty accurately to the source of trouble.

If, however, you find that the bulk of furnishing or fitting out is done by Scottish firms, and you don't like it, please be as rude as you think fit.

It is a pity that Scottish architects are not given an opportunity to ensure that the fitting out will be up to the standard of the design of the ship itself.

ROBERT HURD

[*We apologise to our Scottish correspondent; though it should not be forgotten that England is governed, organized, and mostly populated by Scots. With regard to the decoration of ships, the responsibility is surely that of the ship-owner, and not the decorator, who is simply made to do what he is told.*—ED., *A.J.*]

Design in Art Schools

SIR,—In your issue for Jan. 18 Astragal has again displayed extraordinary ignorance of State-aided schools of art. He has no justification for making such sweeping statements, unless, by actual personal knowledge of a number of schools, he can support them by concrete examples and not merely from hearsay.

Let me say at once that I am thoroughly in agreement with the first sentence of his final paragraph, "A wise Government would, of course, close every art school that did not train students in design," but that his final sentence is grossly untrue.

It is one thing to commend the good work which the recognised schools of architecture are doing, and no one knows better than myself the scope and value of their work, as I am the Principal of a College which contains a fully recognized school of architecture, with 140 students, 70 of whom are full-time, taking the complete five years' course; a school which is, I believe, the second in point of size in the provinces. It is, however, quite another matter, when the desire to commend the schools of architecture leads Astragal to vilify another branch of art education in order to do so.

In addition to the School of Architecture, I have other departments making up this college, in which there are about 1,200 to 1,250 students, and I can assure Astragal that the whole of the work of the college, in every department, is founded, first and foremost and all the time on "design." There is not a score of students in the place who are not here for the purpose of being taught design, chiefly in direct relation to industry, whether they realise it or not; and this college is no exception to the rule which applies equally to the State-aided art schools throughout the country.

My own Leeds School of Architecture has certainly had remarkable results in the field of design, for architectural fitments and accessories as well as for the larger and more comprehensive aspects of architectural practice.

No less than £350 in prizes have been won in open competition during the last five years in such competitions as that of the Royal Society of Arts, etc.

It would, however, be absurd and unfair to overlook the fact that during the same period other departments of this college have also been equally successful in gaining prizes in the same and other competitions.

Has Astragal ever visited a school of art? Has he ever entered the L.C.C. Central School at Southampton Row? I seem to remember that on one occasion Astragal ventured as far from London as Wolverhampton, or was it Walsall? Will he visit the Central School of Art in Birmingham if he is again in that district? He might also with advantage call at Bradford, or Leicester, and we should be delighted to see him at Leeds.

Perhaps if he did so he would be more fair in his statements, and in future avoid making similar attacks which are so untrue and unsupported by facts.

DOUGLAS S. ANDREWS

ASTRAGAL REPLIES:

I have at different times visited all the art schools referred to; but not within the last year or so. Birmingham, inspired by that great teacher, B. J. Fletcher, was a brilliant exception. I'm glad to hear that "design" also commends official attention in other directions. By "design," I mean training æsthetic judgment; so many art students seem to think design means the making of patterns.

Houses at Low Rents

SIR,—Housing reformers will derive little satisfaction from the optimistic statement recently made to the Press by Sir Enoch Hill, president of the Halifax Building Society, regarding the results of the Housing (Financial Provisions) Act, 1933. It is, of course, gratifying to learn that this important Society, which was one of the principal sponsors for the Act, has now approved or granted loans involving £1,290,303 for house construction under the new guarantee scheme. Unfortunately, however, there is no official news as to the loans granted by other Building Societies in Great Britain for the erection of houses to let under the Act. From all accounts it seems hardly likely that the scheme will produce more than a few thousand houses—mostly of relatively low standard—per annum, whereas the popular Wheatley Act of 1924, before its repeal, was producing annually some 60,000 well-constructed houses for letting at standard rents.

It is indisputable that the Building Societies have rendered much valuable service to the nation by assisting hundreds of thousands of persons to purchase their own homes, but their operations are not likely to result in

We have received a letter entitled "Architects' Assistants." Would the author please forward his name and address (not necessarily for publication) to the Editor at 9 Queen Annes's Gate, S.W.1.

the production of the large numbers of cheaply rented dwellings that are so urgently needed in many parts of the country. Actually, the terms arranged by the Building Societies with the Minister of Health under the Act of 1933 are that advances will be made for a period of 30 years at 4 per cent. in the North and Midlands and at 4½ per cent. in London and the South. These terms compare most unfavourably with the rate of 3½ to 3⅝ per cent., with repayment spread over 60 years, at which local authorities can now borrow for housing purposes. It is manifestly unfair that in these difficult times the poorer classes should be expected to occupy houses the construction of which has been financed on the relatively onerous terms offered by the Building Societies.

As for Sir Enoch Hill's own scheme at Hipperholme, Yorkshire, for the erection of 40 houses, which he states could be let at 10s. a week, exclusive of rates, such a rental is far beyond the reach of the lower-paid wage-earners, and compares unfavourably with the rent of "10s. a week (inclusive of rates) or less" which the Minister of Health suggested as a desirable objective.

May I appeal, therefore, to Sir Hilton Young to permit local authorities to proceed freely with house-building schemes wherever there is a real shortage of working-class dwellings? Why should not the clearance of slums and the abatement of the gross overcrowding that exists among the poorer classes living outside unhealthy areas proceed side by side?

JOHN G. MARTIN

Gentleman

SIR,—In his recent address to students at the Royal Institute of British Architects, Sir Giles Gilbert Scott used a sentence which has been favoured by the notice of Beachcomber in *The Daily Express* and by the expert who prepares the column called "This England" in *The New Statesman*. Picking out a sentence from a speech and laughing at it is good, easy fun. In the following extract from Sir Giles Gilbert Scott's address I have underlined the sentence that secured the attention of the professional humorists.

"I know modern conditions seem to demand extremism and I shall be accused of advocating compromise if I condemn extreme expression, but vulgarity is to my mind one of the outstanding characteristics of our times, and is largely due to a new-born democracy confronted with intense competitive conditions. The restraining influence of fine tradition and breeding is at present slight, and it is found difficult to withstand the temptation of shouting loud and long in order to attract attention. *It is not a bad question to ask yourselves when you have completed a design: 'Does it look like the work of a gentleman?' and, shall we say, 'an English gentleman.'* I fancy this does not sound very popular, for an English gentleman can be terribly dull, especially when compared with a foreign gentleman, and a real vulgarian is much more amusing and interesting than either!"

Why is the word "gentleman" considered amusing in connection with architecture? Doesn't it still stand for good manners and unassertive behaviour?

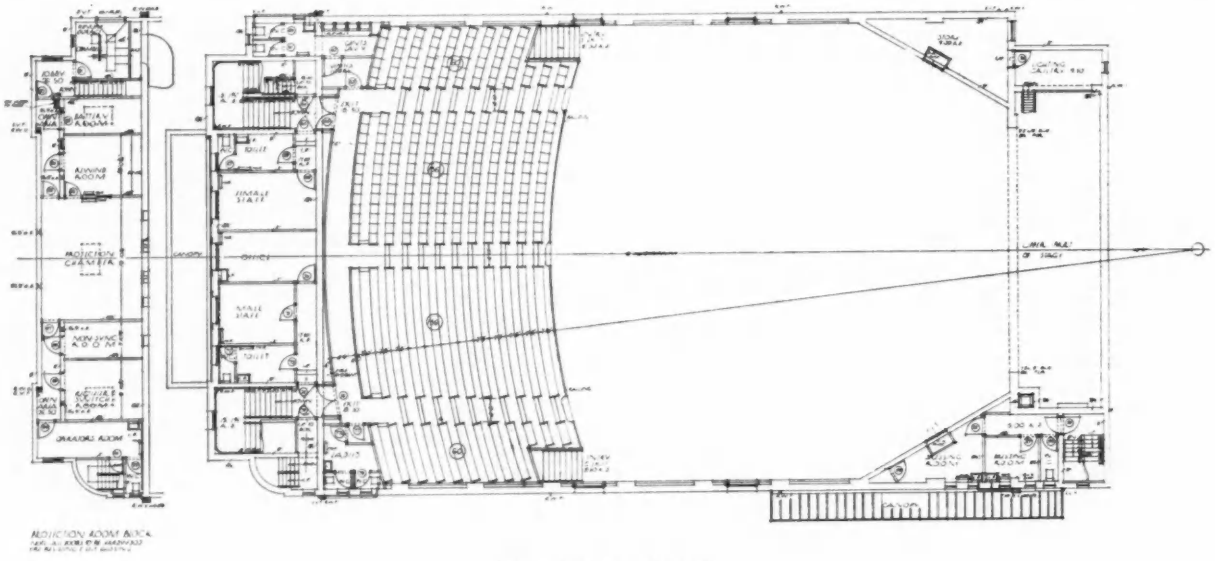
JOHN GLOAG

CINEMA AT EGREMONT

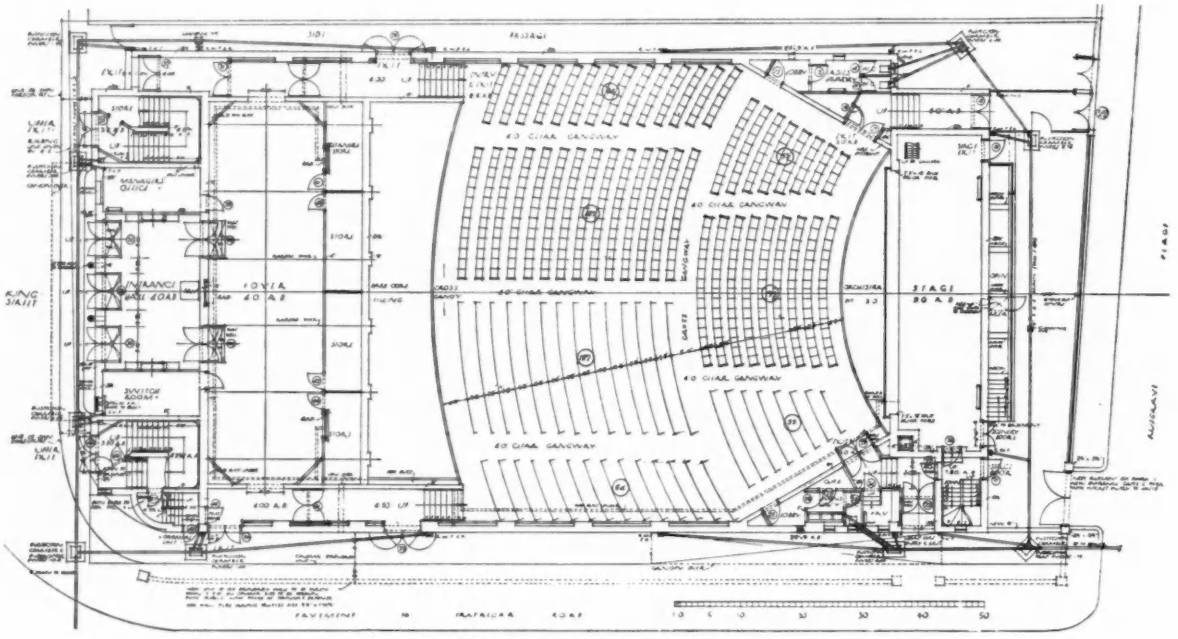
This building, situated at the corner of King Street and Trafalgar Road, Egremont, Ches., is constructed of brick, with artificial stone dressings, and proper provision has been made on the elevations for the inevitable poster frames. Internally, the auditorium has been planned on "stadium" lines, the stalls level being only slightly raked, with the seating at the back stepped like the more usual circle, a system which simplifies sight and projection lines, and reduces height, though presumably at the expense of a certain amount in length. Wall finishes in the entrance hall and foyer are French and Italian walnut, with a frieze of curly birch; the auditorium has a deep blue dado, above which is an acoustic absorbent decoratively treated

BY W. E. TRENT (W. SYDNEY TRENT, ASSISTANT)

GAUMONT CINEMA, EGREMONT:



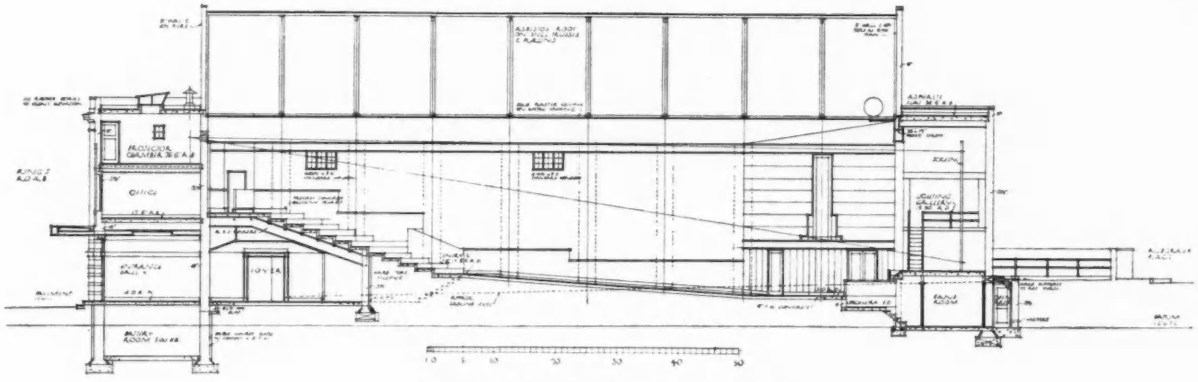
STADIUM PLAN



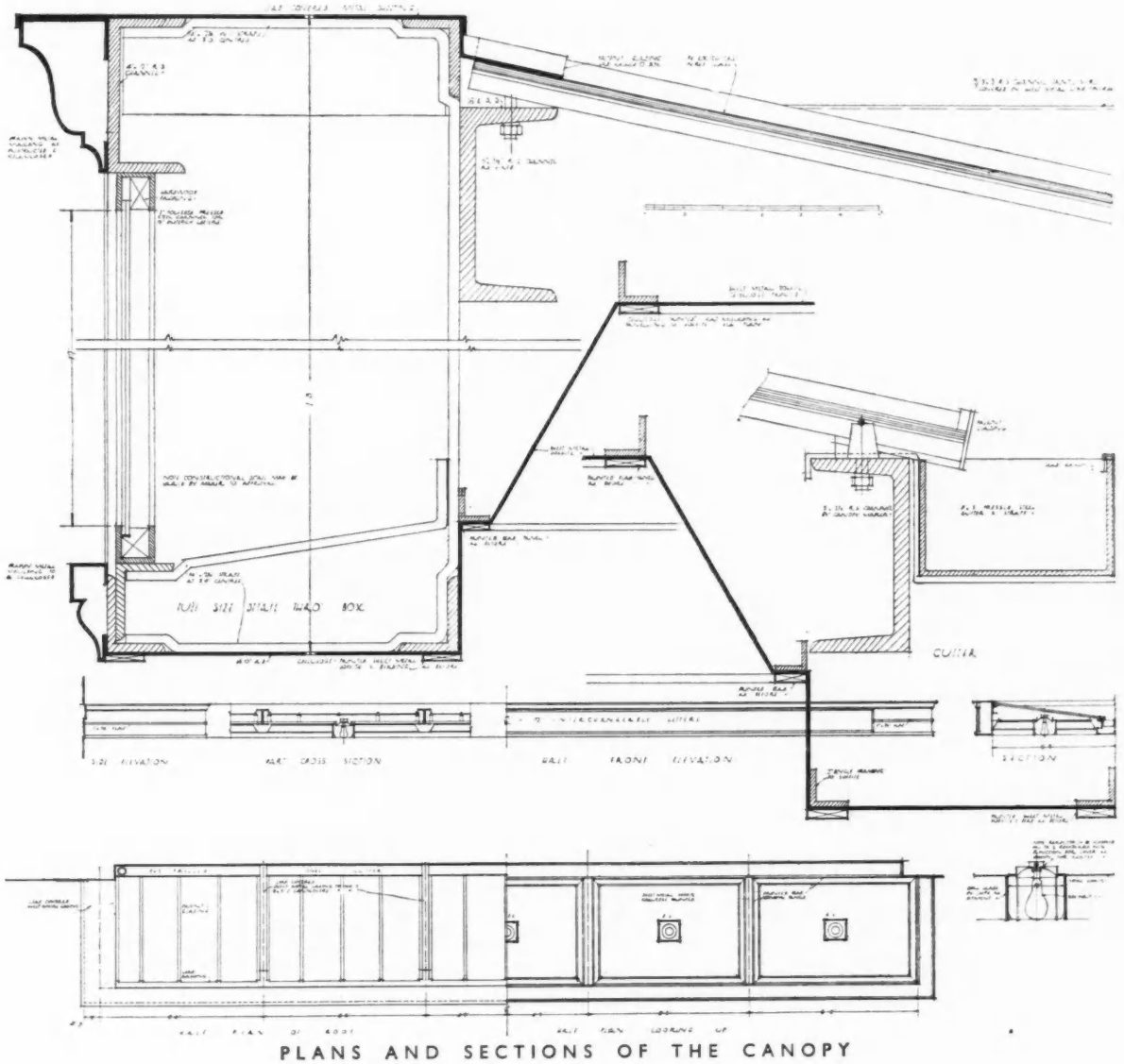
GROUND FLOOR PLAN

Plans of the ground and stadium floors and the projection room block. The seating capacity is: stalls 777, stadium 432; total, 1,209.

BY W. E. TRENT (W. SYDNEY TRENT, ASSISTANT)



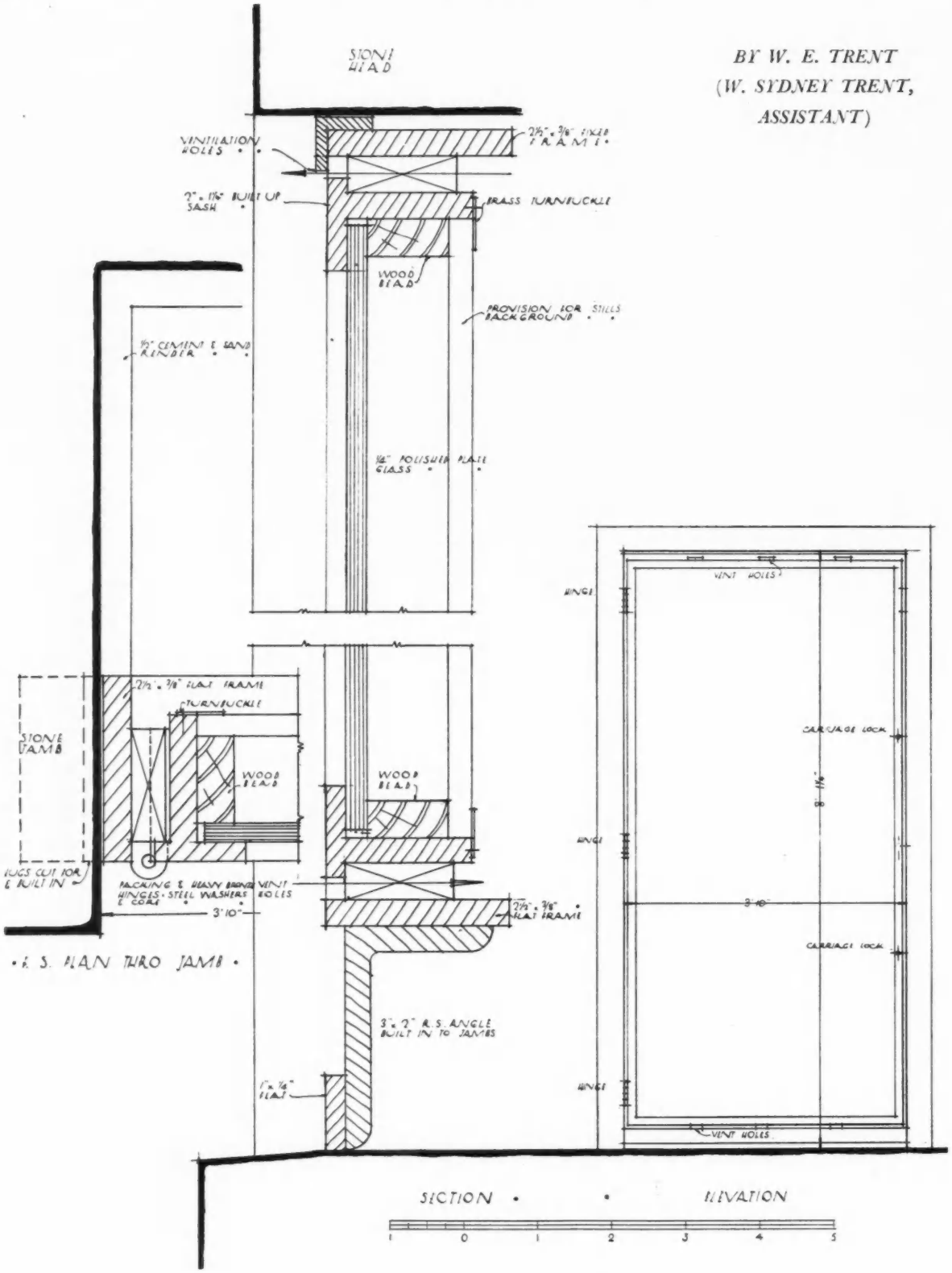
LONGITUDINAL SECTION



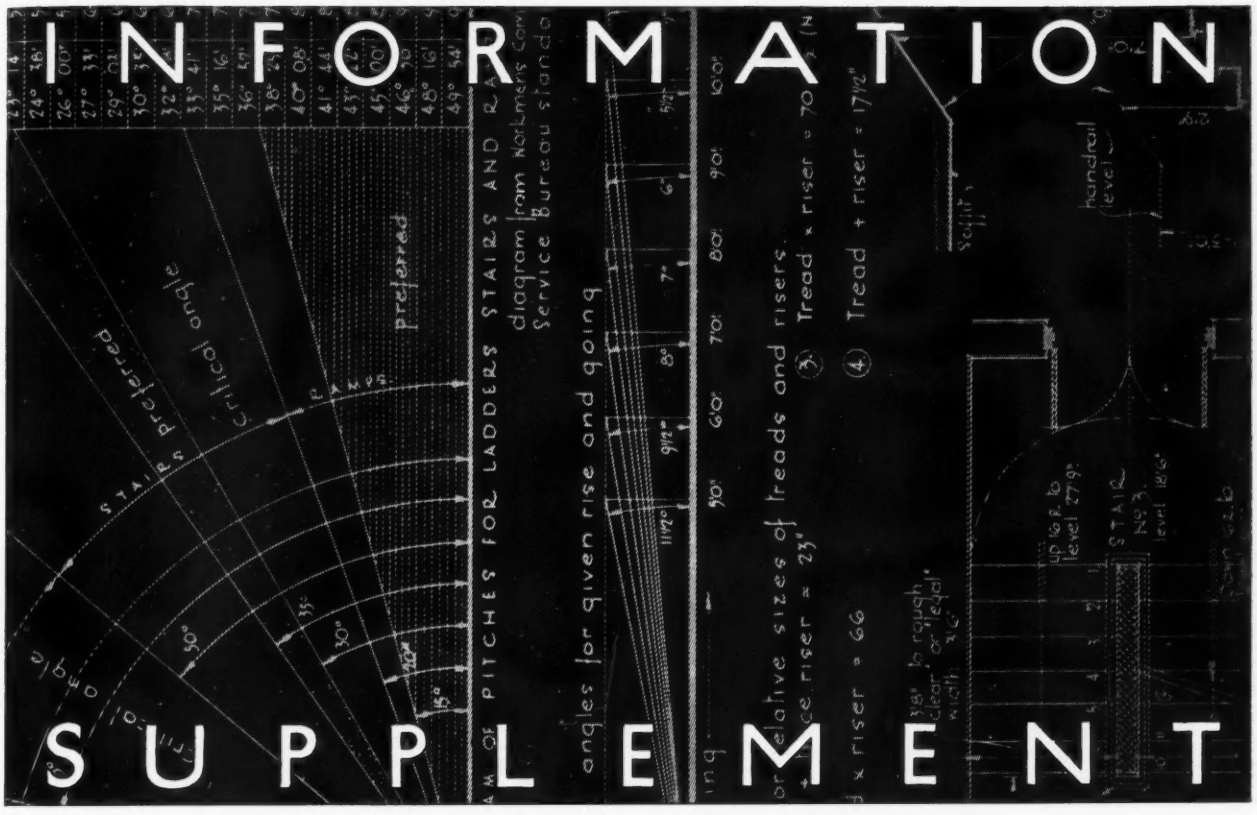
PLANS AND SECTIONS OF THE CANOPY

GAUMONT CINEMA, EGREMONT

BY W. E. TRENT
(W. SYDNEY TRENT, ASSISTANT)



EXTERNAL METAL POSTER FRAMES



3: THE CONCRETE CODE

[*By W. E. J. BUDGEN, B.Sc., A.M.Inst.C.E., A.M.I.Struct.E.*]

Information on building methods, materials and equipment is generally so widely scattered that the process of reference absorbs much valuable time. The Information Sheets, published every week, provide in accessible form the vital information on given subjects: two sheets, presented with this issue, are devoted to flat slab construction under the new code. It must be remembered, however, that whilst certain subjects may be treated diagrammatically on a single sheet, others are better presented as illustrated articles. We therefore published, on July 13 and November 9, the first two of a series of Information Supplements. In those we dealt with recent developments in structure and the requirements of the modern kitchen. This, the third, is devoted to Reinforced Concrete, following on the recent publication of the Recommendations for a Concrete Code of Practice. Next week we propose to publish a supplement dealing with calculations for steelwork.

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Trade Notes .. .. (*By F. R. S. Yorke*, A.R.I.B.A.)	188

INTRODUCTION

A STUDY of modern building methods at home and abroad, shows that reinforced concrete is used abroad to a greater extent and for smaller buildings than in England. Inspection also shows that the standard of concrete workmanship abroad is generally high, even on small jobs where some lack of expert supervision might be expected. One has only to compare the retaining walls, frequently seen in the gardens of small houses in this country, with those in, for example, France. Too often here some dirty ballast, or a heap of cinders, with the cement bag shaken over it and some old scaffold boards as shuttering, produces "concrete."

Now, if in other countries reinforced concrete is found to be one of the most suitable (and, economical) materials for small as well as large buildings, why is it not so in England? Furthermore, why should the average standard of workmanship abroad be higher than ours?

The answer to both questions may be found partly in our conservatism; for reinforced concrete construction is hardly yet fifty years old, and we still tend to view it from the "mass

concrete filling" angle. But the real answer undoubtedly lies in the restrictions placed on reinforced concrete by obsolete building regulations. Yet there is this paradox: that, except in London and a very few places outside London, there are no regulations governing reinforced concrete construction. However, in the absence of other regulations the London County Council standards have been adopted as a standard by authorities throughout the country, and also by practically all writers and lecturers on reinforced concrete. These regulations were issued in 1915 and laid down, among other things, that the compressive stress in 1 : 2 : 4 concrete should not exceed 600 lb. per sq. in. and that the tensile stress in the reinforcement should not exceed 16,000 lb. per sq. in. These values, together with the specified modular ratio of 15, gave certain values for the radius arm (.88d) and the resisting moment ($95bd^2$), which are familiar to all students of reinforced concrete design and which have been used in the design of nearly all the reinforced concrete work erected since.

Examining these stresses (for they are fairly typical of the rest of the regulations, from which they are taken) we see that, while they may have been suitable in 1915, they have no connection with modern reinforced concrete requirements. Steel production has improved, and with the majority of *British* steel a working stress of 20,000 lb. per sq. in. gives an adequate factor of safety on the yield point. As regards the concrete stress, Dr. Faber, writing in 1912, said that "the ultimate strength of 1 : 2 : 4 concrete, using good materials and well graded broken stone as the aggregate, is generally about 2,000 lb. per sq. in. at one month," and on this the stress allowed, of 600 lb. per sq. in., gives a reasonable factor of safety. Today, owing to improvements in cement and better aggregates and mixers, strengths of 5,000 to 6,000 lb. per sq. in. would be obtained from the same mix, and the stress of 600 lb. per sq. in. is absurdly restrictive.

Limitation to this stress by regulations and habit has been no incentive towards the use of good materials and workmanship; and there has been bred among many contractors and contractors' foremen the idea that, for concrete, "anything will do." Furthermore, designers have been content with unnecessarily incorrect methods of calculation because more refined methods, which took more time, were not worth while.

Conservative regulations (it must be remembered that, in addition to the low stresses, heavy superimposed loads were also specified) have therefore lowered our standards of construction instead of raising them. This state of affairs must now be altered, and architects have it in their power to see that it is altered. In the first place they have now, in the Code of Practice for the Use of Reinforced Concrete in Buildings, an authoritative guide as to what is good reinforced concrete practice and design. This code unfortunately (and this may need to be emphasized) has, as yet, no official status as "building regulations." So far the L.C.C. have not adopted it, but under the waiver system, *they have power to allow buildings in accordance with its requirements, if they so desire.*

Outside London, as has previously been mentioned, the existing regulations, dealing with reinforced concrete construction, usually merely specify that stability shall be maintained, and authorities are being urged to use the code as a basis for their approval of designs. Meanwhile all architects should insist that, wherever possible, any reinforced work under their control is designed in accordance with the provisions of the code and should also inform the builder of this fact and insist that the standard of his workmanship is in accordance with that laid down by the code.

It may be that we shall then find the solution to many of our building problems, in particular that of the excessive cost of grouped dwellings, tenements, flats, etc., as compared with small individual houses.

The code also states that "Special forms of construction not otherwise provided for in the Code of Practice may be employed where the methods of design and construction are such as to ensure a standard of strength and durability at least equivalent to that demanded by this Code of Practice."

In view of the recent successful use on the Continent of such various special forms of reinforced concrete construction it is to be hoped that architects and engineers will combine towards the solution, by the use of new methods, of many of the problems which beset our ordinary methods. The chief among these would appear to be that of reducing the cost of shuttering and at the same time obtaining a satisfactory internal and external finish.

COMPARISON OF THE CODE OF PRACTICE WITH THE L.C.C. REGULATIONS

Since their publication in 1915 the London County Council Regulations for reinforced concrete, although only legally binding on buildings erected in the London area, have influenced the whole of English reinforced concrete design and practice. It is therefore natural that the new Code of Practice should be judged in comparison with these regulations, particularly as it is hoped that the London County Council will shortly substitute this code for the present regulations.

Before proceeding to a detailed comparison of the two documents it is well to notice their difference in form. The L.C.C.

TABLE I

Showing comparison between superimposed loads, specified for various classes of building and floors, by the L.C.C. regulations, and by the Code of Practice.

Type of Building	Superimposed Load in lbs. per sq. ft.		
	L.C.C.	New Code	
		For Slabs	For Beams, Columns and Foundations
Rooms used for domestic purposes	70	50	40
Hotel bedrooms, hospital rooms, and wards	84	50	40
Offices, floors above entrance floors	100	80	50
Offices, entrance floor and floors below entrance floor	100	80	80
Churches, schools, reading rooms, art galleries, etc.	112	80	70
Retail shops	112	80	80
Garages for cars of not more than two tons dead weight	—	80	80
Assembly halls, theatres, cinemas	112	100	100
Gymnasia, light workshops, public spaces in hotels and hospitals, restaurants and grandstands	—	100	100
Drill halls, dance halls	150	100	100
Staircases, landings	120	100	100
Warehouses, book stores, stationery stores and similar uses—not less than	224	200	200
Garages for vehicles exceeding two tons dead weight	—	200	200
Flat roofs	56	50	30

TABLE 2

Showing summary of requirements for the three grades of concrete.

Requirements	Ordinary grade	High grade	Special grade
Preliminary tests (Before commencement of job)	—	To be made unless other evidence of required strength is produced	As High grade
Works tests : (a) Strength (b) Consistence (slump test)	—	(a) two cubes weekly and when materials are changed. (b) Daily	(a) two cubes twice weekly and when materials are changed. (b) Daily
Supervision	—	Foreman and qualified responsible supervisor or clerk of works	As High grade
Water content and consistence	Slump not to exceed 6 ins.	As Ordinary grade	As ordinary grade Water cement ratio not to exceed preliminary test figure by more than 10 per cent.
Supply of cement	—	—	Special provision for uniform supply
Grading of aggregates	—	—	Controlled to agree with preliminary tests
Type of calculations	—	—	As monolithic framework

regulations give a very complete list of detailed formulæ for bending moments, properties of beams, etc., whereas the code omits these altogether and merely gives the fundamental assumptions from which the formulæ in the L.C.C. regulations are derived.

For example, the L.C.C. regulations say that the depth to the neutral axis shall be obtained from the equation

$$n_1 = \sqrt{m^2r^2 + 2mr} - mr,$$

etc., whereas the code says that the calculation for such a property shall be made in accordance with the following assumptions :

(i) Both steel and concrete are perfectly elastic.
(ii) Concrete carries no tensile stress.
(iii) Plane sections remain plane after bending.
(iv) The modular ratio has the values given in Clause 301.

Since these assumptions are the same as those used in the L.C.C. regulations, it follows that the equations giving the properties of beams, for example, as given in Section 87 (of the L.C.C. regulations) can still be used, provided the appropriate stresses, etc., are inserted. For columns, however, this does not hold good, as different assumptions have been made.

In general it will be found that the designer is allowed much more latitude in his methods of calculation.

SUPERIMPOSED LOADS AND GENERAL BUILDING CLAUSES

Table 1 shows the comparison of the superimposed loads required for various classes of building.

Apart from a considerable reduction in amount in all cases, the chief difference that will be noted is that the code specifies two loadings, one for slabs, and the other for beams, columns, piers, walls and foundations. This principle has long been recognized by engineers to be sound, in that it allows for the fact that, in certain buildings such as offices, heavy local loads, such as safes, may be found, while the general loading over a large area is comparatively small.

This possibility of heavy local loading is also catered for in the code, by the requirement that all slabs and beams shall be designed for certain minimum loads, whatever their loading as calculated from the plans. Thus a slab in the upper floor of an office building must be capable of carrying a minimum superimposed load of $\frac{3}{8}$ of a ton per foot width, which means that a slab spanning only 7 feet would have to be designed for a load of 120 lb. per sq. ft., whereas a slab on the same floor, spanning 11 ft., need only be designed for a load of 80 lbs. per sq. ft.

The general building clauses, thickness of walls, allowable pressure on brickwork, foundations, etc., follow almost exactly those of the Code of Practice for Structural Steel, by now familiar to most architects.

The L.C.C. requirement that " the aggregate width of openings in external walls shall not exceed, in a wall of any storey above the ground storey, two-thirds of the whole area of such wall and the aggregate width of such openings in such a wall shall not exceed three-quarters of the whole length of such a wall " is not repeated in the code.

ALLOWABLE STRESSES

As regards steel, the allowable stress is increased from 16,000 lb. per sq. in. to 18,000 lb. per sq. in. for ordinary mild steel, or to 20,000 lb. per sq. in. if the steel has a Yield Point Stress of not less than 44,000 lb. per sq. in. (a common occurrence) and to 25,000 lb. per sq. in. for certain high yield point steels.

As regards concrete stresses, Fig. 1 shows the comparison. It will be noted that three types of concrete, Ordinary, High and Special Grade, are recognized, but it should be noted that there is no difference in mix, i.e., proportion of cement to aggregate for the three grades. The only difference is in the amount of testing and supervision the designer is prepared to give to the job.

The first grade, called Ordinary Grade, is intended for use in cases where rigid control is not exercised, and where it is impracticable to insist on tests.

The second grade, designated High Grade, calls for preliminary tests, for greater control during the progress of the work, and for a programme of tests on the deposited concrete.

The third grade, designated Special Grade, calls for an even greater exercise of control and testing. The stresses specified for this grade may also only be used when certain methods of calculation are adopted.

The requirements, as regards testing, etc., for the various grades are given in Table 2.

From Fig. 1 (reproduced overleaf) it is obvious that, even with ordinary grade concrete, great economies can be obtained by use of the new stresses.

It may be mentioned in passing that, thanks to the efforts of the cement manufacturers and the suppliers of aggregate, concrete mixers, etc., there should not be the slightest difficulty in producing concrete of the strength required by the code, provided that these materials are suitably handled.

Table 3 shows the test strengths required for the various grades of concrete, together with the allowable working stress in bending, as compared with the L.C.C. regulations.

Another important alteration in the code is in the values given to the modular ratio (which may be defined as the ratio of stresses in the steel and the adjoining concrete, in a loaded reinforced concrete member). The L.C.C. value, for a 1:2:4 concrete, was 15, although with modern concrete a value of $7\frac{1}{2}$ would be more correct, *at the instant of loading*. Owing, however, to the effect of plastic yield, or creep, the stress in the steel increases with time, while the stress in the concrete

TABLE 3

Showing difference in test strengths required and working stresses allowed between the L.C.C. regulations and the recommended Code of Practice.

Nominal Mix	Minimum cube strength required at the age of 28 days in lbs. per sq. in.			Permissible working stress in bending in lbs. per sq. in.		
	L.C.C.	Code of Practice Ordinary Grade	Code of Practice High Grade	L.C.C.	Code of Practice Ordinary Grade	Code of Practice High Grade
1 : 2 : 4	1,600	2,250	2,850	600	750	950
1 : 1·5 : 3	1,900	2,550	3,300	675	850	1,100
1 : 1·2 : 2·4	2,080	2,775	3,600	720	925	1,200
1 : 1 : 2	2,200	2,925	3,750	750	975	1,250

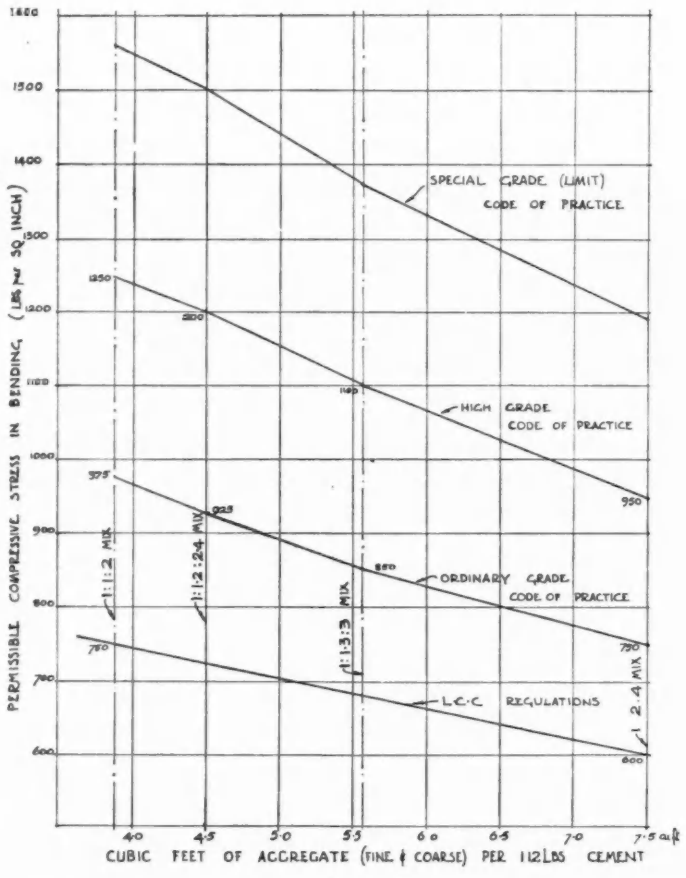


Figure 1

Comparison between bending stresses allowed by L.C.C. Regulations and New Code of Practice.

decreases. To allow for this, the code has fixed a high value (18 for a 1:2:4 concrete) so that the designer automatically calculates his steel stress as being higher than it actually is when the concrete is first loaded, while, as creep occurs, conditions approach the design assumptions.

DESIGN OF BEAMS, SLABS AND COLUMNS

It has previously been mentioned that the code omits entirely the formulæ given in the L.C.C. regulations for the various properties of beams and slabs and only gives the assumptions from which these properties can be obtained, these assumptions, however, being the same in both cases.

The approximate moments of $\frac{Wl}{10}$ and $\frac{Wl}{12}$ for which continuous slabs can be designed in certain cases, are retained in the code, but the case of slabs spanning in two directions is dealt with much more fully, and the coefficients given for the bending moments in this type of slab, when care is taken in the arrangement of reinforcement, so as to tie the corners down, make this form of construction very economical. Combined with the saving in dead load due to the thinner slabs which will be possible with the lower live loads and higher stresses, it should be possible for architects to obtain, economically, large areas of ceilings, unbroken by secondary beams.

For T-beams, the width of slab which may be considered as forming part of the beam, is increased from one quarter of the span to one third of the span, provided that this width does not exceed the distance between the centres of the ribs of the T-beams, or twelve times the slab thickness.

The code pays more attention to the question of bond and anchorage than the L.C.C. regulations, and in general favours the use, whenever possible, of an additional length of bar rather than a hook or bend.

As regards shearing resistance, a considerable increase is allowed, provided suitable reinforcement is used, in the total shear which a beam may carry for a certain depth.

Turning now to columns, a radical change has been made in the formulæ by which the safe load is estimated. The reason for this is given in the explanatory statement which says: "Recent investigations of the effects of shrinkage and creep of concrete have shown that the former conception of the steel acting always at a stress determined by the modular ratio is erroneous. Actually the steel stress will increase continuously during the life of the column and may even reach the yield point. Nevertheless, the strength of the column as a structural unit is unaffected, and the failing load is determined by the yield point of the steel and the ultimate load carrying capacity of the concrete. For this reason a definite value is assigned to the steel stress, the value depending on the yield point of the steel and not on the modular ratio.

The formulæ for spirally reinforced columns are based on the results of experimental work, which have shown, first, that such reinforcement increases the ultimate strength of a column by an amount depending on the quantity and yield point of this reinforcement, and secondly, that a properly proportioned spiral is approximately twice as effective as an equal quantity of longitudinal reinforcement.

The effect of the new formulæ, combined with the increased working stresses, is to increase the safe load allowed on any given column section. For example, under the L.C.C. regulations, a 12 in. square column with 4-1⅜ in. bars would only be considered safe for a central load of 136,000 lb., while under the code its safe designed load would be 163,000 lb.

The code is, however, much more strict in its insistence that columns shall be designed for the moments caused in them by their monolithic joints with the beams, a point which was often neglected with impunity when working to high loadings and low stresses.

FLAT SLAB CONSTRUCTION

The L.C.C. regulations made no reference to this form of construction which is extremely valuable for factory buildings, and which has been used with striking architectural success.

The clauses in this portion have been based on the Draft Regulations recently issued by the Institution of Structural Engineers (described in THE ARCHITECTS' JOURNAL for July 13) a few modifications having been introduced to bring the document into line with the code as a whole.

SPECIAL FORMS OF CONSTRUCTION AND SPECIAL MATERIALS

The L.C.C. regulations contained no special clauses to deal with new forms of construction and new types of materials, but the authors of the code say that these had recently been developed on the Continent and elsewhere. "Many of these promise to be practicable and economical, and the Committee do not wish to exclude such progressive methods and new materials, or others that may be developed in the future, when adequate proof of their suitability can be produced." A clause to this effect has been included in the code.

SUMMARY

Summing up the differences between the L.C.C. regulations and the Recommended Code of Practice, it may be said that the Code (1) contains much less in the way of formulæ, when these formulæ follow from ordinary theory; (2) introduces entirely new formulæ for the design of columns; (3) covers the special form of construction known as "flat slab" not mentioned in the L.C.C. regulations; (4) permits lower

Kindergarten School at Königgratz, Czechoslovakia, designed by Josef Gočár. This all-concrete structure is one of a group of educational buildings sited along the banks of the River Elbe.

design loads and higher working stresses, particularly if expert design and supervision is given to the job ; (5) will therefore allow much more economical construction, and, at the same time, will stimulate the production of better concrete.

SIMPLE DESIGN UNDER THE NEW CODE OF PRACTICE

If full advantage is to be taken of the recommended Code of Practice it is necessary that, in addition to large structures, which must always be designed by experts, small structures, such as slabs and lintols, should also be proportioned in accordance with its provisions. The architect who wishes to do this will find himself up against the difficulty that none of the existing tables, graphs or handbooks are of use to him owing to the change in stresses and in the modular ratio.

The following article gives, in a simple form, the necessary graphs, tables, etc., to replace those existing.

There are three main reasons why reinforced concrete structures are more difficult to design than steel structures. First, there are no "standard" sections, with tabulated safe loads, which may be picked from a handbook. Secondly, owing to the monolithic nature of the joints, the effect of a load on any one part of a structure is not confined to that member only, but affects all the surrounding members. Thirdly, the behaviour of any member under stress depends, not only on its overall dimensions, but also on the relative proportions of steel and concrete in it.

Dealing first with the difficulties of monolithic construction, Fig. 2 shows the difference between the bending due to a uniform

load on a simply supported span and on the same span when the ends are "fixed." Briefly, the tendency is always (1) to reduce the bending moment at the centre of the span—which is an advantage, (2) to introduce at the ends of the span a bending moment acting in the opposite direction to that at the centre (usually called a negative moment) so that the top of the slab is in tension and the bottom in compression. The slab can, in fact, be considered (as in Fig. 2d) to consist of two short cantilevers at the ends, with a simply supported span in the centre (as for example the Forth Bridge).

The "fixing" of the ends is generally caused by the adjacent slab and the amount of the reduction of the centre bending moment and the value of the end moments depends, among other things, on the spans of the adjoining bays and the loading on these spans.

To avoid the difficulties of calculating these moments for each case met with in practice the code of practice has given approximate formulæ (see Fig. 2f) for the moments in continuous slabs. It must, however, be emphasized that these can only be used with safety where the spans of adjacent bays are approximately equal. In particular, care must be taken with short bays in between long spans as, for example, the corridor between two rooms, since the moment over the whole of the short span may be negative and reinforcement may be required in the top of the slab for the full span.

Negative moments in slabs are catered for by bending up the rods into the top, and Fig. 4 shows suitable arrangements of the reinforcement, with suggested positions at which the rods should be bent up.

Where panels are approximately square, the slab may, with advantage, be reinforced to span in both directions. In this case the bending moment in each direction is taken as a proportion of the bending moment in that direction for a simply supported slab, the proportion depending on the ratio of the lengths of the sides of the panel. Thus, if the span in one direction is l_x and the span in the other direction l_y, then the bending moment on the span l_x is $Z_x \frac{Wl_x}{8}$ and in the direction l_y is $Z_y \frac{Wl_y}{8}$ where Z_x and Z_y are coefficients depending on the ratio $\frac{l_x}{l_y}$. Fig. 5 shows the values of these coefficients.

As regards the loads for which the slabs are to be designed these vary according to the type of building and are given in the appendix to the code of practice. Care must be taken that the slab will also carry the alternative minimum load specified. This may be treated as an alternative loading per foot super and Table 4 (page 186) gives this alternative loading for the various types of building.

Before the design can be made, an estimate of the thickness of the slab itself must be made, to allow for its own weight. A rough approximation is—thickness of slab required in inches, is from $\frac{1}{2}$ in. to 1 in. less than half the span in feet. As regards the weight of the slab the code allows the convenient assumption to be made that reinforced concrete weighs 144 lb. per cubic

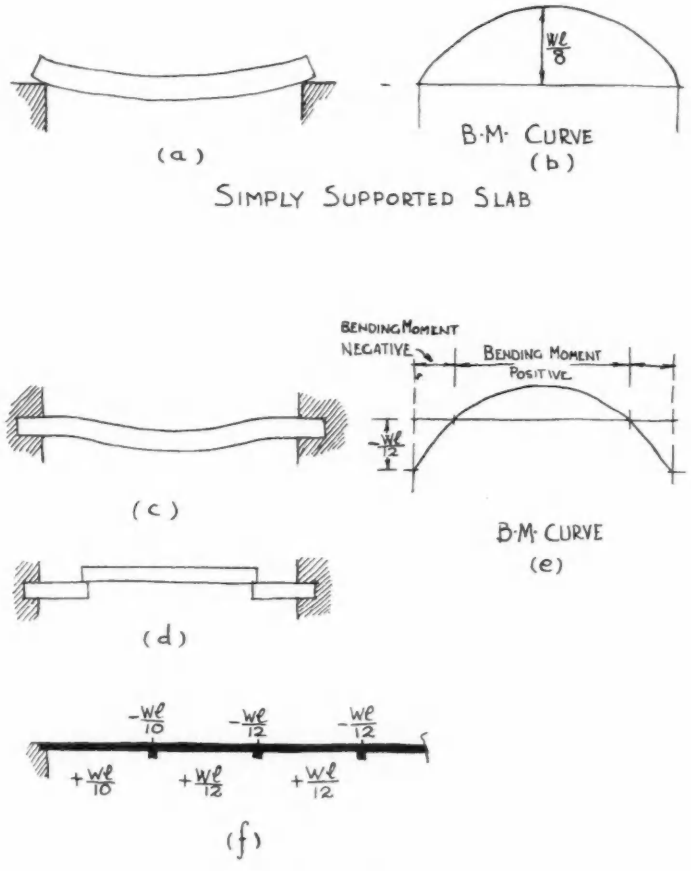


Figure 2

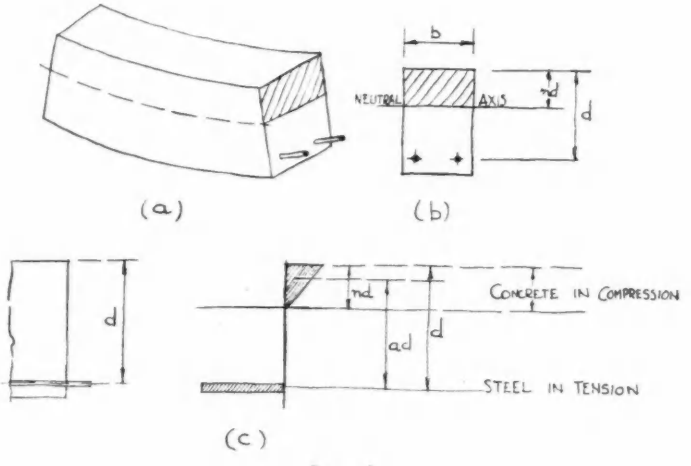


Figure 3

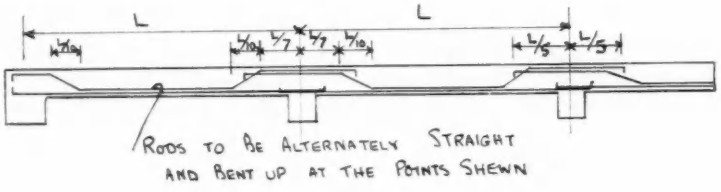


Figure 4

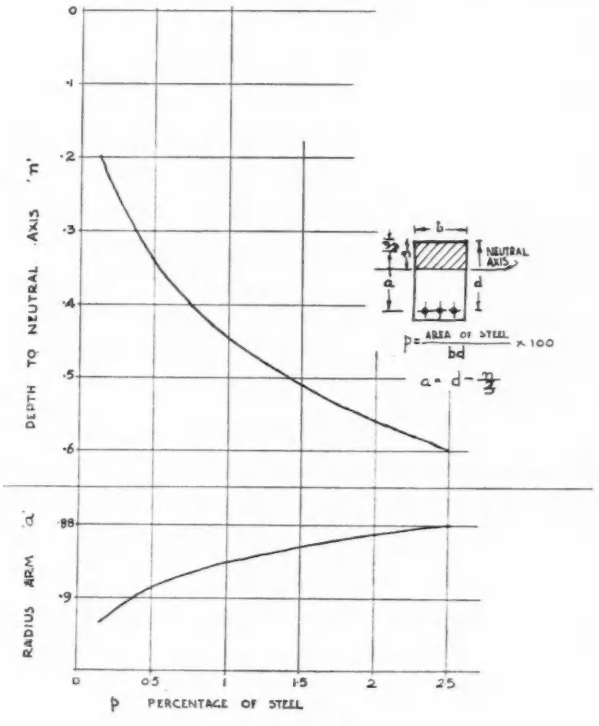


Figure 6

Depth to neutral axis and radius arm for 1 : 2 : 4 ordinary grade concrete with m = 18.

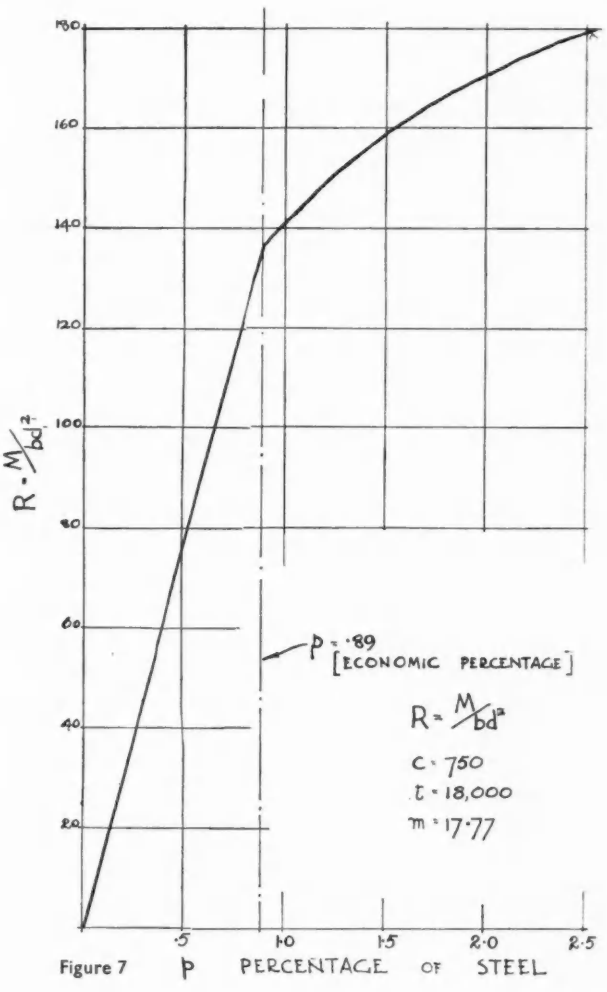


Figure 7

foot, and thus—weight per sq. foot of slab, in lb., equals twelve times the slab thickness in inches.

It is convenient when designing slabs to consider a strip of slab one foot wide and find the load, bending moment, etc., on this strip.

Having obtained the moment on the slab or beam, it now remains to find a slab with a suitable resisting moment.

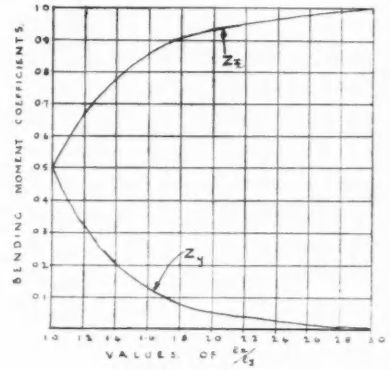


Figure 5

Coefficients for square spanning slabs.

It is well known that when an ordinary beam is loaded, the top portion of the beam shortens and is compressed, and the bottom portion is lengthened and is in tension. There is, therefore, some layer of the beam which is neither extended nor compressed and this layer is called the neutral plane and is shown on the cross section by the neutral axis. For symmetrical homogeneous beams (as for example a steel I-beam) this neutral axis is at mid-depth of section, but for reinforced concrete beams this is not the case. The actual depth to the neutral axis depends (1) on the modular ratio, (2) on the amount of reinforcement in the beam. The modular ratio varies with the grade of concrete and is specified in the code for ordinary grade 1 : 2 : 4 concrete as 18. The amount of reinforcement is usually specified as a percentage, i.e.,

$$100 \times \frac{\text{Area of steel (A)}}{b \times d}$$ (Fig. 6).

Fig. 6 shows the way in which the depth to the neutral axis (see Fig. 3b) varies with the percentage of reinforcement for a 1 : 2 : 4 concrete and so shows the amount of concrete in compression. The compressive stress on the concrete will vary from nothing at the neutral axis, to a maximum at the outside edge of the beam and the centre of gravity of the compressive force on the flange is therefore one-third of the distance down to the neutral axis. Below the neutral axis the beam is in tension, and as one of the assumptions of design is that concrete carries no tension, the whole of the tensile force must be carried by the steel and the centre of gravity of the tension flange is on the centre line of the reinforcement.

The two forces, acting at an arm equal to the distance apart of their lines of action (a in Fig. 3c) form a resisting moment and this resisting moment can be expressed as Rbd^2 where :

R is a figure depending on the amount of reinforcement,
b is the breadth (usually taken as 12 ins. for slabs),
d is the depth to the centre line of the steel.

Fig. 7 gives values of R for various percentages of steel in a 1 : 2 : 4 concrete.

It will be noted that up to a certain percentage the graph is a straight line while beyond this it is curved. This percentage is called the economic percentage and is the only percentage for which the steel and concrete are simultaneously loaded to their full working stresses. Below this percentage the strength of the steel limits the strength of the beam or slab while the concrete is

not fully used, and above this the concrete, and not the steel strength, is the determining factor.

Generally speaking, therefore, slabs and beams should contain approximately the economic percentage of steel. Table 5 compares the economic percentage and also other properties of slabs for 1 : 2 : 4 concrete under the old L.C.C. regulations, as compared with the code of practice, while Table 6 gives the resisting moments, etc., of various thicknesses of slabs having approximately the economic percentage of steel.

To design a slab, therefore, the following procedure is necessary :—

(1) Determine the maximum positive and negative moments using, where possible, the approximate coefficients given.

(2) Determine the depth to the steel (d) required from the formula $137bd^2$ = bending moment in inch lbs. (b being 12 in.). This assumes that a 1 : 2 : 4 concrete is being used.

(3) Determine the overall depth of the slab by adding an amount to d, to allow for half the diameter of the rods used plus the required cover. This cover should be $\frac{1}{2}$ in., or the diameter of the bar, whichever is less.

(4) Determine the amount of reinforcement, either from the fact that its cross sectional area must equal ·887 × bd., or, alternatively, if the depth d has been altered to make the overall depth an even number of inches, the steel required may be determined from the formula :—

$$\text{Area of steel required} = \frac{\text{Bending moment in inch lbs.}}{\cdot 86 \times \text{revised d} \times 18{,}000}$$

Should it be necessary for some reason to work to a different depth from that given using the economic percentage formula, then, having chosen a depth, the factor $R \left(= \frac{M}{bd^2} \right)$ can be determined. Using Fig. 7 the percentage of steel required can then be determined.

Slabs do not as a rule need special reinforcement against shear failure. This can always be checked, since the maximum shear (which can be taken as equal to the reaction) divided by ·86bd must not exceed 75 lb. per sq. inch for 1 : 2 : 4 concrete.

TABLE 4

Showing minimum superimposed loads for which slabs may be designed.

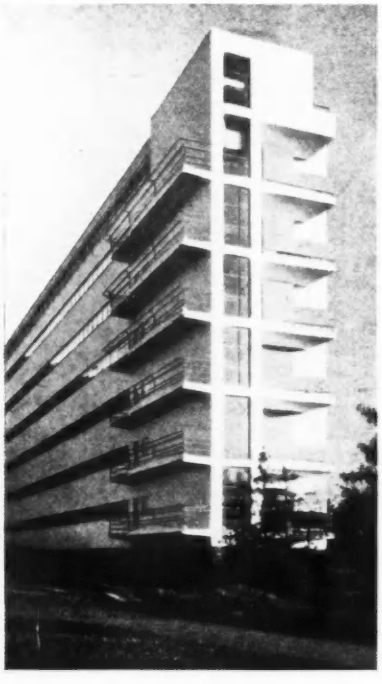
Type of building.	Minimum loading per sq. ft. for slabs for various spans. Span.	Load per sq. ft.
Rooms used for domestic purposes, hotel bedrooms, hospital rooms and wards	6 ft. 0 in.	94
	7 ft. 0 in.	80
	8 ft. 0 in.	70
	9 ft. 0 in.	62
	10 ft. 0 in.	56
	11 ft. 0 in. and over	50
Office floors, churches, schools, reading rooms, art galleries, retail shops, garages for vehicles not exceeding 2 tons weight	6 ft. 0 in.	140
	7 ft. 0 in.	120
	8 ft. 0 in.	105
	9 ft. 0 in.	94
	10 ft. 0 in.	84
	10 ft. 6 in. and over	80
Assembly halls, drill halls, dance halls, theatres, cinemas, stairs and landings, restaurants	6 ft. 0 in.	140
	7 ft. 0 in.	120
	8 ft. 0 in.	105
	8 ft. 6 in. and over	100

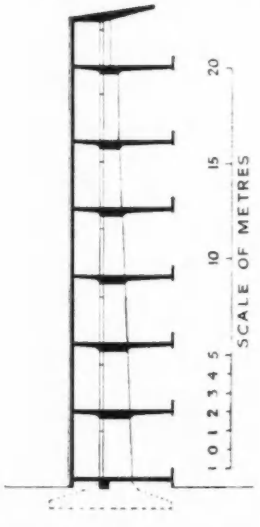
TABLE 5

Showing comparison of "design constants" for ordinary grade concrete under Code of Practice and L.C.C.

Ordinary Grade Concrete 1 : 2 : 4 Mix

	L.C.C.	Code of Practice.
Allowable compressive stress in concrete	600 lb./sq. in.	750 lb./sq. in
,, Tensile stress in steel	16,000 ,,	18,000 ,,
,, Shear stress on concrete	60 ,,	75 ,,
Modular ratio	15	18
Economic percentage	0.675%	0.887%
With economic percentage of steel—		
1. Depth to neutral axis	0.36d.	0.425d.
2. Radius Arm	0.88d.	0.86d.
3. Resisting Moment	$95bd^2$.	$137bd^2$.





Photograph and section through one of the wings of the Finland Tuberculosis Sanatorium, Paimio. Architect: Alvar Aalto. A reinforced concrete framework is used throughout the building, extensive use being made of the possibilities of cantilever construction.

TABLE 6

Showing the resisting moments of various thicknesses of slabs using 1 : 2 : 4 concrete with stresses not exceeding 750 lb. per sq. in. in the concrete and 18,000 lb. per sq. in. in the steel. These resisting moments are 50 per cent. higher than the resisting moments for similar slabs under the L.C.C. regulations.

Slab thickness	Reinforcement Main Dia.	Rods Crs.	Cross Dia.	Rods Crs.	Resisting Moment
Ins.	Ins.	Ins.	Ins.	Ins.	Lb. ins.
3	$\frac{5}{16}$	$3\frac{1}{2}$	$\frac{1}{4}$	9	9,000
$3\frac{1}{2}$	$\frac{3}{8}$	$4\frac{1}{2}$	$\frac{1}{4}$	9	13,000
4	$\frac{3}{8}$	$3\frac{3}{4}$	$\frac{5}{16}$	12	18,000
$4\frac{1}{2}$	$\frac{1}{2}$	6	$\frac{3}{8}$	15	23,000
5	$\frac{1}{2}$	5	$\frac{3}{8}$	14	29,000
$5\frac{1}{2}$	$\frac{5}{8}$	$7\frac{1}{2}$	$\frac{7}{16}$	18	34,000
6	$\frac{5}{8}$	$6\frac{3}{4}$	$\frac{1}{2}$	20	42,000
$6\frac{1}{2}$	$\frac{5}{8}$	6	$\frac{1}{2}$	18	50,000
7	$\frac{5}{8}$	$5\frac{1}{2}$	$\frac{1}{2}$	24	60,000
$7\frac{1}{2}$	$\frac{3}{4}$	$7\frac{1}{2}$	$\frac{5}{8}$	24	66,000
8	$\frac{3}{4}$	7	$\frac{5}{8}$	24	77,000

PROPERTIES OF MODERN CONCRETE AND GOOD CONCRETE PRACTICE

In order to understand the reasons underlying many of the provisions of the new Code of Practice it is necessary to have some idea of the properties of reinforced concrete made with modern cements and aggregates. Furthermore, supervision on the job is simplified if the effects of varying temperature, water content, curing, etc.,

are known. Fortunately, thanks largely to the work of the Building Research Station, there is no lack of information on these subjects and the following article summarizes, as shortly as possible, the material available.

Concrete is an artificial stone made by cementing together into a solid mass, a mixture of inert materials such as sand, broken stone, gravel or other aggregate. The cementing material almost universally used for reinforced concrete work is Portland cement; the only exception of note being alumina cements. Both these cements are extremely fine powders made from definite but differing proportions or calcareous and argillaceous materials, which, when wet, become chemically active and harden.

The resulting concrete is easily given any desired shape by pouring the wet mixture of materials into suitable forms where it hardens. When the various ingredients have been properly proportioned the resulting product is hard, durable, strong in compression, weak in tension, brittle and, when not reinforced, adapted only for use in relatively large members subject to compression. In combination with steel rods, properly placed to resist tensile stresses, it can, however, be used for all types of structural members. This strengthening is made possible by the adhesion of the concrete to the steel which prevents slipping between the two materials and forces the member to act as a whole, as it deforms under load.

CEMENT

There are three types of cement in common use, ordinary Portland cement, rapid hardening Portland cement, and aluminous cement.

Portland cement is controlled by an up-to-date British Standard Specification, is cheaper and shrinks less on setting than the other two, and should be used whenever possible.

Rapid hardening cement is a Portland cement which is specially prepared to give rapid hardening qualities. It has no British Standard specification of its own but will comply with the specification for ordinary Portland cement.

Aluminous cement is used where high early strengths are required and also where resistance to attack by certain sulphates, etc., is required. It generates a large quantity of heat when setting (with consequent trouble due to shrinkage, unless precautions are taken) and should not be used for rich mixes. It must not be brought into contact with Portland cement (even by using the same shovels for mixing unless carefully cleaned) or a "flash" set will result. It is also doubtful whether concrete made with aluminous cement can be successfully bonded to concrete made with Portland cement.

The relative strengths of concretes made with the three types of cement at various ages are shown in the following Table.

These strengths will only be obtained if the concrete is properly cured and if the temperature is well above freezing point.

Cement must be carefully stored on the job and must be measured by weight (or by sacks) and not by volume.

AGGREGATES

These must be clean and well graded. The Code of Practice, in an appendix, gives a method of testing for grading and also a list of and tests for undesirable aggregates. In the London area there is no difficulty in obtaining suitable aggregates. Outside this it is sometimes difficult to obtain suitable sand—good bricklayers' sand is bad for concrete.

Granite should be tested with hydrochloric acid, as some so-called granite is limestone, which may be attacked by atmospheric acids.

Crushing Strengths of Cubes of 1 : 2 : 4 Concrete in lbs. per sq. in. Made with

Age in Days.	Portland Cement.	Rapid Hardening Portland Cement.	Aluminous Cement.
3	1000–1800	1500–3000	5000–8500
7	2000–3000	2500–4000	6000–8500
28	3000–4500	3000–5000	7000–9000

WATER

There is no satisfactory method of specifying the exact amount of water which must be used for any mix to give the maximum strength. Left to themselves most contractors use too much, because wet, sloppy concrete is easier to place than dry, stiff concrete. Any excess of water weakens the concrete, particularly in its early stages.

The Code of Practice gives a standard method of making the "slump test," which is the only test yet available, on the job, for checking the consistence of concrete.

The better the aggregate is graded and the richer the mix the less water will be needed to make a workable mix.

CURING

The previous remarks apply only to water added to the concrete when mixing. After the initial set has taken place, the wetter the concrete can be kept the better it will be. Concrete must be protected from hot sun and drying winds during the first few weeks. It should not be placed in frosty weather and should be protected from frost after placing. If the temperature falls below 40° F., little hardening goes on.

BEHAVIOUR OF CONCRETE WHEN SET

It is well for architects to realize that, apart from surface changes leading to crazing, concrete is continually altering its shape and volume due to :

(1) Shrinkage on setting.
(2) Alteration in temperature.
(3) Alteration in moisture content.
(4) Creep or flow under load (sometimes called "plastic flow.")

The actual movement is due to the superimposed effect of all these causes, which may in some cases act in opposite ways.

SHRINKING ON SETTING

Concrete cured in air shrinks on setting—if cured under water it swells. Shrinkage continues over a long period of time, but the majority of it occurs during the first four or five weeks. This shrinkage may amount to roughly ½ in. in 100 ft. If the concrete is reinforced with steel rods, these rods resist the shortening and the result is that compressive stresses are caused in the steel, and tensile stresses in the concrete.

With a small percentage of steel it is possible for the steel to be stressed up to more than twice the allowable working stress due to the shrinkage of the concrete only. Shrinkage cracks can be eliminated by (1) the provision of joints (2) the provision of plenty of steel to prevent shrinkage, particularly at such points as the corners of window and door openings.

TEMPERATURE MOVEMENTS

Concrete expands when heated — a length of 100 ft. would expand roughly ⅜ in. for a temperature rise of 30°-80 F. The effect of temperature is, however, closely bound up with the effect of moisture content.

EFFECT OF MOISTURE CONTENT

Concrete, however well made, is to a certain extent porous and its humidity changes with that of the atmosphere. As its humidity increases it swells, as it dries out it shrinks again. The expansion of 100 ft. of concrete, on complete immersion, would be ⅓ in., which is the same movement as that produced by a change in temperature of 50° F. The movements due to change of temperature and change of humidity to a certain extent cancel out. Thus a piece of concrete (for example, a wall warmed by the sun) tends to expand, through rise of temperature, but at the same time loses moisture and tends to suffer contraction in consequence. Similarly on cooling it tends to contract, from reduction of temperature, but absorbs water by coming in contact with air of lower percentage humidity and tends to expand from this cause.

CREEP OR FLOW OF CONCRETE UNDER LOAD

A block of steel under a load shortens or extends. Provided the load does not exceed a certain value, this change of length (or strain) is proportional to the load (or rather the stress), and, furthermore, it remains constant however long the load is applied. With concrete this is not the case. It is found that the strain continues to increase with time. The deflections of certain beams carrying constant loads have continually increased, over a period of five years, and examples are known of shafting in reinforced buildings continually needing realignment.

Since concrete is usually subject to compressive stress, the result of creep is a constant shortening. If the member is reinforced, the steel will resist this shortening and will itself be subject to compressive stress which may, in time, reach the yield point of the steel.

This means that the old theories, which considered the steel in a column as being stressed to a certain number of times the stress in the surrounding concrete, are incorrect, and the Code of Practice has therefore introduced a new method of calculation for columns. Tests have shown, however, that the ultimate strength of members, in spite of the effect of creep, agrees fairly well with that found from previous calculations, although in themselves these calculations are undoubtedly wrong.

LITERATURE

Explanatory Handbook on the Code of Practice for Reinforced Concrete. By W. L. Scott, M.INST.C.E. and W. H. Glanville, D.SC., PH.D., A.M.INST.C.E. Concrete Publications Ltd. Price 8s.

This book contains the complete "Recommended Code of Practice For the Use of Reinforced Concrete in Buildings" of the Reinforced Concrete Structures Committee of the Building Research Board, discussed elsewhere in this issue, together

with comments and explanations of its various clauses. The arrangement chosen, a very good one, is that of printing the comments on a clause, immediately following the clause itself which is indicated by a heavy black line in the left hand margin.

The authors, apart from their other qualifications to write such a book, were both members of the committee which drew up the code of practice, Dr. Glanville being the Technical Officer to the committee. Presumably, therefore, their comments, while not strictly an official part of the code, reflect the ideas of the committee, and should therefore be of considerable value.

In addition to comments and explanations, the book also contains tables of such items as the safe loads on various column sections, in accordance with the provisions of the code. This side of the book could, with advantage, have been amplified, as all such existing tables are now out of date as far as the Code is concerned.

Considerable amplification is given to the clauses dealing with the effect of continuity, particularly in the case of slabs spanning in two directions.

For those less interested in the designing side, the notes on the clauses dealing with the specifications for the materials of concrete form a useful guide to the requirements necessary for the production of good concrete and the behaviour of this concrete after it has been made.

The book is well produced and the tables, diagrams, etc., are on a sufficiently large scale to be easily used. It should be of great use to all concerned with the construction of reinforced concrete buildings, for which it is hoped the code will soon be the statutory standard.

Elements of Reinforced Concrete Design. By Haddon C. Adams, M.C., M.A., A.M.INST.C.E. Concrete Publications, Ltd. Price 6s.

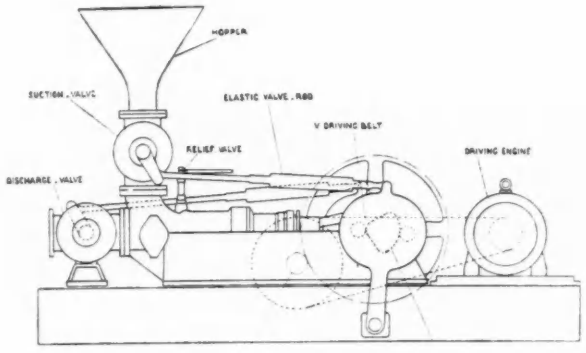
This well-produced book of 180 pages, forms one of the best introductions to reinforced concrete design yet published.

The author commences with the methods of obtaining the bending moments and shears in beams and the effects of these moments and shears on homogeneous beams. Continuous beams are then considered, and the use of the Theorem of Three Moments is explained. Short chapters follow on the properties of concrete and the behaviour of reinforced concrete under load. Following this, the design of reinforced beams and slabs (simply supported and continuous) columns and column footings is considered.

The book concludes with chapters on earth pressure and the design of various types of retaining walls.

The treatment throughout follows simple lines, but there is none of the clumsiness often associated with so-called simple methods. Furthermore, due warning is given throughout the text of the assumptions which are being made and of the effects of the inaccuracies thereby introduced.

Altogether the book can be thoroughly recommended to all seeking a textbook on elementary reinforced concrete design. The comparatively modest price of six shillings, in these days of highly priced books, combined with the excellent production, which renders the book very easy to read, will also commend itself to many.



TRADE NOTES

[BY F. R. S. YORKE, A. R. I. B. A.]

Concrete Pump

THE Pumpcret concrete pump is a machine developed for the purpose of transporting pre-mixed concrete, which it forces through a pipe line by means of mechanical pressure, eliminating normal plant used for the transport of concrete on a building site, such as lifts, masts, towers, cable cranes, barrows, etc. A pump of this type was used on Sainsbury's new Kitchen Building, designed in reinforced concrete by Sir Owen Williams; and there delivered concrete from a mixer located centrally in the basement to the extremities of the top floor—a vertical run of 100 ft., followed by a horizontal run of 245 ft.

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The pump is a horizontal single action piston pump of heavy construction. All essential parts are of cast steel, whilst for the cylinder and valve linings and turning sleeves, special alloys are used to resist abrasion. The inlet and the outlet valves, the most important parts of the pump, are of similar design and size, and are controlled by the crankshaft by means of cams, rods, provided with springs, and levers, adjustable to suit the size of the aggregate. The springs come into action in the event of large pieces of aggregate preventing the turning sleeves of the valves completing their action.

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The pre-mixed concrete is fed into the hopper of the pump and enters the cylinder by gravity. When the cylinder is charged the inlet-valve between the cylinder and the hopper partly closes, and simultaneously the outlet-valve opens and concrete is forced through the pipe line by the piston of the pump.

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The standard P.1 type has a nominal capacity of 15 cu. yds. per hour, but in the U.S.A. this type worked with an output of 19 cu. yds. per hour; whilst at Ladenburg, Germany, the output was 16½ cu. yds. per hour, in spite of the fact that the mixer feeding the pump was a small one, and the pump had frequently to be stopped for lack of material.

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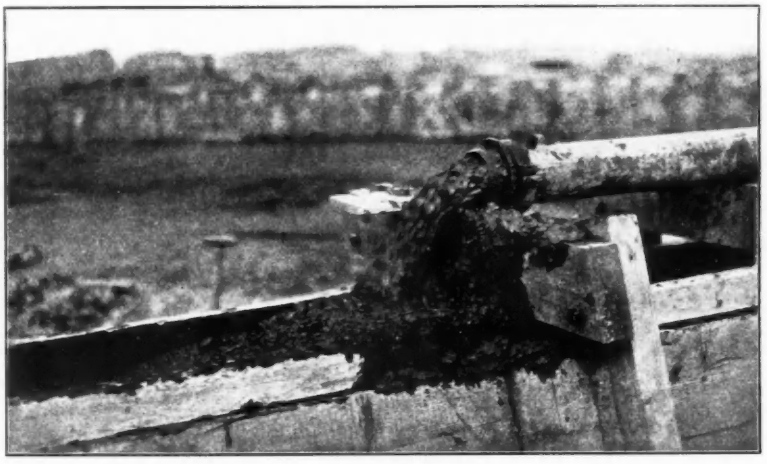
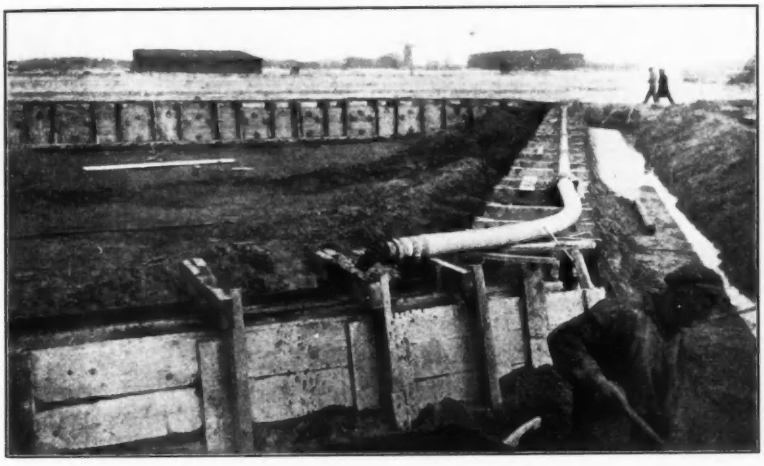
The radius of operation is assessed at



Concreting the quay walls at the Central Markets, Amsterdam. The length of pipe line is 550 feet.



A length of flexible pipe is used for changing the direction of the pipe line. Concrete has, in this case, been pumped a horizontal distance of more than 600 feet.

650 ft. horizontal or 100 vertical, or 300 ft. horizontal plus 50 ft. vertical. But at the recently completed Hospital Beaujon, Paris-Clichy, the concrete was pumped a horizontal distance of 250 ft. followed by a vertical distance of 100 ft. At Ladenburg (bridge abutment) concrete was pumped a straight horizontal distance of 773 ft.

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The pump will deal with British Standard mixtures up to 1 : 2½ : 5, and of almost any consistency. The concrete is said to have high compressive strength and great density owing to the pressure applied in the pipe line, where a quantity of air is expelled from the mix. It has also remarkable uniformity, greater than that obtained by any other transport method, since the concrete has no chance to segregate.

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I understand that at Ladenburg a pumped concrete mix composed of 1,260 litres of pre-mixed aggregate containing 66 per cent. retained on ¼ in. round-hole sieve, 240 litres (300 kilos.) of cement and 165 litres of water, a mix which contains 5 per cent. less cement than a normal mix 1 : 2 : 4, resulted at 28 days in an average compressive strength of 5,294 lb./sq. in.

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The summary of tests made on concrete at Sainsbury's Building, Blackfriars, by the Building Research Station, give the following figures :—

Crushing strength, lowest ..7,150 lb. per sq. in. } at 28
" " highest ..9,940 " " " " } days.
" " average..8,150 " " " "

Proportions: 336 lb. cement, 525 lb. sand, 900 lb. gravel = 1 : 1·5 : 2·57 (by weight, dry).

Mastic Asphalt Roofing

I have received from Mr. D. N. Wilson a reprint of an article on Mastic Asphalt Roofing, contributed by him to the *Journal of the Society of Chemical Industry* for December 1, 1933.

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Mastic asphalt, he says, has been used in the building trade for more than 60 years, as a material for roofing, flooring and damp-proofing ; and no failures have been experienced where the mastic was composed of a good quality asphalt rock with a proportion of naturally occurring bitumen. But in recent years it has become the practice among certain sections of the industry to adulterate the asphalt rock with a proportion of limestone, and often to omit the rock altogether on the score of cheapness.

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The behaviour of a mastic mixture exposed to weathering for long periods cannot be easily pre-determined, and Mr. Wilson considers reliability is best ensured by analysing the composition of materials that have proved satisfactory in actual service over many years, and finding an ideal composition from the results of the analyses. He appends, therefore, tabulated results of detailed examinations of several samples cut from old roofs.

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Roof No. 1. Laid in 1892 ; no repairs have been necessary ; roof still in excellent condition.

Roof No. 2. Laid in 1912 ; no repairs have been necessary ; asphalt still in excellent condition.

Roof No. 3. Laid in 1890 ; no repairs required in 43 years' service. Illustration shows present weathered condition of roof.

Roof No. 4. Laid only a few years' ago ; cracked extensively.

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The samples were analysed and found to possess the following properties :—

	1	2	3	4
% bitumen soluble in CS_2	13·6	13·7	12·7	13·3
% mineral aggregate—(B.S.I. sieves)				
Passing 200 ..	41·2	50·0	43·6	34·7
" 100 ..	5·1	7·0	5·0	11·4
" 85 ..	0·6	1·0	0·6	2·4
" 52 ..	2·7	3·6	2·4	9·8
" 36 ..	1·8	3·4	2·2	8·7
" 25 ..	0·6	2·0	0·6	5·2
" 18 ..	2·7	3·6	2·8	7·6
" 8 ..	19·5	12·7	20·3	6·9
" ⅛ in. ..	11·5	3·0	8·8	—
" ¼ in. ..	0·7	—	1·0	—
	100·0	100·0	100·0	100·0
Bitumen content calculated on ungritted material ..	18·7	16·8	17·7	13·3
Recovered bitumen (penetration at 25° C.)	28	23	26	28
Grit content.. ..	27·5%	18·8%	28·2 %	nil
Fluorescence colour of mineral aggregate under ultra-violet light ..	light brown	light brown	light brown	dark brown
Hardness No. ..	15	11	9	10

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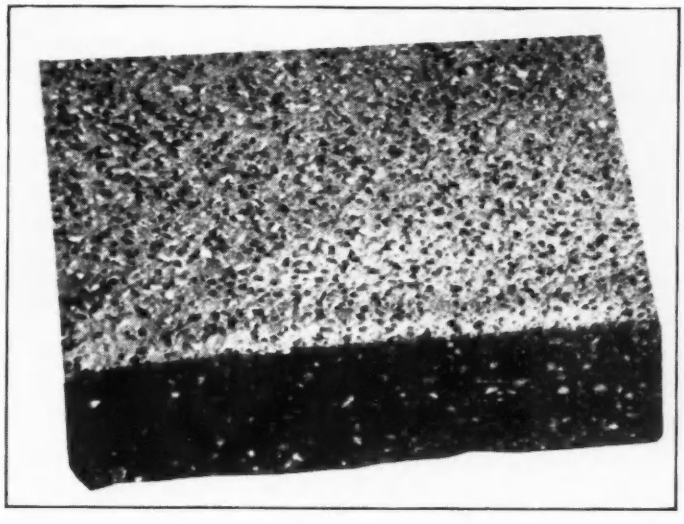
It is apparent from these tables that samples taken from Roofs 1, 2 and 3 show a high percentage of fine material passing 200 mesh—typical of mastics made from a good quality asphalt rock—and contain a fairly higher proportion of grit ; whereas mastic from roof 4 contains no grit and shows a lower proportion of material passing 200 mesh, with a correspondingly higher proportion of that passing 100 and coarser meshes.

Under the microscope the aggregate can be seen to consist of a crystalline limestone for approximately the same stability, as indicated by the hardness number the failed roof shows a much lower bitumen content when this is calculated as a percentage on the ungritted material. This



Sample of mastic asphalt cut from a roof laid in 1890.

low bitumen carrying capacity is typical of most synthetic roofing mastics ; they are therefore less likely to be weatherproof and waterproof than the natural rock mastics which can carry a higher percentage of bitumen without loss of stability.

Ready Mixed Concrete

I hear from Ready Mixed Concrete, Ltd., that water is not added to the dry mix in the revolving containers a few minutes before arrival of the company's lorry at the building site—as stated in Trade Notes for December 28, 1933—but is added at the central mixing station. The former method was tried but proved unsatisfactory in practice, and experience has shown that the strength and workability of the concrete mixed with water prior to delivery is not affected by transport time up to two hours.

SOCIETIES AND INSTITUTIONS

LIVERPOOL ARCHITECTURAL SOCIETY

Mr. Frederic Towndrow, A.R.I.B.A., lecturing on "The Architect of the Future," to the Liverpool Architectural Society last week, found in the extension of partnership and group work the solution to the dilemma facing architects as they met today the need for increasing specialization.

"Are we" he said, "going to be artists, building financiers or promoters, town-planners, engineers or surveyors? Very soon we will have to decide, at last, as individuals, as to relinquishing most of these attributes and concentrating on one, or at the best two, of them. And here I feel that our architectural schools will very soon have to give the lead. Otherwise we will find that the architect is falling between these various stools and that other establishments are setting up to produce that beloved idol the expert, and the expert only.

"Yet the difficulty is particularly acute, because these little aspects of our functions are all important. For instance, it seems to me most important that the town-planning of the future should be in the hands of architects, or at least in the hands of men constituted as architects are constituted."

There was no solution to the dilemma, Mr. Towndrow continued, on our typically British individualistic basis. But there was one in partnerships and groups of men wherein each man was able to specialize. Such partnerships hardly existed in this country as they did in America, partly because there was not enough work in our offices to keep several men going, but largely because the Englishman liked to paddle his own canoe, even if he was required to paddle along both banks at the same time.

"As I see it, within the next thirty years there will be many more associations of specialists. Each firm will consist of an architectural planner and designer, an engineer, a quantity surveyor, and, possibly, a town-planner. You know as well as I do the extreme awkwardness, wastefulness and expense of the present method of having various specialists apart from each other and very often out of sympathy with each other. A building should be designed as a complete thing. It is, or should be, a unity. Its steelwork, heating and ventilating, its electric light are just as essentially a part of it as its planning.

"Another change that is bound to take place within the next thirty years will be, to put it shortly, the increasing nationalization of architects. Political changes may bring about the complete or partial nationalization of the building as well as many other departments of industry, especially if there is any real constructive town-planning and slum clearance carried out on a large scale. In any case, more and more architects will be absorbed into the State, municipal and big business organizations, and, much as we may regret this, it seems to be inevitable.

"In thirty years' time, one can say with certainty that the individualistic architect, as we now understand him, will have almost disappeared. If we are then, as I think we may be, under a Socialist régime, nearly all architects will be in State or municipal organizations. If we are not, then at least half of our profession will be in the employ of semi-private corporations.

"Yet, unless we have complete socialization, which I think unlikely in this country, there will still be room for a small number of associations of experts such as I have visualized, at least for the larger work, and possibly a decreasing amount of room for the individual architect for smaller domestic work, who, as I foresee, even under a capitalist system, will become absorbed into the big development and building companies."

Professor Lionel B. Budden, head of the Liverpool School of Architecture, proposed a vote of thanks, which was seconded by Professor Patrick Abercrombie.

MANCHESTER SOCIETY OF ARCHITECTS

The annual dinner of the Manchester Society of Architects was held in the Masonic Temple, Bridge Street, Manchester, on January 19. Mr. J. R. Adamson, F.R.I.B.A. (President) occupied the chair.

The toast of "The Royal Institute of British Architects and its Allied Societies" was proposed by Mr. Adamson, who coupled with it the name of the President of the Institute, Sir Giles Gilbert Scott, R.A. He said : "Though the Institute was a centenarian, it showed no flagging in its energies. It was building a splendid new home for itself, so that in the near future, in place of 'the old lady of Conduit Street,' they would be having 'the bright young thing of Portland Place,' modern down to the very last carpet tack, and would be ready to face all the terrors of 'this great new architectural world' with a fine fervour and increased energy. They, and, indeed, the whole country owed thanks and support to the Institute and its officers for the work it was doing for the betterment of architecture and the better planning of cities in this country."

Sir Giles Gilbert Scott, in responding to the toast, said he felt, as President of the Institute, that they were at the beginning of a great change in the public outlook on architecture and the respect of the public for architects. In his early days, architects were rather high-brow, and did not descend much into the arena of industrial work. "We were concerned, perhaps, more with the orders than with the industrial needs of the day, but I feel now that architects are coming into their own, and are coming off their perch and getting down to real work of modern needs and modern industry." In the future, architects were going to have a far greater scope and opportunity than they had had. They were going to do not only buildings but planning generally, town planning and all that that implied, and large schemes not necessarily concerned with buildings themselves at all. Industry had been so concerned with material prosperity that it had had no time to think of the art of living. It had now begun to realize that the satisfaction of material needs was not sufficient. It was a growing feature of modern times that materialism was giving way to something more artistic, more beautiful, and (he thought) far finer than the ideals of the past, and architects had got their opportunity.

The next toast, that of "The Friends of Architecture," was felicitously proposed by Mr. E. Raymond Streat, Secretary of the Manchester Chamber of Commerce. "I am not sure," he said, "whether you measure the friends of architecture by the cubic feet of the buildings they commission, or by the fact that they are high-brow experts in the art which you practice, and are really—or should I say Reilly?—able to judge you ac-Cordingley." Judge Leigh responded.

Other speakers included : Mr. G. Noel Hill, A.R.I.B.A. (City Architect, Manchester); Mr. B. Movat Jones, D.S.O., M.A. (Principal of the Manchester College of Technology) ; and Sir Arthur Haworth.

ROYAL SOCIETY OF ARTS

Mr. Hal Williams, M.I.MECH.E., in the course of a paper on "Modern International Practice in Factory Design," read at a meeting of the Royal Society of Arts last week, said : "A factory building should be viewed as a skeleton and a skin, the shape and size of which should not be determined before an exact knowledge of the anatomy of the inside has been arrived at. Above all things, it should to itself be true. It cannot be an architectural gem, and it should not try to be other than it is. A pretty face with an ugly body does not meet the case. The Forth Bridge is a beautiful steel structure, but the Forth Bridge disguised as a Scotch baronial castle—supposing such a thing were possible—would be an atrocity. In like manner, a well-designed factory has a beauty of its own, and this beauty will only remain so long as its utilitarian objects are not disguised.

"It behoves manufacturers who are having new works planned or old ones reorganized, to consider their final scheme very carefully to ensure that there will be nothing to prevent extension taking place in the most suitable direction. The whole method of manufacture may change, and buildings should be designed so that departments may be extended and new plant installed without rendering extensive and expensive structural alterations necessary. Very close attention should be paid to the locality in which a factory is placed. Industry is springing up in the South, principally because London is the best sales market in the world.

Owing to pressure on our space we are reluctantly compelled to hold over No. 9 of the series "School Principals."

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILE RADIUS)

BATTERSEA. *Tenements.* The B.C. is to erect a block of 12 4-roomed tenements at Darien Road at an estimated cost of £5,989.

BERMONDSEY. *Flats.* The B.C. is to develop the Cherry Garden Place area by the erection of 90 flats, and is to erect flats in Maynard Road at a cost of £2,800.

HACKNEY. *Tenements.* The B.C. is to erect 160 tenements in Banister Street at a cost of £93,345.

HACKNEY. *Baths and Washhouses.* The B.C. recommends the provision of a branch baths and washhouses establishment with the necessary equipment in Gainsborough Road, at an estimated cost of £29,500.

KENNINGTON. *Meter Testing Station.* The L.C.C. is to erect a meter testing station at a cost of £16,387.

KENSINGTON. *Tenements.* The B.C. is to erect tenements in Southam Street, at a cost of £6,000.

SANDERSTEAD. *Houses.* Plans passed: Ten houses, Dulverton Road, for Mr. H. R. Fenn; two houses, Selsdon Road, for Messrs. Baldwin & Sons, Ltd.; 18 houses, Briton Hill Road, for Messrs. Morgan, Baines and Clark; 10 houses, The Windings, for Mr. F. C. Woodruff; two houses, Sundridge Road, for Industrial Builders, Ltd.

STEPNEY. *Tenements.* The B.C. has obtained sanction to borrow £35,000 for the erection of tenements on the market site.

TOLWORTH. *School.* The Surrey Education Committee has approved revised plans for the erection of an elementary school in Grand Avenue, Tolworth, at a cost of £13,915.

TOTTENHAM. *Houses.* Plans passed by the U.D.C.: Four shops, Turnpike Lane, for Mr. J. S. Wadsworth; 26 houses, Devonshire Hill Lane, for Messrs. Geo. Reed and Son; 77 houses and pumping station, Craven Park Road, for Messrs. S. and A. Foux.

WOODFORD. *Houses.* Plans passed by the U.D.C.: 20 houses, Eton Drive; 20 houses, Canfield Road.

WOOD GREEN. *Library.* The Corporation is to consider plans and estimates for the extension of the public library, including provision for a lecture hall capable of accommodating 600 to 800 persons.

WOOD GREEN. *Houses.* Plans passed by the Corporation: Two houses, Rhodes Avenue, for Mr. H. T. Sadler; 12 houses, Wroxham Gardens, for Mr. C. E. Matthews; eight houses, Crescent Rise, for Mr. C. K. Codrington, on behalf of Wood Green Estates, Ltd.

SOUTHERN COUNTIES

BEXHILL. *Houses.* Plans passed by the Corporation: Five houses, Hartfield Road, for Messrs. Tubbs and Messer; seven houses, Whitehouse Avenue, for Mr. J. E. Maynard; three bungalows, Thorne Crescent, for Mr. J. H. Lye; five houses, The Twitten, for Mr. R. W. Moore.

BOURNEMOUTH. *Art Gallery.* The Corporation has approved plans for the extension of the Art Gallery, to include the provision of one large gallery, one small gallery and an underground store, at an estimated cost of £6,000.

BOURNEMOUTH. *Houses, Flats, Bungalows and Shops.* Plans passed by the Corporation: Four houses, Carbery Avenue, for Messrs. H. B. and E. Mudge; two houses, Parham Road, for Mr. H. W. Burton; 12 shops and flats, Bell Vue Road, for Mr. T. B. Gossling; five bungalows, Newcombe Road, for Mr. S. Kermode; shops and offices, Gervis Place and Old Christchurch Road, for Messrs. Rebbeck Bros.; hotel, Southbourne Overcliffe Drive, for Mr. H. Whiting; two houses, Redhill Crescent, for Mr. G. W. Lynk; two houses, Holdenhurst Avenue, for Mr. E. M. Benjamin; two houses, Barnes Road, for Mrs. D. B. Hills; seven bungalows, Denmead Road, for Mr. W. T. Knight.

BRIGHTON. *Houses, Bungalows, Squash Court, etc.* Plans passed by the Corporation: Three houses, Hollingdean Terrace, for Mr. W. T. Cox; nine houses, Braeside Avenue, for Ladies Mile Estate, Ltd.: two houses, Cornwall Gardens, for Mr. R. J. Cunningham; four houses, Falmer Road, for Mr. J. W. Roberts; two houses, Ainsworth Avenue, for Mr. H. King-Jones; squash rackets court, New Club, King's Road, for Brighton New Club, Ltd.; flats, 39-40 King's Road, for Mr. R. C. Vaughan; two houses, Dean Court Road, for Mr. W. A. Allen; two houses, Midway Road, for Mr. R. Richardson; three bungalows, Hillbrow Road, for Mr. T. A. Braybon; two houses, Valley Drive, for Mr. F. A. Fuller; three houses, Bevendean Avenue, for Saltdean Estate Co.; hotel, Marine Drive, Rottingdean, for Messrs. Tamplin & Sons Brewery Ltd.: hall and classroom, Hollingbury Court School, Ditchling Road, Patcham, for Mr. O. Morgan.

BRIGHTON. *Houses.* The Corporation reported that the Ladies Mile Estate, Ltd., proposed building a further 450 houses at the Ladies Mile Estate, Patcham.

BRIGHTON. *Stand.* The Corporation is to seek for sanction to borrow £13,500 for the proposed reconstruction of Tattersall's stand at the race course.

KENLEY. *Houses.* Mr. C. E. Hanscomb is to erect 82 houses on the Sherwood Oaks estate, Kenley, Surrey.

MIDLAND COUNTIES

WALSALL. *Re-housing.* The Corporation has purchased six acres in the vicinity of Moat Road for a re-housing scheme.

LONGTON. *Houses.* Church Army Housing, Ltd., is to erect 24 houses in Sutherland Road, Longton, Staffs.

NORTHERN COUNTIES

BOLTON. *Houses.* Plans passed by the Corporation:—Eight houses, Crompton Way, for Mr. W. E. Yates; two houses, Dean Road, for Messrs. R. G. Hirst and Son; two houses, Plodder Lane, for Mr. J. G. Taylor; 16 houses, Hexham Avenue, for Messrs. S. Main & Co.; 13 houses, Wigan Road, for Mr. J. R. Bushell; six houses, Tudor Avenue, for Mr. Wilfred Andrew.

DOUGLAS (I.O.M.). *Houses.* The Corporation has obtained sanction for a loan of £76,554, for the erection of 150 houses at Pulrose.

HULL. *Coach Station.* The Corporation has obtained sanction to borrow £45,000 for the central coach station scheme.

HYDE. *Houses.* The Corporation is to erect 30 houses at Garden Street.

LEEDS. *Shops.* Messrs. J. W. Watson and Sons are negotiating with the Corporation for the purchase of sites on housing estates for the erection of blocks of shops.

LEEDS. *Housing Estates.* The Corporation is to acquire 834 acres at Seacroft, and 91 acres near Belle Isle Road, Middleton, for housing estates.

MANCHESTER. *Re-housing.* The Corporation is to acquire land at Kirkmanshulme Lane, Gorton, for rehousing purposes.

SHEFFIELD. *Streets.* The Corporation has passed the following estate plans:—Four streets off Crimicar Lane, for Mr. J. W. Sivil; new streets on Thorpe House estate, for Messrs. W. and J. Laver.

SOUTH SHIELDS. *Houses.* The Corporation has approved the following sketch plans showing the lay-out of schemes for houses: Sites at Green Lane East, 500 houses at a total cost of scheme, buildings and land of £154,600; Prince Edward Road East, 750 houses at a total cost of scheme, buildings and land of £236,000.

Messrs. T. A. Page & Son have prepared plans for Mr. Milton Swales for the erection of 28 houses at Westoe Village.

SOUTH SHIELDS. *Houses and Bungalows.* Plans passed by the Corporation:—14 houses, Reading Road, for Mr. F. W. Newby; two houses Simonside estate, for Mr. G. W. Baker; 26 houses, Sutherland Road, for Messrs. J. H. Morton & Son; 23 houses, Salisbury Place, for Mr. F. H. D. Wills; 16 houses, Grosvenor Drive, for Messrs. T. A. Page & Son; house and shop, Sunderland Road, for Mr. A. Bryson; 14 houses, Greathead Street, for Mr. R. M. Chapman; 40 bungalows, Tynedale Road, for Messrs. W. J. Robertson & Sons; four bungalows, Clyvedon Rise, for Mr. R. B. Whalley; four bungalows, Clyvedon Rise, for Mr. C. Rogers; two shops, Highfield Road, for Col. R. Chapman; 12 houses, Reading Road, for Mr. R. C. Shewan; three houses, Birchington Avenue, for Mr. F. Buffham.

STOCKTON-ON-TEES. *Houses.* Mr. G. P. Stainsby, on behalf of Messrs. Lane, Fox & Co., is to erect 360 houses in the vicinity of Norton Road.

The Corporation is negotiating for 80 acres on the Black Roods Farm for housing purposes.

STOCKTON-ON-TEES. *Houses, Workshops, etc.* Plans passed by the Corporation: 12 houses, Southfield Road, for Messrs. R. Blackett & Co.; joiners and machine shops, Mill East Street, for Messrs. Broadbent & Sons; 16 houses, Appleton Road, for Mr. C. W. Cummings; foundry extensions, Vine Street, for Messrs. Ashmore, Benson, Pease & Co., Ltd.; two houses, Crayke Road, for Mr. G. P. Stainsby; shop, The Avenue, Fairfield, for Mr. Stanley Ryreman.

STRETFORD. *Houses and Shops.* Plans passed by the Corporation:—Two shops and houses, Barton Road, for Mr. J. Maunders; 10 shops and houses, Davyhulme Road, for Messrs. McLellan and Abel.

WAKEFIELD. *Houses.* Plans passed by the Corporation: Five houses, Arlington Street, for Mr. J. R. Lister; 58 houses, off Flanshaw Lane, for Mr. J. P. Firth; three houses, Dewsbury Road, for Mr. W. H. Ogden. The Corporation has instructed the housing architect to prepare plans for the erection of 100 houses for tenants being displaced by clearances.

YORK. *Houses.* Plans passed by the Corporation: Seven houses, Church Park estate, and two houses, Heworth Green, for Mr. H. Williamson; eight houses, Millfield Lane, for Messrs. Williamson & Son; 26 houses, Burton Grange estate, for Mr. A. Temple; four houses, Huntington Road, for Messrs. Culliford & Tundall; development, Manor Farm estate, Heworth, for Mr. R. Sherry; six houses, Moorgarth Avenue, for Messrs. R. J. Pulleyn & Sons; four houses, Grantham Drive, for Mr. J. Foster.

THE BUILDINGS ILLUSTRATED

The following is a list of the general contractors and some of the sub-contractors for the Gaumont Palace, Egremont, illustrated on pages 175-178 of this issue. General contractors, McLaughlin and Harvey, Ltd. Sub-contractors:—

Archibald D. Dawnay and Sons, Ltd., constructional steelwork; G. N. Haden and Sons, heating and ventilating installation; Concrete, Ltd., pre-cast concrete floors; Lawford Asphalte Co., asphalting; The Universal Asbestos Manufacturing Co., Ltd., asbestos roofing; W. H. Earley, plumbing; The Stancliffe Estates Co., artificial stonework; The Cement Marketing Co., cement; Ferguson and Harvey, building bricks; The Buckley Brick Co., facing bricks; Imperial Chemical Industries, partition blocks; W. James & Co., steel window sashes; Clark and Fenn, Ltd., fibrous plaster and decorations; The Marble Mosaic Co., Ltd., terrazzo flooring and wall tiling; F. A. Norris & Co., fire escape staircases; Thos. A. Ingram & Co., Ltd., canopies, hand rails and metal balustrading; Garton and Thorne, Ltd., metal grilles and poster frames; The Cellulin Flooring Co., cork carpet dadoes; W. W. Turner & Co., Ltd., seating and carpets; Laminated Wood Products, Ltd., entrance hall panelling and flush doors.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

The districts and rates set out in bold type denote the re-gradings and consequent changed standard rates of wages authorized to take effect on and from today.

			I s. d.	II s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A_1	Abergavenny ..	S Wales & M.	1 5	1 0½
A_3	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1½
A_3	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1½
A	Airdrie ..	Scotland	*1 5½	1 1½
C	Aldeburgh ..	E. Counties	1 1½	10½
A	Altrincham ..	N.W. Counties	1 5½	1 1½
B_3	Appleby ..	N.W. Counties	1 2	10½
A	Ashton-under-Lyne	N.W. Counties	1 5½	1 1½
A_3	Atherstone ..	Mid. Counties	1 4	1 0
B_2	Aylesbury ..	S. Counties	1 2½	11
B_1	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_3	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1½
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow ..	N.W. Counties	1 5½	1 1½
A	Barry ..	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke ..	S.W. Counties	1 3	11½
A_2	**Bath** ..	S.W. Counties	**1 4½**	**1 0½**
A	Batley ..	Yorkshire	1 5½	1 1½
A_2	**Bedford** ..	E. Counties	**1 4½**	**1 0½**
A_2	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_3	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	*1 7	1 2½
A	Birmingham	Mid. Counties	1 5½	1 1½
A_1	Bishop Auckland	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1½
A	Blackpool ..	N.W. Counties	1 5½	1 1½
A	Blyth ..	N.E. Coast	1 5½	1 1½
B_1	**Bognor** ..	S. Counties	**1 3**	**11½**
A	Bolton ..	N.W. Counties	1 5½	1 1½
A_3	Boston ..	Mid. Counties	1 4	1 0
A_3	Bournemouth ..	S. Counties	1 4	1 0
B_2	Bovey Tracey	S.W. Counties	1 2½	11
A	**Bradford** ..	Yorkshire	1 5½	1 1½
A_1	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M.	1 5½	1 1½
B_1	Bridgwater ..	S.W. Counties	1 3	11½
A_1	Bridlington ..	Yorkshire	1 5	1 0½
A	Brighouse ..	Yorkshire	1 5½	1 1½
A_3	Brighton ..	S. Counties	1 4	1 0
A	Bristol ..	S.W. Counties	1 5½	1 1½
B_2	**Brixham** ..	S.W. Counties	**1 2½**	**11**
A_2	Bromsgrove ..	Mid. Counties	1 4½	1 0½
B_3	**Bromyard** ..	Mid. Counties	**1 2**	**10½**
A	Burnley ..	N.W. Counties	1 5½	1 1½
A	Burslem ..	Mid. Counties	1 5½	1 1½
A	Burton-on-Trent	Mid. Counties	1 5½	1 1½
A	Bury ..	N.W. Counties	1 5½	1 1½
A_1	Buxton ..	N.W. Counties	1 5	1 0½
A_1	CAMBRIDGE	E. Counties	**1 5**	**1 0½**
B_1	**Canterbury** ..	S. Counties	**1 3**	**11½**
A	Cardiff ..	S. Wales & M.	1 5½	1 1½
A	Carlisle ..	N.W. Counties	1 5½	1 1½
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Carnforth ..	N.W. Counties	1 5½	1 1½
A	Castleford ..	Yorkshire	1 5½	1 1½
B	Chatham ..	S. Counties	1 3½	11½
A_3	**Chelmsford** ..	E. Counties	**1 4**	**1 0**
A_3	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester ..	N.W. Counties	1 5½	1 1½
A	Chesterfield ..	Mid. Counties	1 5½	1 1½
B_1	**Chichester** ..	S. Counties	**1 3**	**11½**
A	Chorley ..	N.W. Counties	1 5½	1 1½
B_1	**Cirencester** ..	S. Counties	**1 3**	**11½**
A	Clitheroe ..	N.W. Counties	1 5½	1 1½
A	Clydebank ..	Scotland	1 5½	1 1½
A	Coalville ..	Mid. Counties	1 5½	1 1½
A_3	Colchester ..	E. Counties	1 4	1 0
A	Colne ..	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_1	Consett ..	N.E. Coast	1 5	1 0½
A_2	Conway ..	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1½
A_2	Crewe ..	N.W. Counties	1 4½	1 0½
A_3	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1½
A	Darwen ..	N.W. Counties	1 5½	1 1½
B_1	**Deal** ..	S. Counties	**1 3**	**11½**
A_3	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby ..	Mid. Counties	1 5½	1 1½
A	Dewsbury ..	Yorkshire	1 5½	1 1½
B	Didcot ..	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1½
B_2	Dorchester ..	S.W. Counties	1 2½	11
A_3	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley ..	Mid. Counties	1 5½	1 1½
A	Dundee ..	Scotland	1 5½	1 1½
A	Durham ..	N.E. Coast	1 5½	1 1½
A_3	EASTBOURNE	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1½
A_1	E. Glamorganshire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter ..	S.W. Counties	*1 4½	1 0½
B	**Exmouth** ..	S.W. Counties	**1 3½**	**11½**
A_2	FELIXSTOWE	E. Counties	1 4	1 0
A_2	Filey	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1½
B_1	**Folkestone** ..	S. Counties	**1 3**	**11½**
A	Frodsham ..	N.W. Counties	1 5½	1 1½
B_2	Frome	S.W. Counties	1 2½	11
A	GATESHEAD	N.E. Coast	1 5½	1 1½
B	Gillingham ..	S. Counties	1 3½	11½
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole	Yorkshire	1 4½	1 0½
A_2	**Gosport** ..	S. Counties	**1 4½**	**1 0½**
A_3	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0½
A	Greenock ..	Scotland	*1 5½	1 1½
A	Grimsby ..	Yorkshire	1 5½	1 1½
B	**Guildford** ..	S. Counties	**1 3½**	**11½**
A	HALIFAX ..	Yorkshire	1 5½	1 1½
A	Hanley ..	Mid. Counties	1 5½	1 1½
A	Harrogate ..	Yorkshire	1 5½	1 1½
A	Hartlepools ..	N.E. Coast	1 5½	1 1½
B	Harwich ..	E. Counties	1 3½	11½
B_1	**Hastings** ..	S. Counties	**1 3**	**11½**
A_2	**Hatfield** ..	S. Counties	**1 4½**	**1 0½**
B	Hereford ..	S.W. Counties	1 3½	11½
A_2	**Hertford** ..	E. Counties	**1 4½**	**1 0½**
A	Heysham ..	N.W. Counties	1 5½	1 1½
A	Howden ..	N.E. Coast	1 5½	1 1½
A	Huddersfield ..	Yorkshire	1 5½	1 1½
A	Hull ..	Yorkshire	1 5½	1 1½
A	ILKLEY ..	Yorkshire	1 5½	1 1½
A	Immingham ..	Mid. Counties	1 5½	1 1½
A_2	**Ipswich** ..	E. Counties	**1 4½**	**1 0½**
B_2	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1½
A	KEIGHLEY ..	Yorkshire	1 5½	1 1½
B	Kendal ..	N.W. Counties	1 3½	11½
B	Keswick ..	N.W. Counties	1 3½	11½
A_2	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster	Mid. Counties	1 4½	1 0½
B_1	**King's Lynn** ..	E. Counties	**1 3**	**11½**
A	LANCASTER ..	N.W. Counties	1 5½	1 1½
A_1	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester ..	Mid. Counties	1 5½	1 1½
A	Leigh	N.W. Counties	1 5½	1 1½
B_3	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln ..	Mid. Counties	1 5½	1 1½
	Liverpool ..	N.W. Counties	*1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly ..	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12-15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1½
A	Loughborough ..	Mid. Counties	1 5½	1 1½
A_3	Luton	E. Counties	1 4	1 0
A	Lytham ..	N.W. Counties	1 5½	1 1½
A_1	MACCLESFIELD	N.W. Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11½
A_3	Malvern ..	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1½
A	Mansfield ..	Mid. Counties	1 5½	1 1½
B_1	Margate ..	S. Counties	1 3	11½
A	Matlock ..	Mid. Counties	1 4	1 0
A_1	Merthyr ..	S. Wales & M.	1 5	1 0½
A	Middesbrough	N.E. Coast	1 5½	1 1½
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1 2½	11
A	Morecambe ..	N.W. Counties	1 5½	1 1½
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson	N.W. Counties	1 5½	1 1½
A	Newcastle ..	N.E. Coast	1 5½	1 1½
A	Newport ..	S. Wales & M.	1 5½	1 1½
A	Normanton ..	Yorkshire	1 5½	1 1½
A	**Northampton**	Mid. Counties	**1 5½**	**1 1½**
A	North Staffs ..	Mid. Counties	1 5½	1 1½
A	North Shields ..	N.E. Coast	1 5½	1 1½
A_1	**Norwich** ..	E. Counties	**1 5**	**1 0½**
A	Nottingham ..	Mid. Counties	1 5½	1 1½
A	Nuneaton ..	Mid. Counties	1 5½	1 1½
A_3	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham ..	N.W. Counties	1 5½	1 1½
A_3	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford ..	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	*1 5½	1 1½
B_2	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth ..	Scotland	*1 5½	1 1½
A_2	Peterborough ..	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	*1 5½	1 1½
A	Pontefract ..	Yorkshire	1 5½	1 1½
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_2	**Portsmouth** ..	S. Counties	**1 4½**	**1 0½**
A	Preston ..	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate ..	S. Counties	1 3½	11½
A_3	Retford ..	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A_3	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1½
B	Rochester ..	S. Counties	1 3½	11½
A_1	Ruabon ..	N.W. Counties	1 5	1 0½
A	Rugby ..	Mid. Counties	1 5½	1 1½
A_2	**Rugeley** ..	Mid. Counties	**1 4½**	**1 0½**
A	Runcorn ..	N.W. Counties	1 5½	1 1½
A_1	**St. Albans** ..	E. Counties	**1 5**	**1 0½**
A	St. Helens ..	N.W. Counties	1 5½	1 1½
B_2	**Salisbury** ..	S.W. Counties	**1 2½**	**11**
A_1	Scarborough ..	Yorkshire	1 5	1 0½
A	Scunthorpe ..	Mid. Counties	1 5½	1 1½
A	Sheffield ..	Yorkshire	1 5½	1 1½
A	Shipley ..	Yorkshire	1 5½	1 1½
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton ..	Yorkshire	1 4½	1 0½
A_2	**Slough** ..	S. Counties	**1 4½**	**1 0½**
A_1	**Solihull** ..	Mid. Counties	**1 5**	**1 0½**
A_2	Southampton ..	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport ..	N.W. Counties	1 5½	1 1½
A	S. Shields ..	N.E. Coast	1 5½	1 1½
A_1	**Stafford** ..	Mid. Counties	**1 5**	**1 0½**
A	Stockport ..	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud ..	S.W. Counties	1 3½	11½
A	Sunderland ..	N.E. Coast	1 5½	1 1½
A	Swadlincote ..	Mid. Counties	1 5½	1 1½
A	Swansea ..	S. Wales & M.	1 5½	1 1½
A_3	Swindon ..	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton ..	S.W. Counties	1 3½	11½
A	Teesside Dist. ..	N.E. Counties	1 5½	1 1½
A_3	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1½
A_1	Torquay ..	S.W. Counties	1 5	1 0½
B_2	**Truro** ..	S.W. Counties	**1 2½**	**11**
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall ..	Mid. Counties	1 5½	1 1½
A	Tyne District ..	N.E. Coast	1 5½	1 1½
A	WAKEFIELD	Yorkshire	1 5½	1 1½
A	Walsall ..	Mid. Counties	1 5½	1 1½
A	Warrington ..	N.W. Counties	1 5½	1 1½
A_1	Warwick ..	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid. Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby ..	Yorkshire	1 4½	1 0½
A	Widnes ..	N.W. Counties	1 5½	1 1½
A	Wigan	N.W. Counties	1 5½	1 1½
B	**Winchester** ..	S. Counties	**1 3½**	**11½**
A_2	**Windsor** ..	S. Counties	**1 4½**	**1 0½**
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_3	Worksop ..	Yorkshire	1 4	1 0
A_1	Wrexham ..	N.W. Counties	1 5	1 0½
A_3	Wycombe ..	S. Counties	1 4	1 0
B_1	YARMOUTH ..	E. Counties	1 3	11½
B_1	Yeovil	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	1 1½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright. *The names of materials and prices set out in bold type denote the changes authorized to take effect on and from today.*

WAGES

	£ s. d.
Bricklayer . . . . . per hour	1 7
Carpenter . . . . . ,,	1 7
Joiner . . . . . ,,	1 7
Machinist . . . . . ,,	1 8
Mason (Banker) . . . . . ,,	1 7
,, (Fixer) . . . . . ,,	1 8
Plumber . . . . . ,,	1 7
Painter . . . . . ,,	1 6
Paperhanger . . . . . ,,	1 6
Glazier . . . . . ,,	1 7
Slater . . . . . ,,	1 7
Scaffolder . . . . . ,,	1 3
Timberman . . . . . ,,	1 3
Navvy . . . . . ,,	1 2¼
General Labourer . . . . . ,,	1 2¼
Lorryman . . . . . ,,	1 5
Crane Driver . . . . . ,,	1 6
Watchman . . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£ s. d.
Grey Stone Lime . . . . . per ton	2 2 0
Blue Lias Lime . . . . . ,,	1 16 6
Hydrated Lime . . . . . ,,	3 0 9
Portland Cement . . . . . ,,	2 6 0
Rapid Hardening Cement . . . ,,	2 13 6
White Portland Cement . . . ,,	8 15 0
Thames Ballast . . . . . per Y.C.	6 3
¾" Crushed Ballast . . . . ,,	6 9
Building Sand . . . . . ,,	7 3
Washed Sand . . . . . ,,	8 3
2" Broken Brick . . . . . ,,	8 0
¾" ,, ,, ... ,,	10 3
Pan Breeze . . . . . ,,	6 6
Coke Breeze . . . . . ,,	8 9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

	4" s. d.	6" s. d.
Straight Pipes . . .per F.R	0 9	1 1
Bends . . . . each	1 9	2 6
Taper Bends . . . ,,	3 6	5 3
Rest Bends . . . ,,	4 3	6 3
Single junctions . . ,,	3 6	5 3
Double . . . ,,	4 9	6 6
Straight channels . .per F.R.	1 6	2 6
¾" Channel bends . . each	2 9	4 0
Channel junctions . . ,,	4 6	6 6
Channel tapers . . ,,	2 9	4 0
Yard gullies . . ,,	6 9	8 9
Interceptors . . ,,	16 0	19 6
IRON DRAINS :		
Iron drain pipe . . per F.R.	1 6	2 6
Bends . . . each	5 0	10 6
Inspection bends . . ,,	9 0	15 0
Single junctions . . ,,	8 9	18 0
Double junctions . . ,,	13 6	30 0
Lead wool . . . lb.	6	—
Gaskin . . . ,,	5	—

BRICKLAYER

	£ s. d.
Flettons . . . . . per M.	2 18 0
Grooved do. . . . . ,,	3 0 0
Phorpres bricks . . . . ,,	2 18 0
Stocks, 1st quality . . . ,,	4 11 0
,, 2nd ,, . . . ,,	4 2 6
Blue Bricks, Pressed . . ,,	8 17 6
,, Wirecuts . . ,,	7 17 6
,, Brindles . . ,,	7 0 0
,, Bullnose . . ,,	9 0 0
Red Sand-faced Facings . . ,,	6 18 6
Red Rubbers for Arches . . ,,	12 0 0
Multicoloured Facings . . ,,	7 10 0
Luton Facings . . . ,,	7 10 0
Phorpres White Facings . . ,,	3 17 3
Phorpres Rustic Facings . . ,,	3 12 3
Midhurst White Facings . . ,,	5 0 0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality :	
Stretchers . . . . . ,,	21 0 0
Headers . . . . . ,,	20 10 0
Bullnose . . . . . ,,	27 10 0
Double Stretchers . . . ,,	29 10 0
Double Headers . . . . ,,	26 10 0
Glazed Second Quality, *Less* . . ,,	1 0 0
,, Buffs and Creams, *Add* . ,,	2 0 0
,, Other Colours . . . ,,	5 10 0
2" Breeze Partition Blocks . . per Y.S.	1 7
2½" ,, ,, ,, . . . ,,	1 10
3" ,, ,, ,, . . . ,,	2 1
4" ,, ,, ,, . . . ,,	2 6

MASON

	s. d.
The following d/d F.O.R. at Nine Elms :	
Portland stone, Whitbed . . F.C.	4 4½
,, ,, Basebed . . ,,	4 9
Bath stone . . . . . ,,	2 11
York stone . . . . . ,,	6 6
,, ,, Sawn templates . ,,	7 6
,, ,, Paving, 2" . F.S.	1 8
,, ,, ,, 3" . ,,	2 6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£ s. d.
24" × 12" Duchesses . . . per M.	28 17 6
22" × 12" Marchionesses . . ,,	24 10 0
20" × 10" Countesses . . ,,	19 5 0
18" × 10" Viscountesses . . ,,	15 10 0
18" × 9" Ladies . . . . ,,	13 17 6
Westmorland green (random sizes) . per ton	8 10 0
Old Delabole slates d/d in full truck loads to Nine Elms Station :	
20" × 10" medium grey per 1,000 (actual)	21 11 6
,, green ,, ,,	24 7 4
Best machine roofing tiles . . ,,	4 10 0
Best hand-made do. . . . ,,	5 0 0
Hips and valleys . . . each	9½
,, hand-made . . . ,,	10
Nails, compo . . . . lb.	1 4
,, copper . . . . ,,	1 6

CARPENTER AND JOINER

	s. d.
Good carcassing timber . . F.C.	2 2
Birch . . . . as 1" F.S.	9
Deal, Joiner's . . . ,, ,,	5
,, ,, 2nds . . ,, ,,	4
Mahogany, Honduras . . ,, ,,	1 3
,, African . . ,, ,,	1 1
,, Cuban . . ,, ,,	2 6
Oak, plain American . . ,, ,,	1 0
,, Figured ,, . . ,, ,,	1 3
,, Plain Japanese . . ,, ,,	1 2
,, Figured ,, . . ,, ,,	1 5
,, Austrian wainscot . . ,, ,,	1 6
,, English . . . ,, ,,	1 11
Pine, Yellow . . . ,, ,,	1 0
,, Oregon . . . ,, ,,	4
,, British Columbian . . ,, ,,	4
Teak, Moulmein . . ,, ,,	1 3
,, Burma . . . ,, ,,	1 2
Walnut, American . . ,, ,,	2 3
,, French . . ,, ,,	2 3
Whitewood, American . . ,, ,,	1 1
Deal floorings, ¾" . . . Sq.	18 6
,, ⅞" . . . ,,	1 1 6
,, 1" . . . ,,	1 2 0
,, 1¼" . . . ,,	1 5 0
,, 1½" . . . ,,	1 10 0
Deal matchings ¾" . . . ,,	14 0
,, ⅞" . . . ,,	15 6
,, 1" . . . ,,	1 4 0
Rough boarding ¾" . . . ,,	16 0
,, 1" . . . ,,	18 0
,, 1¼" . . . ,,	1 6 0

Plywood, per ft. sup.

Thickness	¼"	⅜"	½"	⅝"	¾"
Qualities	AA. A. B.	AA. A. B.	AA. A. B.	AA. A. B.	AA. A. B.
	d. d. d.	d. d. d.	d. d. d.	d. d. d.	d. d. d.
Birch	4 3 2	5 4 3	7½ 6 4½	8½ 7 6	
Alder	3½ 3 2	5 4 3	6½ 5½ 4½	8 7 6	
Gaboon Mahogany	4 3 3	6½ 5½ 4½	9½ 7½ –	1/0½ 10 –	
Figured Oak 1 side	8½ 7 –	10 8 –	11½ – –	1/6 – –	
Plain Oak 1 side	6½ 6 –	7½ 7 –	9½ – –	1/– – –	
Oregon Pine	5 4 –	5½ 5 –	6 – –	– – –	

	d.
Scotch glue . . . . lb.	8

SMITH AND FOUNDER

Tubes and Fittings :

(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	¼"	½"	1"	1¼"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10
Pieces, 12"-23¾" long each	10	1/1	1/11	2/8	4/9
,, 3"-11¾" long ,,	7	9	1/3	1/8	3/–
Long screws, 12"-23¾" long ,,	11	1/3	2/2	2/10	5/3
,, ,, 3"M-¼" long ,,	8	10	1/5	1/11	3/6
Bends . . . . ,,	8	11	1/7½	2/7½	5/2
Springs not socketed . ,,	5	7	1/1½	1/11½	3/11
Socket unions . . ,,	2/–	3/–	5/6	6/9	10/–
Elbows, square . . ,,	10	1/1	1/6	2/–	4/3
Tees . . . . ,,	1/–	1/3	1/10	2/6	5/1
Crosses . . . ,,	2/2	2/9	4/1	5/6	10/6
Plain Sockets and nipples ,,	3	4	6	8	1/3
Diminished sockets . ,,	4	6	9	1/–	2/–
Flanges . . . ,,	9	1/–	1/4	1/9	2/9
Caps . . . . ,,	3½	5	8	1/–	2/–
Backnuts . . . ,,	2	3	5	6	1/1
Iron main cocks . . ,,	1/6	2/3	4/2	5/4	11/6
,, ,, with brass plugs ,,	—	4/–	7/6	10/–	21/–

Discounts :

TUBES.

	Per cent.		Per cent.
Gas . . .	65	Galvanized gas .	52½
Water . . .	61½	,, water	47½
Steam . . .	57½	,, steam	42½

FITTINGS.

Gas . . .	57½	Galvanized gas .	47½
Water . . .	52½	,, water	42½
Steam . . .	47½	,, steam	37½

SMITH AND FOUNDER—*continued*

	s. d.
Rolled steel joists cut to length . . cwt.	10 9
Mild steel reinforcing rods, ¾" . . ,,	8 6
,, ,, ⅞" . . ,,	8 3
,, ,, 1" . . ,,	8 0
,, ,, 1⅛" . . ,,	7 6
,, ,, 1¼" . . ,,	7 6
,, ,, 1" . . ,,	7 6
,, ,, 1½" . . ,,	7 6
,, ,, 1¾" . . ,,	7 6

	3" s. d.	4" s. d.
Cast-iron rain-water pipes of ordinary thickness metal . . F.R	8	10
Shoes . . . . each	2 0	3 0
Anti-splash shoes . . ,,	4 6	8 0
Boots . . . . ,,	3 0	4 0
Bends . . . . ,,	2 7	3 9
,, with access door . . ,,	—	6 3
Heads . . . . ,,	4 0	5 9
Swan-necks up to 9" offsets . ,,	3 9	6 0
Plinth bends, 4½" to 6" . ,,	3 9	5 3
Half-round rain-water gutters of ordinary thickness metal . . F.R.	5	6
Stop ends . . . . each	6	6
Angles . . . . ,,	1 7	1 11
Obtuse angles . . . ,,	2 0	2 6
Outlets . . . . ,,	1 9	2 3

PLUMBER

	£ s. d.
Lead milled sheets . . . cwt.	**1 0 0**
,, drawn pipes . . ,,	**1 7 0**
,, soil pipe . . . ,,	**1 0 0**
,, scrap . . . ,,	**10 6**
Solder, plumbers' . . . lb.	**9½**
,, fine do. . . . ,,	1 0
Copper, sheet . . . . ,,	8½
,, tubes . . . ,,	11

L.C.C soil and waste pipes :	3"	4"	6"
Plain cast . . F.R.	1 0	1 2	2 6
Coated . . . ,,	1 1	1 3	2 8
Galvanized . . ,,	2 0	2 6	4 6
Holderbats . . each	3 10	4 0	4 9
Bends . . . ,,	3 9	5 3	10 3
Shoes . . . ,,	2 10	4 4	9 6
Heads . . . ,,	4 8	8 5	12 9

PLASTERER

	£ s. d.
Lime, chalk . . . . per ton	2 5 0
Plaster, coarse . . . ,,	2 10 0
,, fine . . . ,,	4 15 0
Hydrated lime . . . ,,	3 0 9
Sirapite . . . . ,,	3 6 0
Keene's cement . . . ,,	5 0 0
Sand, washed . . . Y.C.	11 6
Hair . . . . lb.	6
Laths, sawn . . . bundle	2 4
,, rent . . . ,,	3 9
Lath nails . . . . lb.	3½

GLAZIER

	s. d.
Sheet glass, 21 oz., squares n/e 2 ft. s. F.S.	2⅞
,, ,, 26 oz. ,, ,, ,, ,,	3⅜
Arctic glass, white . . . ,,	7
Cathedral glass, white, dbl.-rolled, plain, hammered, rimpled, waterwite,,	6½
¼" Hartley's rough rolled . . ,,	7
¼" ,, wired cast . . ,,	10
¼" Georgian wired cast . . ,,	11
¼" Polished plate, n/e 1 ft. . . ,,	†10 to ‡1 1
,, ,, 2 . . ,,	†1 2 ,, ‡1 4
,, ,, 3 . . ,,	†1 8 ,, ‡1 11
,, ,, 4 . . ,,	†2 3 ,, ‡2 6
,, ,, 6 . . ,,	†2 7 ,, ‡2 9
,, ,, 8 . . ,,	†2 9 ,, ‡3 2
,, ,, 12 . . ,,	†3 1 ,, ‡3 7
,, ,, 20 . . ,,	†3 7 ,, ‡4 2
,, ,, 45 . . ,,	†3 11 ,, ‡4 7
,, ,, 65 . . ,,	†4 4 ,, ‡4 11
,, ,, 98 . . ,,	†4 9 ,, ‡5 5
,, ,, 100 . . ,,	†5 0 ,, ‡5 7
Vita glass, sheet, n/e 1 ft. . ,,	1 0
,, ,, ,, 2 . . ,,	1 3
,, ,, ,, over 2 . . ,,	1 9
,, ,, plate, n/e 1 ft. . ,,	1 6
,, ,, ,, 2 . . ,,	3 0
,, ,, ,, 5 . . ,,	4 0
,, ,, ,, 7 . . ,,	5 0
,, ,, ,, 15 . . ,,	6 0
,, ,, ,, over 15 . . ,,	7 6
Putty, linseed oil . . . lb.	3

†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

	£ s. d.
White lead in 1 cwt. casks . cwt.	**2 6 0**
Linseed oil . . . . gall.	2 2½
Boiled oil . . . . ,,	2 4½
Turpentine . . . . ,,	4 1½
Patent knotting . . . ,,	14 0
Distemper, washable . . cwt.	2 6 0
,, ordinary . . ,,	2 0 0
Whitening . . . . ,,	4 0
Size, double . . . firkin	3 0
Copal varnish . . . gall.	13 0
Flat varnish . . . ,,	14 0
Outside varnish . . ,,	16 0
White enamel . . . ,,	1 15 0
Ready-mixed paint . . ,,	13 6
Brunswick black . . ,,	7 6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright. *The names of materials and prices set out in bold type denote the changes authorized to take effect on and from today.*

EXCAVATOR AND CONCRETOR

		£ s. d
Digging over surface n/e 12″ deep and cart away	Y.S.	2 9
,, to reduce levels n/e 5′ 0″ deep and cart away	Y.C.	8 6
,, to form basement n/e 5′ 0″ deep and cart away	,,	9 0
,, ,, 10′ 0″ deep and cart away	,,	9 6
,, ,, 15′ 0″ deep and cart away	,,	10 0
If in stiff clay	add ,,	2 6
If in underpinning	,,	4 0
Planking and strutting to sides of excavation	F.S.	1 0
,, ,, to pier holes	,,	5
,, ,, to trenches	,,	5
,, ,, extra, only if left in	,,	3
Hardcore, filled in and rammed	Y.C.	10 0
Portland cement concrete in foundations (6-1)	,,	1 6 0
,, ,, (4-2-1)	,,	1 12 6
,, ,, underpinning	,,	1 16 0
Finishing surface of concrete, spade face	Y.S.	7

DRAINLAYER

		4″ s. d.	6″ s. d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1 6	2 3
Extra, only for bends	Each	2 8	3 9
,, junctions		3 9	4 6
Gullies and gratings	,,	16 6	18 0
Cast iron drains, and laying and jointing	F.R.	4 9	6 9
Extra, only for bends	Each	10 6	15 6

BRICKLAYER

		£ s. d.
Brickwork, Fletton in lime mortar	Per Rod	27 10 0
,, ,, in cement	,,	28 15 0
,, Stocks in cement	,,	35 0 0
,, Blues in cement	,,	52 0 0
Extra only for circular on plan	,,	2 0 0
,, backing to masonry	,,	1 10 0
,, raising on old walls	,,	2 0 0
,, underpinning	,,	5 10 0
Fair Face and pointing internally	F.S.	1½
Extra over fletton brickwork for picked stock facings and pointing	,,	8¼
,, ,, ,, red brick facings and pointing	,,	11
,, ,, ,, blue brick facings and pointing	,,	1 4
,, ,, ,, glazed brick facings and pointing	,,	3 6
Tuck pointing	,,	7
Weather pointing in cement	,,	3½
Slate dampcourse	,,	10
Vertical dampcourse	,,	1 1

ASPHALTER

		s. d.
½″ Horizontal dampcourse	Y.S.	4 6
½″ Vertical dampcourse	,,	6 9
½″ paving or flat	,,	4 0
1″ paving or flat	,,	5 6
1″ × 6″ skirting	F.R.	1 0
Angle fillet	,,	2
Rounded angle	,,	2
Cesspools	Each	5 0

MASON

		s. d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C.	17 9
Bath stone and do., all as last	,,	13 6
Artificial stone and do.	,,	13 0
York stone templates, fixed complete	,,	10 6
,, thresholds	,,	13 6
,, sills	,,	1 0 6

SLATER AND TILER

		£ s. d.
Slating, Bangor or equal, laid to a 3″ lap, and fixing with compo nails, 20″ × 10″	Sqr.	3 10 0
Do., 18″ × 9″	,,	3 7 0
Do., 24″ × 12″	,,	3 17 0
Westmorland slating, laid with diminished courses	,,	6 0 0
Tiling, best hand-made sand-faced, laid to a 4″ gauge, nailed every fourth course	,,	3 0 0
Do., all as last, but of machine-made tiles	,,	2 16 0
20″ × 10″ medium Old Delabole slating, laid to a 3″ lap (grey)	,,	4 6 0
,, ,, ,, ,, ,, ,, (green)	,,	4 15 0

CARPENTER AND JOINER

		£ s. d.
Flat boarded centering to concrete floors, including all strutting	Sqr.	2 5 0
Shuttering to sides and soffits of beams	F.S.	8
,, to stanchions	,,	8
,, to staircases	,,	1 8
Fir and fixing in wall plates, lintols, etc.	F.C.	3 9
Fir framed in floors	,,	4 6
,, ,, roofs	,,	6 6
,, ,, trusses	,,	7 6
,, ,, partitions	,,	8 6
⅞″ deal sawn boarding and fixing to joists	Sqr.	1 14 6
1″ ,, ,, ,, ,,	,,	1 17 6
1½″ ,, ,, ,, ,,	,,	2 3 0
2″ × 2″ fir battening for Countess slating	,,	9 6
Do. for 4″ gauge tiling	,,	12 0
Stout feather-edged tilting fillet	F.R.	4½
Patent inodorous felt, 1 ply	Y.S.	2 3
,, ,, ,, 2 ,,	,,	2 9
,, ,, ,, 3 ,,	,,	3 3
Stout herringbone strutting to 9″ joists	F.R.	10½
1″ deal gutter boards and bearers	F.S.	1 2
1½″ ,, ,, ,, ,,	,,	1 6
2″ deal wrought rounded roll	F.R.	8
1″ deal grooved and tongued flooring, laid complete, including cleaning off	Sqr.	2 1 0
1¼″ do.	,,	2 10 0
1½″ do.	,,	2 17 0
1″ deal moulded skirting, fixed on, and including grounds plugged to wall	F.S.	1 6
1¼″ do.	,,	1 9

CARPENTER AND JOINER—*continued*

		s. d.
1½″ deal moulded sashes of average size	F.S.	1 9½
2″ ,, ,, ,, ,,	,,	1 11½
1½″ deal cased frames double hung, of 6″ × 3″ oak sills, 1¼″ pulley stiles, 1¼″ heads, 1″ inside and outside linings, ⅞″ parting beads, and with brass faced axle pulleys, etc., fixed complete	,,	3 7
2″ ,, ,, ,, ,,	,,	3 10
Extra only for moulded horns	Each	6
1½″ deal four-panel square, both sides, door	F.S.	2 0
2″ ,, ,, ,, ,,	,,	2 8
1½″ ,, but moulded both sides	,,	2 4
2″ ,, ,, ,, ,,	,,	3 0
4″ × 3″ deal, rebated and moulded frames	F.R.	1 0
4½″ × 3½″ ,, ,, ,, ,,	,,	1 4
1½″ deal tongued and moulded window board, on and including deal bearers	F.S.	1 9
1½″ deal treads, 1″ risers in staircases, and tongued and grooved together on and including strong fir carriages	,,	2 6
1½″ deal moulded wall strings	,,	2 1
1½″ ,, outer strings	,,	2 4
Ends of treads and risers housed to string	Each	1 9
3″ × 2″ deal moulded handrail	F.R.	1 3
1″ × 1″ deal balusters and housing each end	Each	2 0
1½″ × 1½″ ,, ,, ,, ,,	,,	2 9
3″ × 3″ deal wrought framed newels	F.R.	1 3
Extra only for newel caps	Each	6 0
Do., pendants	,,	6 6

SMITH AND FOUNDER

		£ s. d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt.	15 6
Riveted plate or compound girders, and hoisting and fixing in position	,,	19 6
Do. stanchions with riveted caps and bases and do.	,,	19 0
Mild steel bar reinforcement, ½″ and up, bent and fixed complete	,,	17 6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S.	11
Wrot-iron caulked and cambered chimney bars	Per cwt.	1 10 0

PLUMBER

		£ s. d.
Milled lead and labour in flats	**cwt.**	**1 13 6**
Do. in flashings	,,	**1 17 0**
Do. in covering to turrets	,,	**2 3 0**
Do. in soakers	,,	**1 9 0**
Labour to welted edge	F.R.	3½
Open copper nailing	,,	3½
Close ,, ,,	,,	4½

	½″ s. d.	¾″ s. d.	1″ s. d.	1½″ s. d.	2″ s. d.	4″ s. d.
Lead service pipe and fixing with pipe hooks (F.R.)	1 0	1 2	1 5	2 1	3 0	—
Do. soil pipe and fixing with cast lead tacks	—	—	—	—	—	5 9
Extra, only to bends (Each)	—	—	—	—	2 3	6 3
Do. to stop ends (,,)	6½	8	9	11	1 0	—
Boiler screws and unions (,,)	3 3	3 9	5 0	8 0	—	—
Lead traps (,,)	—	—	—	6 3	8 9	—
Screw down bib valves (,,)	6 9	9 6	11 0	—	—	—
Do. stop cocks (,,)	9 0	11 0	14 6	20 6	47 0	—
4″ cast-iron ½-rd. gutter and fixing					F.R.	1 0
Extra, only stop ends					Each	1 0
Do. angles					,,	1 6
Do. outlets					,,	2 9
4″ dia. cast-iron rain-water pipe and fixing with ears cast on					F.R.	1 2
Extra, only for shoes					Each	1 3
Do. for plain heads					,,	5 6

PLASTERER AND TILING

		s. d.
Expanded metal lathing, small mesh	Y.S.	2 3
Do. in n/w to beams, stanchions, etc.	,,	3 6
Lathing with sawn laths to ceilings	,,	1 4
½″ screeding in Portland cement and sand for tiling, wood block floor, etc.	,,	1 8
Do. vertical	,,	2 1
Rough render on walls	,,	1 3
Render, float and set in lime and hair	,,	1 11
Render and set in Sirapite	,,	2 1
Render, backing in cement and sand, and set in Keene's cement	,,	2 10
Extra, only if on lathing	,,	4
Keene's cement, angle and arris	F.R.	6
Arris	,,	2
Rounded angle, small	,,	3
Plain cornices in plaster, including dubbing out, per 1″ girth	,,	1½
1″ granolithic pavings	Y.S.	3 6
1½″ ,, ,, ,,	,,	4 6
6″ × 6″ white glazed wall tiling and fixing on prepared screed	,,	17 6
9″ × 3″ ,, ,, ,, ,,	,,	1 2 6
Extra, only for small quadrant angle	F.R.	8

GLAZIER

		s. d.
21 oz. sheet glass and glazing with putty	F.S.	7½
26 oz. do. and do.	,,	8¾
Arctic glass and glazing with putty	,,	1 1
Cathedral glass and do.	,,	1 2
Glazing only, British polished plate	,,	7
Extra, only if in beads	,,	2
Washleather	F.R.	4

PAINTER

		s. d.
Clearcolle and whiten ceilings	Y.S.	6½
Do. and distemper walls	,,	9
Do. with washable distemper	,,	1 1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	,,	3 3
Do. on woodwork	,,	3 6
Do. on steelwork	,,	3 0
Do. and brush grain and twice varnish	,,	5 6
Stain and twice varnish woodwork	,,	1 11
Stain and wax-polish woodwork	,,	4 6
French polishing	F.S.	1 2
Stripping off old paper	Piece	2 0
Hanging ordinary paper	from ,,	2 9

BEXHILL COMPETITION RESULT

Since going to press we have received the results of the Bexhill Competition, which are as follows :—

DESIGN PLACED FIRST (£150) : Erich Mendelsohn and Serge Chermayeff, F.R.I.B.A., of 173, Oxford Street, London, W.1.

DESIGN PLACED SECOND (£100) : J. W. Haswell and G. H. Shepherd, AA.R.I.B.A., of 19, Greville Place, London, N.W.6.

DESIGN PLACED THIRD (£75) : P. G. Freeman and W. Crabtree, AA.R.I.B.A., of 45, Berners Street, W.1.

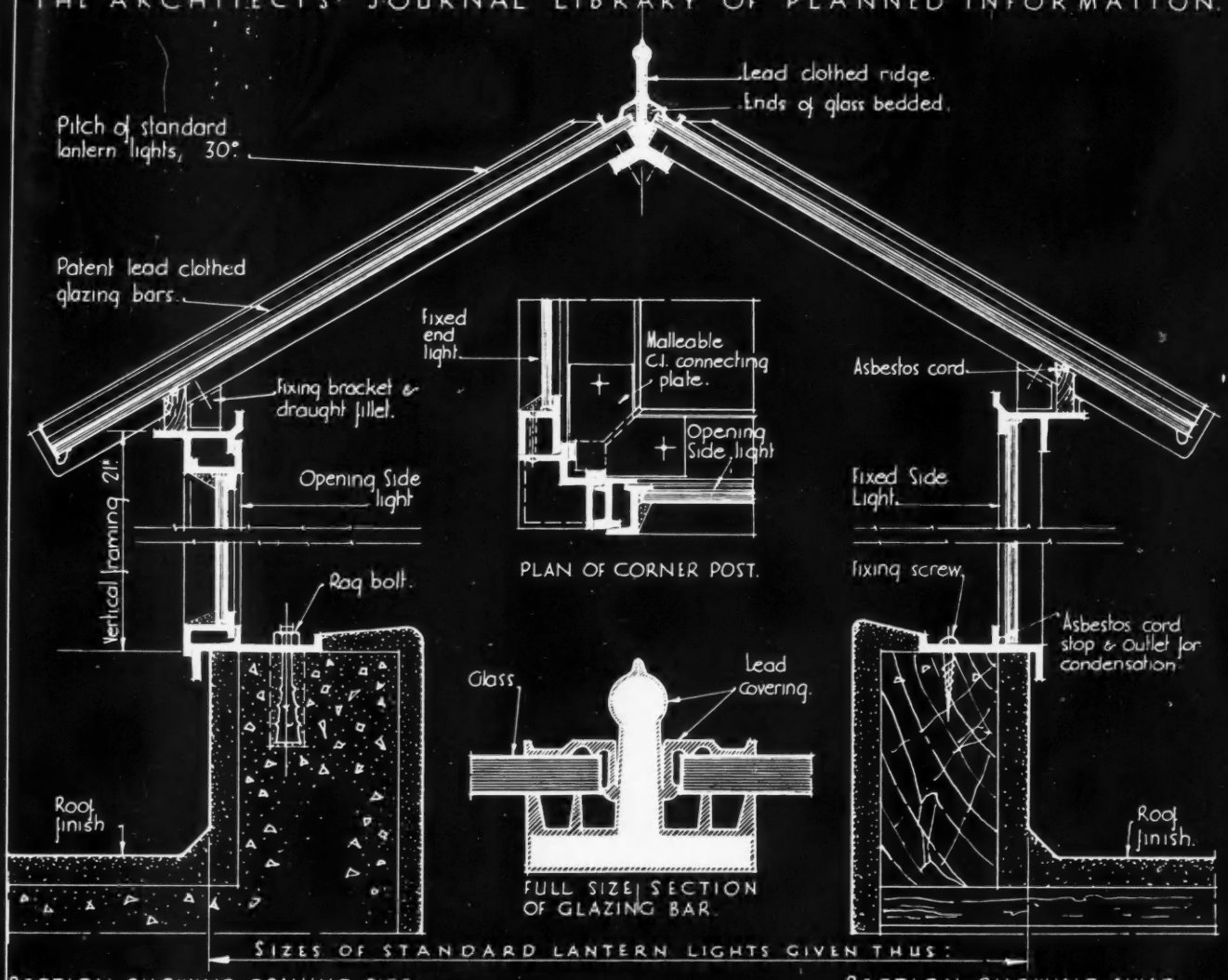
Recommended for special merit :—

James Burford and Marshall Sisson, AA.R.I.B.A., of 3, Staple Inn, Holborn Bars, W.C.1.

P. Lingwood, A.R.I.B.A., of Cranleigh, Woodhouse Lane, East Ardsley, Wakefield.

Mr. T. S. Tait, F.R.I.B.A., was the assessor. The designs submitted will be open for public inspection at York Hall, London Road, Bexhill, from February 7 to 13 inclusive (11 a.m. to 1 p.m. : 2.30 to 8 p.m.).

THE ARCHITECTS' JOURNAL LIBRARY OF PLANNED INFORMATION.



SIZES OF STANDARD LANTERN LIGHTS GIVEN THUS:

SECTION SHOWING OPENING SIDE-LIGHT & CONCRETE KERB.

SCHEDULE OF STANDARD SIZES OF LANTERN LIGHTS.

SIZE, measured as shown on details above.	Number of opening side lights in each long side "Normal Ventilation" (See notes.)
4'0" × 4'0"	1 Single pane.
6'0" × 4'0"	1 " "
8'0" × 4'0"	1 double "
10'0" × 4'0"	2 " "
12'0" × 4'0"	2 " "
6'0" × 6'0"	1 single "
8'0" × 6'0"	1 double "
10'0" × 6'0"	2 " "
12'0" × 6'0"	2 " "
8'0" × 8'0"	1 " "
10'0" × 8'0"	2 " "
12'0" × 8'0"	2 " "
10'0" × 10'0"	2 " "
12'0" × 10'0"	2 " "
12'0" × 12'0"	2 " "

DIAGRAM OF 4'0" × 4'0" LANTERN LIGHT, Hipped ends.

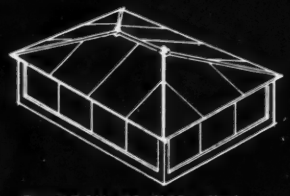
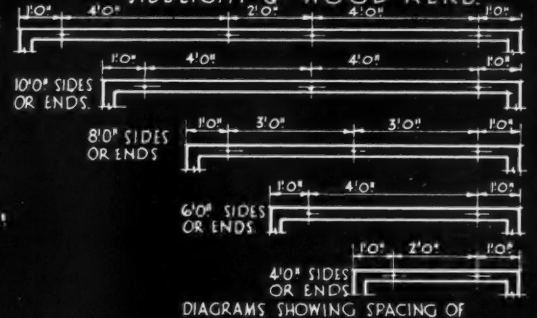


DIAGRAM OF 8'0" × 6'0" LANTERN LIGHT, Hipped ends.

SECTION SHOWING FIXED SIDE-LIGHT & WOOD KERB.



DIAGRAMS SHOWING SPACING OF FIXING BOLTS ON CONCRETE KERBS.

CHALLENGE STANDARD LANTERN LIGHTS are made with 1/ Hipped ends or gabled ends.
2/ Sidelights: bottom hung or horizontally centre pivotted
3/ "Normal" amount of ventilation (see schedule).
or "Extra" amount of ventilation (i.e. opening sashes full length of both sides).
4/ Glass, as required.

Information from the British Challenge Glazing Co.

INFORMATION SHEET: ROOF LIGHTS: CHALLENGE STANDARD LANTERN LIGHTS.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1.

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INFORMATION SHEET

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ROOF LIGHTS

Name of Product: Challenge Lantern Lights

Type Illustrated: Standard Lanterns

Description:

The construction shown is equally applicable to all Challenge Lantern Lights, whether Standard size or Purpose Made. They all embody the principle of single sections for each member, built up sections being avoided. All sashes are double weathered and hung on cup pivots. The roofs are patent glazed with patent lead clothed hips and ridges. Booklets are issued showing the full range and prices of Standard Lanterns, but Purpose Made must be specially priced.

(Note.—Lantern Skylights are distinguished from other forms of Skylights by the use of upstands.)

Name of Manufacturers	The British Challenge Glazing Co.
Address	Grove Glass Works, 10, Marshgate Lane, Stratford, London, E.15
Telephone	Maryland 4161
Telegrams	Astragal Phone London

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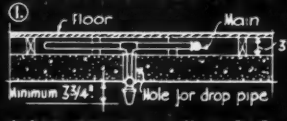
AUTOMATIC SPRINKLERS :

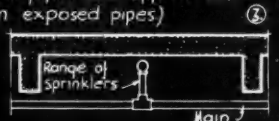
AREA SERVED, Each sprinkler covers an area of approx. 100 sq.ft. in general types of buildings, & approx. 64 sq.ft. in Corn Mills & the stage side of the Proscenium wall in theatres. *(rules of the Fire Offices Committee)*

VARIOUS METHODS OF FIXING SPRINKLERS, (In general concealed pipes cost approx. 20% more to instal than exposed pipes)



PIPES CONCEALED UNDER FLOOR BOARDS.

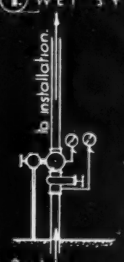
PIPES CONCEALED IN SUB-CEILING (For flat roofs or solid floors).



EXPOSED PIPES.

CONTROL VALVES : Sprinklers are controlled by one or more valves according to the number of sprinklers. There are two systems for controlling valves 1, The Wet System. 2, The alternate Wet & Dry System.

① WET SYSTEM VALVES,



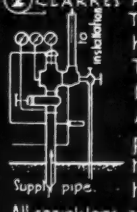
Valves should be fixed preferably on the Ground floor & easily accessible from outside the building. Minimum clear space for valves : 6'0" high × 3'9" wide × 1'3" deep. In the Metropolitan Water Board area it is usual to discharge the waste water into a Break tank of 300 galls. capacity connected to a drain. Tank should be as near as possible to the control valves.

An alarm must be fitted to the control valve, with a bell fixed outside the premises, to ring automatically when any sprinkler head opens.

WATER SUPPLY PIPES, If not more than 115 sprinklers are in direct communication on any one floor – 4" diam., if over 115, 6" diam. is advisable, 6" being large enough for one or more installations. Size of risers & size of branches, dependent on size of the installation, see Fire Offices Committee rules.

SIZE OF INSTALLATION, it is strongly recommended that not more than 1250 sprinklers be controlled by one set of Wet System valves.

② CLARKE'S PATENT ALTERNATE WET & DRY VALVES,



This system is necessary when the premises are not heated & there is a danger of the water freezing. The installation is charged with air instead of water in the winter months. With the Clarke Patent Low pressure Air & Water valve (see diagram) 5 lbs. per sq. in. air pressure is sufficient to keep valves shut. Immediately the air pressure is released by the opening of a sprinkler the full force of water is admitted to the installation.

All sprinklers on this system must be fixed in the inverted position & the pipes fixed so that all water will drain to the main drain valve.

Minimum clear space for valves, 7'0" high × 4'6" wide × 1'3" deep.

SIZE OF INSTALLATION, in the case of alternate Wet & Dry Systems not more than 700 sprinklers are allowed to be controlled by one set of valves.

NUMBER OF SPRINKLERS, it is not advisable to feed more than 8 sprinklers on one range (4 on each side of main) in special cases up to 6 on each side may be fitted, but feed pipe sizes must be in accordance with the fire Offices Committee rules.

WATER SUPPLIES, The Insurance Co^ys allow a rebate of 50% to 70% of the premium for double supply installations, one supply to be practically unlimited, & from 25% to 30% for single supply installations.

SOURCES OF SUPPLY accepted by the Fire Offices Committee :

① Towns Main, single or double supply.
If double supply the mains must be fed from 2 separate sources. Branches must be brought direct from the main & may be used only for Sprinklers & Hydrants, except that a 1½" branch or its equivalent may be used for ordinary purposes.
If the pressure of the Towns Supply is insufficient a Booster Pump is provided. Minimum space required, 11'0" × 10'0" × 8'0" high, on Ground fl. if possible.

② Pump. A steam or electrically or petrol driven pump drawing water from a practically unlimited supply.

③ Elevated Private Resevoir, if as a substitute for a Towns Main should be 200,000 galls. capacity, less may be approved in special cases :

④ Elevated Gravity Tank, as a secondary supply :
7500 galls. capacity with base 15'0" above the highest sprinkler, or/ 5000 galls. capacity with base 20'0" above the highest sprinkler.
Provision to be made against the action of frost.
Weight of 7500 gall. tank when full 40 tons., ...of 5000 gall. tank, full, 32 tons.

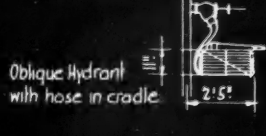
⑤ Pressure tank, as secondary supply :
Tank 30'0" long × 7'0" diam. weight full of water 38 tons.
When in use ½ filled with water & ½ compressed air, or tank may be 30'0" long × 6'0" diam. ⅔ filled with water & ⅓ compressed air at higher pressure. Tank usually on Ground fl. or Basement but may be on the roof.

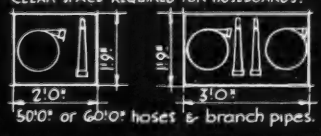
HYDRANTS,

Private Hydrant systems are installed to suit particular requirements, but the pattern of Hydrant & connectors must suit the local fire Brigade requirements.

Hydrants are usually called for by the London C.C. in Theatres & Cinemas Usually one 1½" Hydrant on each side of the Auditorium, one 2½" Hydrant on the stage & one 1½" on the Fly. Fire Extinguishers are required in addition in certain parts of the building.

All appliances in the Auditorium are required to be in recesses.





DRY RISING MAINS,

Are called for by the London C.C. in some buildings, used by the Fire Brigade only, & not connected to the water supply

2½" outlets required on all floors above 60'0" from pavement level.

1 outlet to be provided for each 10,000 sq.ft. of floor area.

When the floor area exceeds 20,000 sq.ft. two Dry risers must be provided.

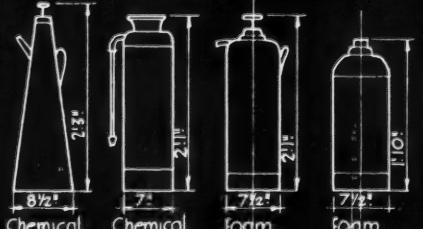
Two Brigade connections are required for each Dry riser to be fitted in recesses in positions suitable to the Brigade.

Recess for two connections should be 1'10" × 2'7" × 9" deep with glazed door, spring lock & key & "DRY RISING FIRE MAIN" in 2" letters.

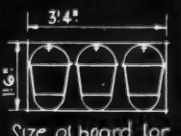
EXTINGUISHERS & BUCKETS,

Are usually supplied of 2 galls. capacity each & the Insurance Co^ys require :

One 2 gall. Ext^r to every 250 sq.yds or part, minimum on each floor, 2.
Three 2 gall. buckets . . . . . " . . . 6.



SIZES OF VARIOUS TYPES OF CLARKE'S EXTINGUISHERS



Size of board for three 2 gall. buckets

Information from Clarke & Vigilant Sprinklers Limited

INFORMATION SHEET : FIRE PROTECTION : GENERAL DATA ETC.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.1.

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INFORMATION SHEET

• 79 •

THE CONCRETE CODE
(FLAT SLAB CONSTRUCTION)

Description:

This Sheet is the first of a series of six dealing with buildings constructed in accordance with the new Recommendations for a Code of Practice for the use of Reinforced Concrete in Buildings—(see the Information Supplement to this issue).

They deal with the planning of buildings which are to be designed on the flat slab, or mushroom system. This form of construction, which was not recognized under the L.C.C. regulations, has many advantages over beam and girder construction (chiefly due to absence of beams in the ceiling) which include:—

1. A saving of twelve inches or more in the height required from floor to floor.
2. Better lighting, either daylight or artificial.
3. Better ventilation, owing to absence of air pockets in the ceiling.
4. Easier arrangement of sprinklers, piping, shafting, etc.
5. Simpler formwork in construction.
6. A saving in material (if the floor loads are heavy).
7. Greater fire resistance owing to the absence of sharp edges and corners.

To enable the system to be used, however, the site must be capable of being divided into approximately equal, square, or slightly off square, bays with column centres from sixteen to twenty-five feet apart. Furthermore, the floor planning must not require a large amount of solid partitioning or large openings in the slabs. There will be no economy over beam and girder construction for superimposed loads of under 100 lb. per square foot.

The rules for proportioning members (which are given in full in section 8 of the Code), are based, not on theory (no satisfactory theory has yet been evolved which suits the conditions of actual design) but on the results of extensometer measurements of concrete and steel in actual buildings under test loads.

Largely for this reason, definite rules are given for the minimum number of bays in the width of a building, the maximum variation from the average permitted in the span of these bays, etc., and these and other rules, summarized in the Sheets, must be borne in mind by the architect when planning in the initial stages.

Two types of construction, with and without "drop panels," are recognized, and the Sheets show various types of column heads which may be used. The minimum proportions for these column heads are also given.

The external columns can be arranged either in the external wall, or if an uninterrupted area of glass is required they may be set back in the building, and the floor slabs cantilevered over them.

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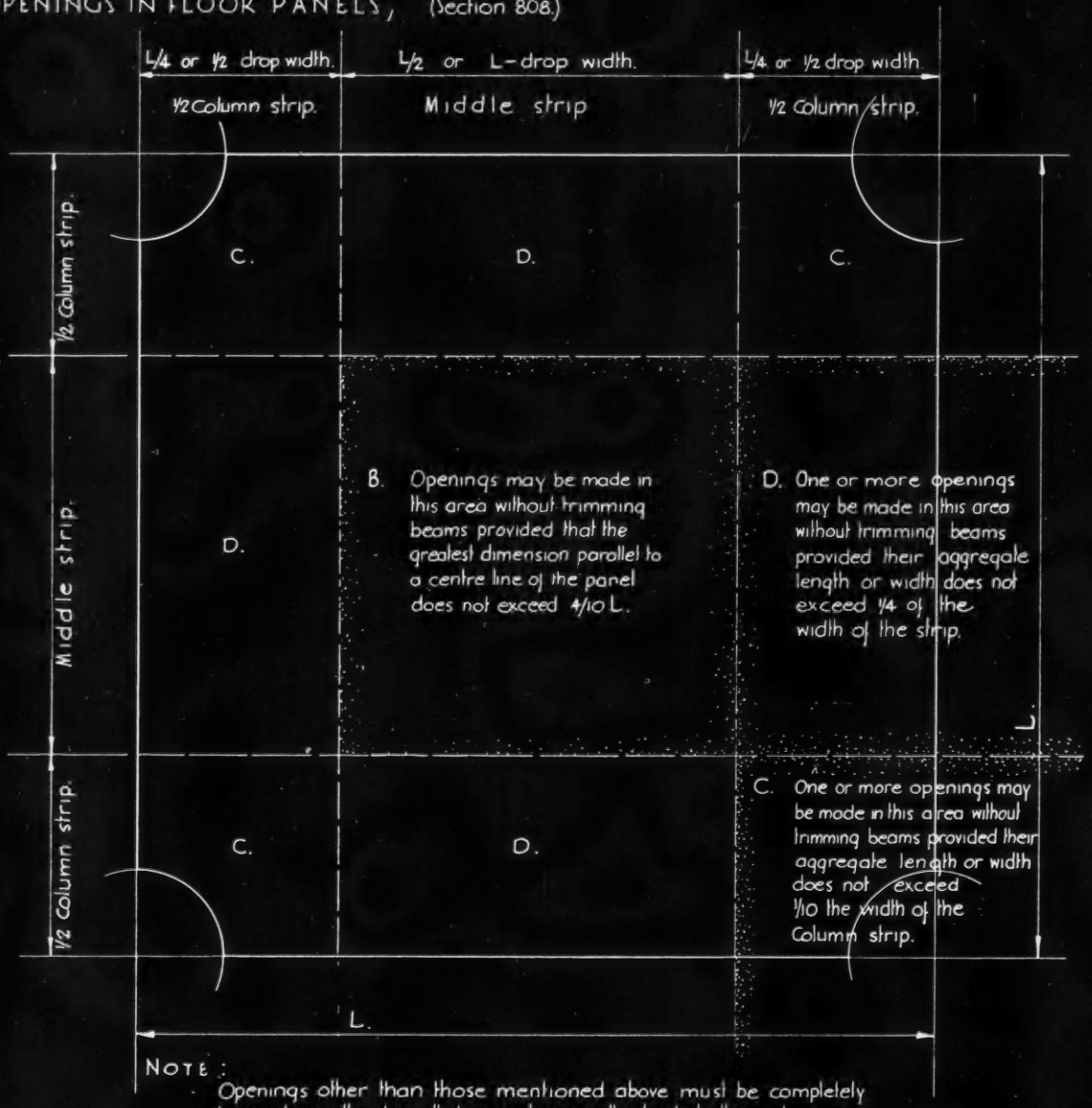
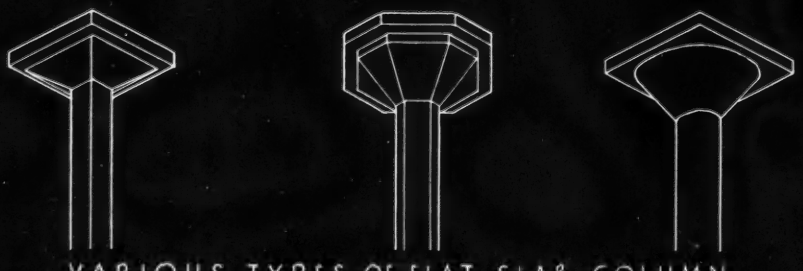
OPENINGS IN FLOOR PANELS, (Section 808.)



NOTE :
Openings other than those mentioned above must be completely framed on all sides with beams to carry the loads to the columns.



VARIOUS TYPES OF FLAT SLAB COLUMN HEADS WITH DROPS.

Information from W.E.J. Budgen, B.Sc., A.M.Inst.C.E.

INFORMATION SHEET : DIGEST OF THE CODE OF PRACTICE FOR REINFORCED CONCRETE : FLAT SLAB CONSTRUCTION.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.1.

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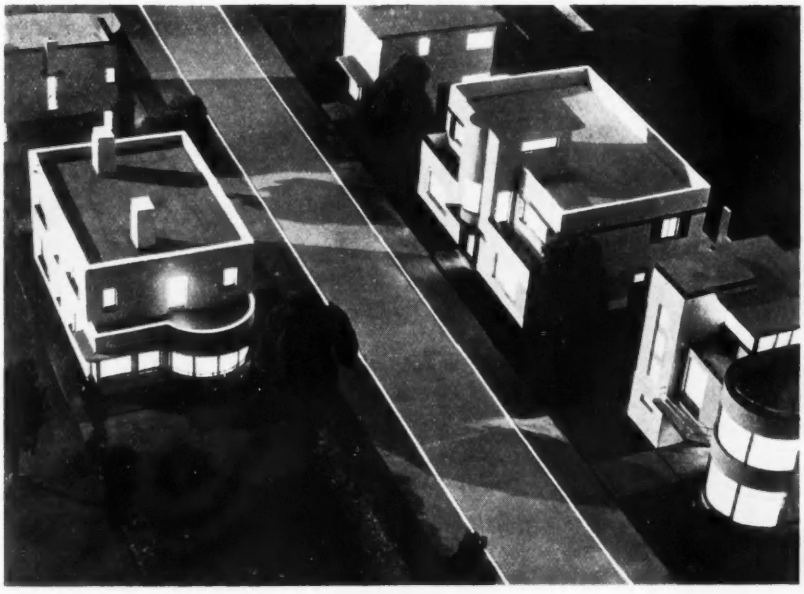
THE VILLAGE OF TO-MORROW

AT THE IDEAL HOME EXHIBITION



THIS year the Tudorbethan village of past "Daily Mail" Ideal Home Exhibitions has been discarded in favour of something more like 1934. The scheme is to be carried out by various architects, all the designs being supervized by Mr. R. A. Duncan, who is acting as "estate architect."

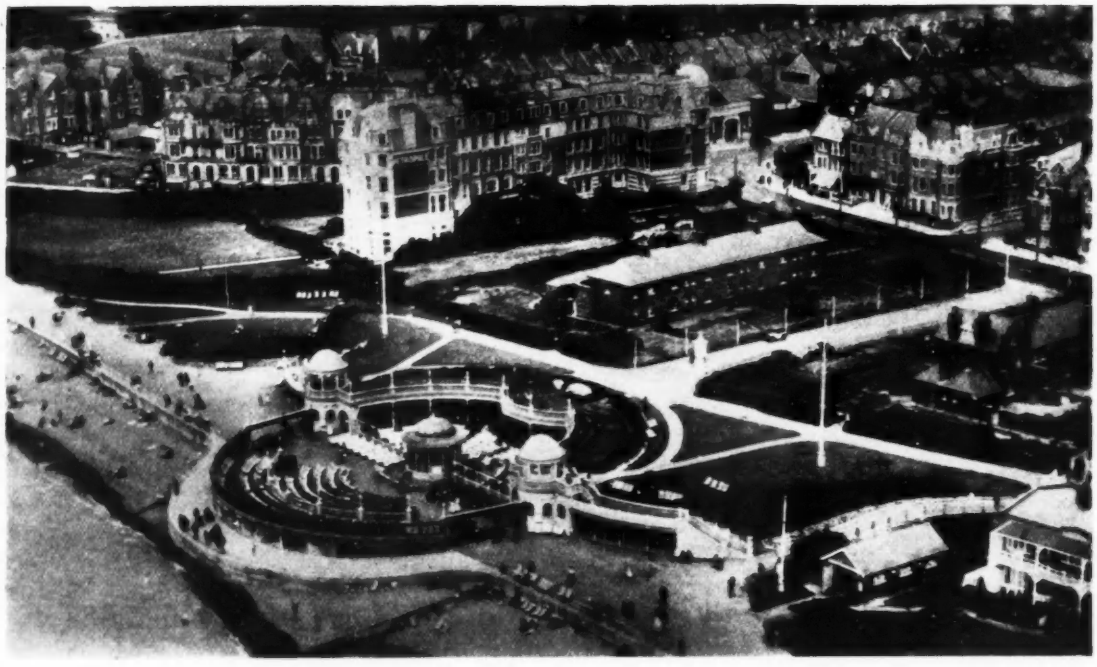
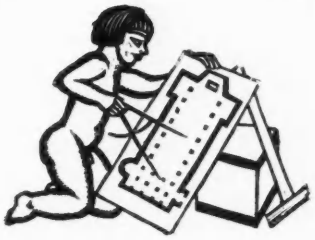


Photo: Aerofilms

BEXHILL-ON-SEA

An aerial view of the site for the proposed new entertainment hall, Bexhill; and a photograph taken looking along the promenade towards the colonnade.

A review of the schemes submitted in the competition, together with illustrations of the premiated and some other designs and the winners' report, appears on pages 213-223 of this issue.



BEXHILL

IT appears to us that Mr. Tait's award at Bexhill may have far-reaching effects on the progress of contemporary design in this country.

A number of the younger members of the profession have long wanted an opportunity to "design for today," but in previous competitions, out of deference to the assessors, they have generally found it advisable to deck their designs out in some conventional garb—classic, Gothic, or Swedish. The word "garb" is a dangerous one, we are well aware, as it almost inevitably plunges its user into a discussion on the meaning of humanism. At the present time, with Sir Giles Gilbert Scott's recent address still ringing in the ears, it might even involve the incautious in an ungentlemanly argument about the meaning of gentlemen—indeed, as will be seen from our correspondence columns, the issue has already been joined.

Be that as it may, the time has long been ripe for a competition run on the lines of the present one, and the fact that the bolder spirits amongst the architects have been able to spread their wings is due, first to the courage and enterprise of the guardians of Bexhill, and, secondly, to Mr. T. S. Tait. It would appear that Mr. Tait is in process of becoming a great assessor, and it is not beyond the realms of possibility that he may, through future assessorships—if he can be prevailed upon to accept them—exercise a decisive influence on the course of English architecture.

We shall not lay ourselves open to serious correction if we remark that, today, for every person who wants a good building a hundred want a bad one. Let us add that for every thousand architects who practice, only one has the opportunity to use his materials in what we must term, for want of a better word, a "modern" manner. For the fact that the last statement is true, the profession cannot be held responsible. Modern building as the public likes it would appear to consist of a collection of mannerisms whimsically controlled, more often than not uneconomic, and sometimes unsound when built. The serious student of contemporary conditions is continually faced with the difficult task of finding a client undismayed by the apparent character of modern building before he can gain his experience, however conservatively, in the practical application of his art.

With the publication of the new Code of Practice for the use of Reinforced Concrete, one of the last serious theoretical difficulties which lie in the path of modern building—or, rather, one method of modern building—would appear to have been removed. Rational design in this medium, as we had occasion to point out in our last issue, is now possible and our architects can at last approach with confidence a material which has proved itself to be of use on the Continent, not only in large buildings but also in small.

The Bexhill Corporation are to be congratulated on having initiated the first modern competition of any size to be held in this country. They are also to be congratulated on having attracted to the ranks of the competitors Mr. Erich Mendelsohn who, in partnership with Mr. Serge Chermayeff, has carried off the first premium. Of Mr. Mendelsohn's international standing there is no need to speak. He has been accorded a spontaneous welcome in this country and it is sufficient to say that he is generally accepted as being one of the great living architects.

The value of a first-class building erected in England, embodying results of experience gained in open contest on the Continent, can, in our opinion, scarcely be overestimated. The building is intended to be constructed in reinforced concrete, in the handling of which Mr. Mendelsohn has proved himself to be a master. The project has already had a good deal of publicity, and is certain to have a good deal more. The stage has been miraculously set, and in all probability Bexhill will have, not an immature tentative design, but one which will establish a criterion for the "seaside" architecture of the future.

The presentation alone of the winning scheme has much to teach us. A large number of the designs submitted still pay tribute to an outworn tradition, calling to mind superannuated expressions such as Plan Weights, Poché, Mosaic, Dominant, etc.—all terms sound enough in themselves, to which time and change have given a false meaning. As one would expect, Mr. Mendelsohn and Mr. Chermayeff have allowed no academic considerations to come between them and their intensely practical solution.

As a reward for their initiative the members of the Corporation of Bexhill now find themselves in possession of a number of competent solutions of their problem; but they also find themselves saddled with a responsibility. We hope that they will allow none of the obvious devices of obstructionists or disgruntled persons to interfere with the realization of the first-premiated design, which is, in the opinion of those who have seen it, a work of outstanding merit.

C

The Architects' Journal
9 Queen Anne's Gate
Westminster, S.W.1
Telephones: Victoria
9212-7
Telegrams:
Buildable
Parl
London

NOTES & TOPICS

DORKING AND THE DUKE

THE Duke of Newcastle is the latest victim of unplanning. The Dorking Urban Council accepted from His Grace a few years ago a beautiful piece of woodland, known as Glory Woods.

*

They have now permitted a by-pass road to be sliced through it. According to *The Evening Standard* last Saturday the Duke is rightly indignant because he felt that the Council must have known this was going to happen when they accepted his gift of Glory Woods.

*

But do Councils ever know anything about plans, even when there are any? A member of the Dorking Urban Council is reported to have said that as the Dorking by-pass road was a county scheme his Council was not directly responsible.

*

It is surely the business of everybody connected with civic and rural administration to know everything that may affect the lay-out and character of their district. The brand of discourtesy which the Duke of Newcastle has met with would then be impossible.

TRIBUTES FROM INDUSTRY

Here is another true story, to illustrate the far-sightedness of some of our industrialists.

*

I was dining with friends recently, and met one of the directors of a big firm in the building industry. It so happens that I know a young man who joined the firm a year or two ago, and has been doing some good work in bringing the organization into line with modern architectural requirements.

*

His efforts have been far from unsuccessful, and I had regarded the outlook of the firm as definitely broadened and improved.

*

I remarked to my director-fellow-guest on his good fortune in having got hold of this young man, and complimented him on the resulting progress of the firm.

*

"Oh!" he replied, "——'s all right up to a point, but he's rather a nuisance; too many new ideas."

THE MANUFACTURE OF ANTIQUES

I hear that a manufacturer of antique furniture reproductions is flirting with modern design. It isn't a case of conversion; merely economic expediency. The market for the elaborate copy is declining.

*

It may revive with prosperity in the city, for the stockbroker and professional operator are sturdy supporters of make-believe furnishing. As the financial structure of the modern world is so remote from economic and industrial realities it is understandable that financial experts should still cling to archaic surroundings for their private and office lives.

*

They have been good friends to the great fakers, even as the arty cottagers have supported the minor fakers. I wish somebody would issue a cheap edition of Herbert Cescinsky's awful warning: *The Gentle Art of Faking Furniture.*

*

I don't think Mr. Cescinsky dealt with warming pans in that work, but judging by the numbers offered for sale in the tourist traps of our cathedral cities and arty suburbs

Erich Mendelsohn, joint author with Serge Chermayeff, of the winning design in the Bexhill Competition.

Serge Chermayeff.

every man, woman and child in the eighteenth century must have gone to bed every night accompanied by at least three warming pans.

THE HARM GOOD WOMEN DO

The Daily Herald has just launched a new "feature" called "Choosing a Home." It is contributed by Janet Jay, and I have the first instalment before me. It is on "Outside Appearances."

*

I never pay very much attention to the vapid absurdities which are published by the dailies to gratify "home-conscious" people. But this one is different. It is highly dangerous, because it has about it the echo of a breath of reasonable intelligence, which is lacking in most matter of its type.

*

Janet Jay appears to like Gidea Park; also thatch. She says: "Look at the old houses, extract their good points, and incorporate them in the new and thoroughly up-to-date home you mean to build for yourself."

*

The possible result of this doctrine is shown by Miss Jay's illustration. I'll warrant the residence shown is called "Pot-Pourri."

*

The article says so many things which narrowly avoid being right, that the untrained mind may accept it *all*. With what result?

COMMITTEES AS PATRONS

A very able designer of interior decoration took me over one of his latest jobs this week. Everywhere in this institution sanity and symmetry reigned with comfortable good sense; except in the fireplaces.

*

The first fireplace I saw set my teeth on edge. I suppose I must have shown it; and the designer said to me sadly: "Not me—the committee."

*

The committee of this institution had insisted upon imitation coal fires being used instead of undisguised electric radiors. They said radiators naked and unashamed were *un-English*.

*

So it's English, is it, to heap coals of fire on the wrong thing?

*

It reminds me of a tale told about a well-known architect who was asked to build a new tower on a church. When he submitted his design, the church committee said, as one man: "Why aren't there any battlements?" To which the architect returned: "Battlements? Is there a war on?"

BRIGHTER BRITAIN

According to *The World's Press News* a sky-sign consisting of a pillar of coloured lights is to be built at St. Leonards. It will be nearly 100 feet high, and will be visible from the French coast in fine weather. Incidentally, it will be a beacon for aircraft using the airport at St. Leonards.

*

Is it going to be a steel lattice tower with signs hung casually upon it, a muddled eyesore by day, dazzling and restless by night? I always assume the worst when I hear of such enterprises. My pessimism is usually justified. I only hope that some sense of civic responsibility exists at St. Leonards which will become active, and will be allied with some knowledge of design.

EXPERT WITNESSES

I forget which learned judge it was who divided into three categories the people who gave evidence before him—"Liars, Damned Liars, and Expert Witnesses."

*

The remark is brought to my mind by the report of proceedings for damages, in a West Country court, recently. The plaintiff, aged 73, had had a tumble down a step and had broken her thigh. She claimed £100 from the proprietor of the shop where the accident occurred.

*

The question at issue was: "Was the step dangerous?" The evidence of the two architects who were called as expert witnesses, one on each side, was a model of conscientiousness which might serve as a lesson to all who think of "going into" expert witnessing—if, that is, they wish to avoid the slur cast upon expert witnesses by the words of the learned judge.

*

A situation well known to all architects was brought to light when it was explained that a builder, whose advice had been sought about some reconstructions, had said that "once they started to pull it about they did not know where it would finish."

*

How many of my readers have said that? And how many of their clients believed them—until afterwards?

ASTRAGAL.

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CHURCH HOUSE

About thirty-five members of the House of Commons have handed in a motion for the rejection of the Church House (Westminster) Bill, which was given a formal first reading last week.

The members who are opposing the Bill object to the threatened demolition of property and to the proposal to erect another large building in the neighbourhood of Westminster Abbey and the Houses of Parliament.

A reproduction of a drawing, made from Sir Herbert Baker's plans for the new building, was published in the JOURNAL for January 25 last.

PRESERVATION OF THE SOUTH DOWNS

A meeting of the East Sussex County Council, to consider the desirability of promoting a Bill for the Preservation of the South Downs, is to be held at Lewes on February 13. The resolutions which the Council will be asked to adopt include the following: "That in the judgment of the Council and in the interests of the county it is expedient for the Council to promote, either jointly or separately with the West Sussex County Council, in the present Session of Parliament, a Bill (1) to provide for the preservation of the South Downs; (2) to empower the council to borrow and raise money for the purposes of the intended Act."

ARBITRATION LAW AMENDMENT

At the annual dinner of the Institute of Arbitrators, held at the Hotel Victoria London, last week, the President (the Right Honourable Lord Askwith) said that he hoped to introduce in the House of Lords a Bill for the Amendment of the Law of Arbitration. He believed the Bill would be favourably considered, since nothing had been done since the Mackinnon Committee, appointed by Lord Chancellor Cave, issued its report in 1927, and arbitration continued to be based upon the Arbitration Act of 1889, which could only be regarded as a skeleton statute.

THE ARCHITECTS' DIARY

Thursday, February 8

INSTITUTION OF STRUCTURAL ENGINEERS. *At the Institution of Mechanical Engineers, Storey's Gate, S.W.1. Joint meeting with the British Section of the Société des Ingenieurs Civils de France. "Future prospects of reinforced concrete and steel for bridges of very large spans." By Henry Lossier.* 6 *p.m.*

Friday, February 9

TOWN PLANNING INSTITUTE. *At Caxton Hall, Westminster, S.W.1. "Electricity in Town and Country Planning." By O. A. Sherrard.* 6 *p.m.*

NORFOLK AND NORWICH ASSOCIATION OF ARCHITECTS. *At the Maid's Head Hotel, Norwich. Annual Dinner.* 7.15 *p.m.*

Saturday, February 10

ARCHITECTURAL ASSOCIATION. *At 34-36 Bedford Square, W.C. "Exhibition Illustrating Town and Country Planning Schemes." Last day.*

Tuesday, February 13

ILLUMINATING ENGINEERING SOCIETY. *At the Trocadero Restaurant, Piccadilly, W.1. Annual Dinner.* 7 *for* 7.30 *p.m.*

HAMPSHIRE AND ISLE OF WIGHT ARCHITECTURAL ASSOCIATION. *At the South-Western Hotel, Southampton. Annual Dinner and Dance.*

Wednesday, February 14

INSTITUTION OF HEATING AND VENTILATING ENGINEERS. *At 12 Russell Square, W.C.1. Council Meeting. At the London School of Hygiene and Tropical Medicine, Keppel Street, W.C.1. President's Address by R. C. Ching. "Infra-Red Rays and Comfort." By Sir Leonard Hill, F.R.S.* 2.0 *p.m. At the Hotel Russell, Russell Square, W.C.1. Annual Dinner.* 6.30 *for* 7.0 *p.m. (Birmingham and District Branch.) At the Chamber of Commerce, 95 New Street, Birmingham. "Domestic Hot Water Supply for Large Buildings." By F. R. L. White.* 6.30 *p.m.*

UNIVERSITY OF LONDON. *At University College, Gower Street, W.C.1. "Modern Danish Architecture 2." By J. H. Helweg.* 5.30 *p.m.*

MANCHESTER SOCIETY OF ARCHITECTS. *At the University, Manchester. "The Creative Spirit of the Crisis." By Erich Mendelsohn.* 8 *p.m. Exhibition of the work of J. Henry Sellers at the Society's Rooms.*

INSTITUTION OF SANITARY ENGINEERS. *At Caxton Hall, S.W.1. "The Inevitable Trend of Sewage Treatment." By N. Campbell Little, Assoc. M. Inst. C.E., A.M. Inst. W.E.* 6 *p.m.*

BRITISH STEELWORK ASSOCIATION. *At the Institution of Structural Engineers, 10 Upper Belgrave Street, S.W.1. "The Technical and Economic Aspects of Welded Steel Structures." By Dr. Ing. Hans Schmuckler.* 6.45 *p.m.*

ROYAL OPENING OF MERSEY TUNNEL

The King and Queen are to visit Lancashire early in July to perform the formal opening of three great public enterprises: The Mersey Tunnel; East Lancashire's new arterial road between Liverpool and Manchester; and Manchester's new Central Library. The estimated cost of the three schemes is £11,425,000, divided up as follows: Mersey Tunnel, £8,000,000; the new road, £3,000,000; the new library, £425,000.

INTERNATIONAL EXHIBITION

Col. Colville, secretary, department of Overseas Trade, in the House of Commons on Monday stated that the terms of the International Convention relating to international exhibitions, which was signed at Paris in 1928 and came into force in 1930, rendered it impossible for the Government to give official support to a suggested long term international exhibition in this country in 1936. Rumours with regard to the Crystal Palace were consequently unfounded.

NATIONAL REPLANNING

A demand for a scheme of immediate national replanning and reconstruction to relieve unemployment is made in a memorial which Mr. A. M. Wall, secretary of the London Trades Council, and Mr. A. A. Purcell, secretary of the Manchester Trades Council, hope to present at the bar of the House of Commons, on behalf of 500,000 affiliated members.

The memorial suggests that "replanning and reconstruction can be begun at once in several directions. The adoption of large scale programmes for the building of new houses and public works, the prevention of drought and flooding, the reinforcement of sea defences, the relief of traffic congestion, and the cleansing of rivers in industrial areas would, we estimate, absorb a million workers."

MENTAL HOSPITAL AT SHENLEY

The first section of the Middlesex County Council Mental Hospital, which has been erected at Shenley, Hertfordshire, at a cost of £520,336, was opened on Monday last.

Mr. W. T. Curtis, F.R.I.B.A., is the architect.

THE BEXHILL COMPETITION

Mr. G. H. Shepherd, A.R.I.B.A., a member of the firm placed second in the Bexhill Competition, and Mr. P. Lingwood, A.R.I.B.A. (commended), are graduates of the Leeds School of Architecture.

CORN EXCHANGE, BRIGHTON

The Brighton Council have accepted a £28,000 tender for the reconstruction of the Corn Exchange.

The plans for the new Corn Exchange have a distinctly Oriental flavour (states a contemporary), and some people who have seen them say that the new building will give the impression that you are walking, not in Brighton, but somewhere in Persia.

COUNCIL FOR ART AND INDUSTRY

The first meeting of the Council for Art and Industry was held at the Board of Trade last week under the Chairmanship of Mr. Frank Pick.

The President of the Board of Trade (Rt. Hon. Walter Runciman) welcomed the members of the Council, who represented most of the main interests concerned, and expressed his thanks to them for consenting to serve.

He explained that it was impossible to include representatives of every industry and of every interest, but the net had been widely cast and,

OUR CLIENTS

Some of the members and guests present at the annual dinner of the National Federation of Property Owners and Ratepayers, held recently in London. The above sketches are by Fred May.

while it would not be possible to extend the list of members on the Council, he hoped that the members, when they formed themselves into committees would co-opt additional experts who would be of assistance in undertaking the task before them. The President said that the British Industries Fair, which received the whole-hearted support of at least three Government Departments, depended for its success on the application of art to industry in one form or another.

The Chairman, Mr. Frank Pick, thanked the President for being present at the opening of the proceedings and explained that, while being well aware of the honour which he had done them by inviting them to be members, they were equally aware of the immensity of the task which they had before them. In his opinion the only way of approaching the problem was to deal with it trade by trade. The British Industries Fair, as the President had mentioned, should be studied extremely closely from the point of view of the achievements attained and the needs which there may be for other attainments. In his opinion only through strict co-ordination of the trade with education will come success in establishing this better relationship.

The Chairman, in addressing the members of the Council, reminded them that they were the successors of many ventures, both official and private, which attempted to work out a true and proper relationship between art and industry. He suggested that if the aims were modest and perseverence was sustained they would probably be surprised at the fruits of their labours after a time. A closer union must be brought about between the designer and the manufacturer. Equally must an attempt be made to educate the consumer, starting in the primary and especially in the secondary schools. The status and opportunity of the designer were worthy of attention. Sometimes, the Chairman observed, the counting house control was too strong for the designer, and in addition machinery was sometimes a little uncivilized and out of control. The manager of the average works and the designer therein must each be helped to find a common ground in which to solve their problems. Art and technical schools must be brought more closely together and both must be connected more closely with industry. It was agreed that trade organizations could be of the utmost value to the Council in carrying out their work. Committees should now be set up, not all at once, but one by one, to tackle the problem of improvement, commencing with the industries which seemed ripe for exploration. Each should be composed half of members of the Council and half co-opted from outside. After a general discussion it was unanimously agreed to set up a silver and allied industries committee to look thoroughly into the question of design in this industry as it existed today, and in co-operation with the Directors and authorities of the Victoria and Albert Museum, to hold a sectional exhibition of the work of this industry so presented in parallel as to illustrate the past and the present craft work and commercially produced articles in everyday use.

Amongst other committees which it was suggested should be set up in the near future was one for pottery, with a view to inquiring into and reporting upon the place and status of the designer in the pottery industry.

The Council did not aim at establishing any style or standard of taste in any sense, but merely at assisting in the training of the minds of the public by directing them into proper channels with a view to making their own decisions in such questions.

The Council as a whole would meet to consider educational problems.

It was agreed to meet monthly and to set up additional committees at the next monthly meeting so that several topics could be followed up at one time and the technique of the new Council established on a wide and clear basis.

R. I. B. A.

ARCHITECTURAL BACKGROUNDS

Following are some extracts from a paper on "Architectural Backgrounds in Renaissance Pictures," read by Mr. Kenneth Clarke, M.A., HON. A.R.I.B.A., at a meeting of the Institute, held on Monday last :—

Backgrounds can be considered under two heads : those in which the painter's intention was realistic, and those in which it was æsthetic. The former class arose from the fact that a few of the familiar sacred subjects gave an excuse for a scene *de genre* taking place in an interior. Such, for example, were the birth of the Virgin, the Annunciation, and St. Jerome in his study. Owing to the practice, universal before the time of Raphael, of representing sacred history in contemporary costumes and settings, these interiors show us, as nothing else can, exactly what the interior of a Renaissance house was like. They are, of course, chiefly valuable to students of furniture and decoration, but they also reveal a few facts which may be of interest to architects. For example, they give us evidence of the severely architectural use then made of what we call fitted furniture. As far as I know no actual examples of such furniture survives, except in church sacristies ; but there is no doubt that it was universal. It is curious that we had to wait till the twentieth century to return to a form of furniture which is not only convenient but must always have been the delight of architects.

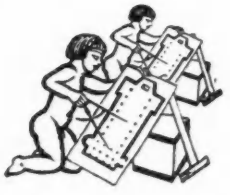
Another point which we learn from studying these realistic architectural backgrounds is the prevalence of painted decorations on the outside of houses. In the Renaissance the appearance of a town like Florence must have been very much less grim than it is today, must in fact have been not unlike the background of this fresco by Benozzo Gozzoli, which shows every house covered with sham marbling and garlands.

Early in the sixteenth century the painted decorations on the exteriors of houses became far more elaborate until the outsides of important houses were covered with scenes in fresco as highly wrought as those in the interior. It is a curious comment on our ignorance of many sides of Renaissance art that hardly a single specimen of this universally popular and important art has come down to us. And of Polydoro Caravaggio, once one of the most esteemed and prolific of painters, hardly any work has survived.

Let me come to the second and more important division of my subject : that in which the painter introduced an architectural background not because the nature of his subject demanded it but as a mode of artistic expression.

You will remember that in the Renaissance these architectural backgrounds had a direct relation with actual building, because almost all the painters and sculptors in whose work they appear were themselves architects. Giotto, Raphael, Michelangelo were practising architects. Ghiberti was co-architect of the Duomo ; Donatello in his cantorie produced what we should call works of architecture, and when we come to such men as Michelozzo and Francesco di Giorgio, we do not know whether to call them architects or sculptors. Conversely Brunellesco was a sculptor and Bramante a painter. Moreover, even such a pure painter as Botticelli was called in to give judgments on architectural problems. Architectural backgrounds, therefore, are not the work of mere dilettanti, and are not used for their picturesque effectiveness alone, but often represent real strivings for an architectural expression, denied in actual construction. They are dream buildings, embodying the deep romanticism of the time.

COMPETITION



NEWS

B.E.D.A. COMPETITION

The result of the competition for the design of an all-electric kitchen, promoted by the British Electrical Development Association, is expected to be announced within the next few days.

Competitions Open

March 17.—Sending-in Day. Limited Competition for municipal buildings, etc., for the Stoke Newington Borough Council. (Twenty-eight firms of architects have been selected to submit designs.) Assessor : Sir Edwin Lutyens, R.A., P.I.A.A.S. Premiums : £250, £100 and £50. Full particulars were published in the *A.J.* for January 25 last.

March 26.—Sending-in Day. Façade in grey Cornish granite, for the Cornish Quarry Masters' Association. Open to all architects, architects' assistants, and architectural students. Assessors : C. Lovett Gill, F.R.I.B.A., Professor A. B. Knapp-Fisher, F.R.I.B.A., and Howard Robertson, F.R.I.B.A. Also, two members of the Cornish Quarry Masters' Association. Premium : £50. The design, etc., is to be sent to the Secretary, Architectural Association, 34-36 Bedford Square, W.C.1, by Monday, March 26. Full particulars of the competition may be obtained from the Secretary of the A.A.

THIS ARSHETECTURE

RURAL BUILDING BOOM

Plans for 18 houses and bungalows to be erected in the Eastbourne rural area have been approved (some provisionally).

From THE EASTBOURNE GAZETTE.

LETTERS FROM READERS

OLD STAGER
E. M.
W. NASEBY ADAMS, A.R.I.B.A.
H. STRATTON DAVIS, M.C., F.R.I.B.A.
E. MAXWELL FRY, B.ARCH., A.R.I.B.A.
SIR ENOCH HILL
(President, Halifax Building Society)
MAJOR H. L. NATHAN, M.P.

Outrage at Brighton

SIR,—A mysterious attack on the premises of a Brighton hairdresser, recently reported in *The Times*, would appear to have direct architectural significance. Though a considerable sum of money and other articles of value could have been easily removed, nothing whatever was stolen; but everything within the intruder's reach was smashed to pieces. There is only one clue pointing to a possible motive for this outrage. The name on the shop's fascia was "The Moderne." It seems more than likely, therefore, that the appointments of the establishment tallied with what most architects understand by this term.

We are all familiar with the subtleties that lurk in this French (or is it American?) adjective, and are so conspicuously lacking in its *e*-less English equivalent. Far be it for me to suspect anyone. Still, one cannot help feeling that Sherlock Holmes would not rule out the possibility that the culprit might be some rash student, who, maddened by the sight of this cynical (and probably quite unworthy) piracy of a tradition that has taken its leaders years to establish, took justice into his own hands.

Perplexing as is this case (for that there can be little doubt it is destined to become) it raises—anyhow for our profession—an even weightier question than that now engaging the attention of the police. I refer to the growing confusion in terms produced by the similarity of the names bestowed on the great and growing variety of contemporary architectural styles. This is all the more regrettable because, although to architects there can, of course, be no possibility of confounding one with another in either name or fact, the position is very different where ignorant laymen are concerned—with results that are increasingly injurious to our professional prestige. The following list (in which pride of place must naturally be given to "Moderne") is by no means exhaustive, and could probably be amplified by many of your readers: Moderne, Modernist, Modernistic, Modernesque, Modern-Style, Ultra-Modern, Jazz-Modern, Futuristic, Functional, Functionalistic, Rational, Structural, Constructivist, Mechanistic, Meccano, Cubistic, Nudist, Puristic, Continental, Geometric, Contemporary, Twentieth Century, New Age.

Minor qualifying adjectives to modern such as "logical," "illogical," "sane," "reasonable," etc., are purposely ignored. I have come across "Neo-Modern"; and there is also that New British Compromise Style, to which reference is often made in shipping circles.

Now, Sir, I submit you would be doing a public service by publishing drawings or photographs of outstanding or, anyhow, typical examples of all of these styles, placed as far as possible side by side, so that there may be no excuse in future for anyone mistaking which is which. It would be very helpful, too—if merely as a basis of comparison—could you see your way to add yet one further category: the "just modern" (and incidentally good).

OLD STAGER

Cunarder No. 534

SIR,—I have enjoyed a glorious hour with THE ARCHITECTS' JOURNAL, following word by word and picture by picture the fluent pæans of distaste so well and forcibly expressed by your contributors—a most magnificent scrap book of Britannic smugness.

Some three weeks ago you published a letter by me dealing with the interior decoration of the new Cunarder. Since then I have been eagerly looking to Astragal commenting on this subject. Now the JOURNAL has printed a panorama of the superb fossils of decoration that are carried across the seven seas, I hope and think you may *get it across* to those that matter. The passengers—the millionaires, the rajahs, the financiers, the soldiers, the sahibs, the judges, the planters, the film stars and, lastly, people like ourselves, who really like the sea, but don't see the fun of risking our inside organs in a heaving gilded cage and look eagerly down the shipping columns for something that is not advertised as palatial.

I am hopeful that when cargoes begin to pay, and not effete passengers, there will definitely be no more of this nonsense. Ships will once again become steadier and more sensible; at present they suffer from swollen heads and bulge above the water-line with superstructure and the passengers' whatnots!

Yes, I want to gulp when I see 534. The *Bremen* gave me one when she crossed our bows in mid-Channel—so serene, sleek and efficient. H.M. the King's *Britannia* can always be relied on to give me another. The jewels of the sea. Can and will 534 be of their class? I really hope now that I am going to live to see it so ordained.

E. M.

Noise

SIR,—Under the above heading in your issue for January 18 you state that "Berlin is now the quietest capital in Europe." This is interesting, because in Berlin private motor traffic is conspicuous by its absence, which goes to show that either the Nazi regime has quelled prosperity or private traffic is the main cause of noise elsewhere.

More information with regard to these two latter points would be interesting.

W. NASEBY ADAMS

Gentleman

SIR,—I was glad to read Mr. Gloag's letter in your last issue.

Is it not told of a great writer that he always removed his hat when passing Chelsea Hospital, and on being asked the reason, replied that he did not know who the architect was, but he knew that he must have been a gentleman?

This is not snobbery, and he who cannot see the point of this little story is not really a gentleman.

H. STRATTON DAVIS

SIR,—It is distressing to have to acknowledge the present impoverished circumstances of the eighteenth-century word "gentleman"; but with every respect I do suggest that the gentlemanly approach to architecture has become impossible to us. Not that we can dispense with the qualities of good manners or reticence implied by the word at its highest valuation, but rather, that the society from which the word derived its fullest meaning having passed away, the original meaning has become tinged with an archaic flavour—where indeed it is not entirely vulgarized by careless handling—so that its use today is generally prefaced by some apology intended to explain exactly in what sense the word is to be used, there being no strength of character in the word itself.

Carlyle was largely to blame. That

remark of his about Wren being a gentleman is repeated so often that one is apt to forget that Wren was an artist first, or no architect at all. While I agree with Sir Gilbert Scott that vulgarity is one of the outstanding characteristics of the age, I am inclined to include the whole of this century to date in the term, and to see us as gradually emerging towards a better state in measure as we take a quite ungentlemanly interest in the interests and needs of common humanity, our weapons against vulgarity being properly named "reason," "enquiry," "artistic integrity," "service"—all *active* words carrying their full meaning in common speech.

Mr. Gloag asks whether the word "gentleman" still stands for good manners and unassertive behaviour. I think the answer is yes, but only passively. And that is not enough.

E. MAXWELL FRY

Houses at Low Rents

SIR,—I have read with interest the letter of Mr. John G. Martin, the secretary of the National Housing and Town Planning Council, published in your last issue.

I quite understand the expressed desire of Mr. Martin that Sir Hilton Young should permit local authorities to proceed freely with house-building schemes wherever there is a real shortage of working-class dwellings. He, however, does not state whether he considers these houses should be provided and let at economic rents or whether they should be subject to the payment of subsidies at the expense of the ratepayer and taxpayer.

From a wide experience, I am confident that the building industry could, and would, very quickly supply the deficiency of houses, without any intervention by public authorities, if they could secure an economic return for their capital and labour.

Owing apparently to inaccurate information, Mr. Martin has failed to give due credit to the house construction which is now being carried out privately by myself and a few friends at Hipperholme to demonstrate the practicability of the provisions of the Housing (Financial Provisions) Act, 1933. He has based his criticisms of that effort upon a statement that the rentals would be 10s. a week exclusive of rates, whereas the fact is that more than one half of the houses will be let at 10s. per week inclusive of rates, and the remainder, superior houses, will be let at 11s. per week inclusive of rates.

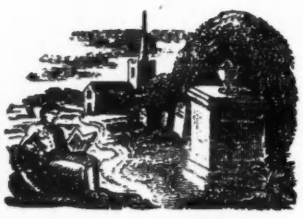
Architecturally designed and supervized houses, soundly built, with a density of 12 per acre, and containing modern comforts and facilities, suitable for an average working-class family, are surely not excessively rented at 10s. per week inclusive. That such houses will contribute substantially to a remedy of the shortage of houses is seen by the fact that there is an excess number of applicants for possession of the houses as soon as they are ready, and there will be no burden upon either the taxpayer or the ratepayer, but, on the contrary, there will be an increase in the rateable value of the area in which they are built.

ENOCH HILL

SIR,—I warmly support the plea made by the Secretary of the National Housing and Town Planning Council in his recent letter to your JOURNAL that the Minister of Health should now permit local authorities to proceed freely with house-building schemes wherever there is a real shortage of working-class dwellings. In view of the reduction both in building costs and in the rate of interest on capital, it is now possible for local authorities to provide, without State assistance, three-bedroomed non-parlour houses of good standard at net rents of 7s. to 7s. 6d. a week. In urban areas private enterprise cannot at present erect satisfactory dwellings to let at this figure, even with the assistance of guarantees under the Housing Act, 1933.

More than 12 months have elapsed since the introduction of the new Housing Bill, and the housing needs of the poorer classes living in overcrowded conditions outside slum areas are becoming more and more urgent. The Minister of Health recently declared in the House of Commons that the Government would take whatever means are necessary for the purpose of providing houses. Surely the situation calls for the immediate issue of an official circular by Sir Hilton Young to all local authorities advising them that no obstacle will be placed in their way if they desire to submit proposals for the provision of working-class houses without Exchequer assistance.

H. L. NATHAN



[Owing to pressure on our space, we are compelled to hold over several letters from this issue.]

Decoration of Passenger Vessels

Following are some extracts from a paper on "The Decoration of Passenger Vessels," read by Mr. Ashby Tabb (of Heaton Tabb and Co., Ltd.,) at a meeting of the Institution of Engineers and Shipbuilders in Scotland, held at Glasgow on January 30.

"Tradition still plays too great a part in shipbuilding. There is no reason, other than tradition, for deck houses to be rectangular. Agreeably shaped rooms can be arranged in curved houses, and designers of interiors would welcome the opportunity so offered, and thus be able to answer the constant query of the critics: 'Why do not the rooms in a ship look like a part of the ship?' It is by the planning, suited to the conception of the vessel as a whole, and the decorative design developing from the plan, that a satisfactory solution of this would come; the various rooms would look obviously right and easily understood for what they are, and the deck outside would not clash with the interior.

"When the naval architect leaves his own sphere and adventures into the regions of the land architect he is not too sure of himself; and often when his plan of the passenger accommodation is put into the landsman's hands to decorate, it becomes impossible to believe that any man who can lay down the lines of a great ship could condescend to the dull planning too often exhibited in the passenger accommodation of British vessels. A study of the sane, comfortable and straightforward passenger accommodation of the latest foreign ships shows the advantage of early collaboration with a decorative architect, in lifting an internal plan out of the ordinary. No decoration, however good, can redeem a confused medley of badly proportioned rooms. In British private life the art of entertaining, and the great thought and planning it entails, is well understood, so it is regrettable to hear the reproach that our Continental rivals understand the art of public entertaining better than we do.

"Planning for the sea is indeed an art with a long tradition, but it has too long been divorced from the phases of modern life ashore. The problem is something more than a bald arrangement of squares, like leaded lights on which the draughtsman puts names and numbers, blessed by the passenger agent as the numbers rise to capacity. The passenger should be studied from his home town, on his journey and to his destination, so that everything in a vessel will awake a feeling of surprise and delight rather than a sense of dull disappointment.

"Now a word on the exciting question of modern *versus* traditional art in design. Which is it to be? The real answer lies with the coming post-war generation; their perspective is their own, and with every standard from that of gold to matters of taste and speed in a state of flux, it would be a waste of time to prophesy. But one thing is certain: the standards of the great masters will always hold in the future as they have in the past. The forms may vary with new construction, new materials will be available, but the great underlying principle of cultured taste will always remain."

THE BEXHILL COMPETITION

The result of the competition for a proposed new entertainments hall and future development of the Coastguard site, Bexhill, for the Bexhill Corporation, was announced in our last issue. We publish on this and the following pages a review of the competition, photographs of the premiated and commended designs, lay-out plans of some other designs submitted, and the report presented by the authors of the winning design.

The assessor's award was as follows :—

DESIGN PLACED FIRST (£150) : Erich Mendelsohn and Serge Chermayeff, F.R.I.B.A., of 173, Oxford Street, London, W.1.

DESIGN PLACED SECOND (£100) : J. W. Haswell and G. H. Shepherd, AA.R.I.B.A., of 19, Greville Place, London, N.W.6.

DESIGN PLACED THIRD (£75) : P. G. Freeman and W. Crabtree, AA.R.I.B.A., of 45, Berners Street, W.1.

Recommended for special merit :—

James Burford and Marshall Sisson, AA.R.I.B.A., of 3, Staple Inn, Holborn Bars, W.C.1.

P. Lingwood, A.R.I.B.A., of Cranleigh, Woodhouse Lane, East Ardsley, Wakefield.

Mr. T. S. Tait, F.R.I.B.A., was the assessor. The two hundred and thirty designs submitted in the competition are now on exhibition at York Hall, London Road, Bexhill, until February 13 (11 a.m. to 1 p.m. ; 2.30 to 8 p.m.). The premiated designs, together with certain of the other designs, will be displayed at the Building Centre, 158 New Bond Street, W.1, from February 19 until March 3.

THE ASSESSOR'S REPORT

OF the 230 designs submitted, 25 per cent. show considerable merit, but most of these are complicated and involved in planning. The design placed first indicates a thorough grasp of the nature of the problem, is direct and simple in planning, and shows a masterly handling of the architectural treatment.

PLANNING

The building is well placed on the site, with the main entrance and car parking space available from the Marina Roadway. The restaurant, lounge, reading room, and sun parlour, with their large windows, balconies and terraces, are placed towards the south, commanding a view of the sea.

The large entrance hall is placed centrally and is planned to give direct communication to all sections of the building and to the sea front.

The entertainment hall is designed to provide for a raised terrace floor on three sides of the hall, giving good visibility of the stage from all parts of the hall. The centre of the hall has a level floor and can be used for dancing should it be so desired.

This is the only scheme submitted showing a satisfactory treatment in this respect.

CONSTRUCTION

The construction is straightforward and in accord with sound modern prinples, capable of rapid erection.

COST

The cost of this design, as given by the competitor, is £58,260, and is based on an average rate of 1s. 5d. per cube ft., which rate I consider should be ample to provide for sound building construction, and a good quality finish of materials both externally and internally.

It should be noted that this figure of £58,260 includes a sum of £2,000 for terraces, external paths, steps, etc.

I have no hesitation in saying that this scheme would provide a building to meet all requirements in a satisfactory manner both from the practical and æsthetic points of view.

RECOMMENDATIONS

I would recommend the consideration of the following points :—

1 : The provision of a separate corridor connecting up the north and south staircases on the first floor, so as to give easy access between the lounge, reading room, sun parlour and the roof terrace above.

2 : The treatment of the band stand enclosure might, with advantage, be further considered with a mind to future developments for this portion of the scheme.

THE DESIGNS REVIEWED

[BY OUR COMPETITIONS CORRESPONDENT]

The assessor, Mr. Thomas S. Tait, must have had little difficulty in choosing the winner. Mr. Mendelsohn and Mr. Chermayeff have succeeded in making their solution tell on sight by the directness of their approach to the problems involved and by the unaffected clarity of their drawings, backed up by an admirable report (published in full elsewhere in this issue).

A visit to the site leaves one with two strong impressions : the grimness of the rear elevation of the Metropole Hotel and the beauty of the coast as it curves away westwards towards Beachy Head.

DESIGN PLACED FIRST

The winning design takes cognizance of both points. The Entertainment Hall is disposed lengthways on the site, thus separating, by as much as possible, the restaurant from its unattractive neighbour. The dead area in the lee of the hotel is used for a service road to the stage-door and to the heating-chamber (housed with the chair-store in a small basement which takes advantage of the slope of the ground). Along the east side of the site is arranged a low, glazed pergola, which forms a link with the existing colonnade and should provide in some weathers a sheltered view of the headland. It is, perhaps, a little difficult to understand how one will escape from the prevailing south west wind without going indoors. The position is, in fact, a very exposed one, with which the shape of the plan is not altogether in keeping. Omitting for a moment the pergola, the uncompromising rectangularity of the design might lead one to suppose that the lay-out was dictated by property-boundaries and building-lines—a criticism to which the uninviting narrow terrace which foots the Entertainment Hall gives point.

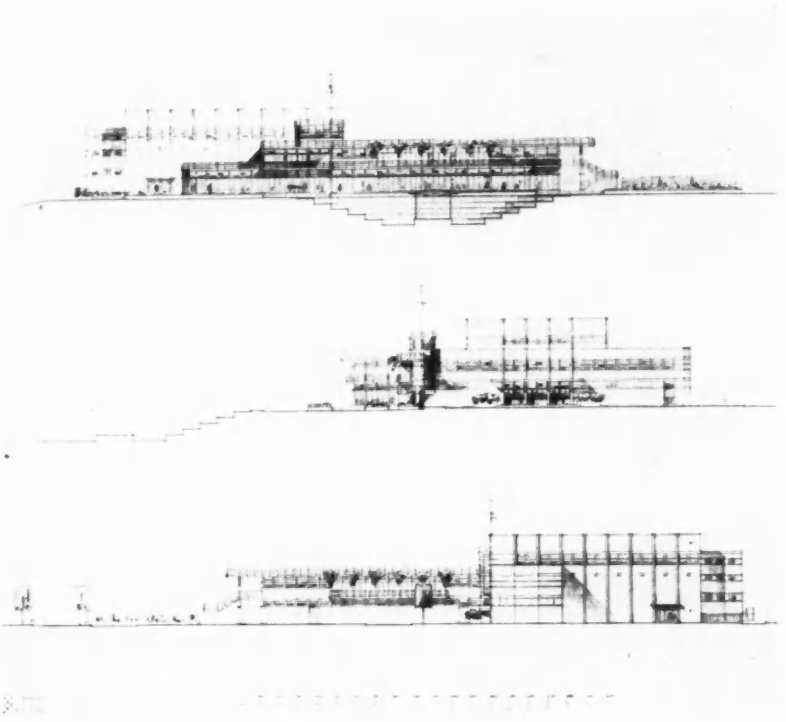
Internally the plan is characterized by logical placing of the three staircases. The vertical circulation thus provided allows a double approach to the first-floor public rooms and enables full use to be made of the

Marina Court Avenue approach on the east of the site.

The fact that the Entertainment Hall will not be used as a cinema has been seized upon and turned to good account. The stall-galleries should go far to make the hall popular as a ballroom, while detracting nothing from its usefulness for other purposes. The removable seating platform, sliding proscenium frame and suspended sounding-board, together with the easily subdivisible restaurant give the scheme a flexibility which no other competitor has succeeded in achieving.

The building is intended to have a reinforced-concrete framework, with a double infilling of bricks or building blocks. It will be insulated internally with wall-boards and rendered externally with a coloured dressing incorporating glass or marble-powder after the manner of Mr. Oliver Hill at Morecambe.

It is still, unfortunately, a rarity in this country to come across a set of competition drawings which suggest a building. The winning scheme pays the assessor the compliment of assuming him capable of reading, unassisted, plan, elevation and section, and is entirely devoid of those wall-thickenings and circulation-arrows by which many other schemes seek to catch the eye. The winners' presentation, economic in the extreme, consists of brown-line prints off originals which appear to have been prepared in ink and pencil on tracing-paper. The building has been picked out in white as necessary against the varying over-all texture common in this type of reproduction, and the result is entirely successful.

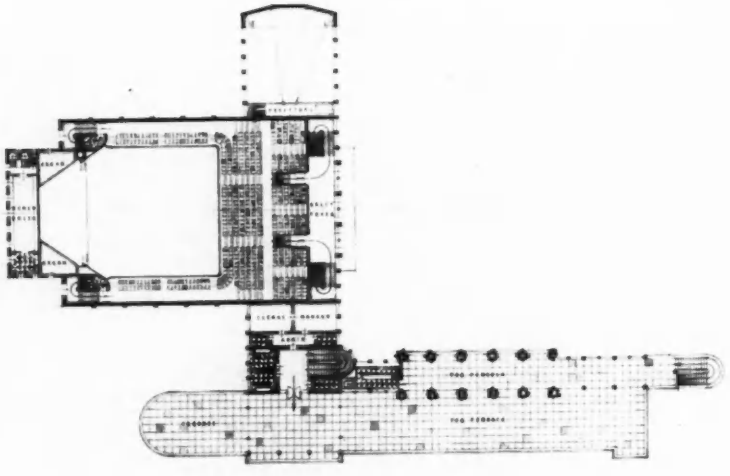


Top: South elevation. Centre: East elevation. Below: North elevation.

DESIGN PLACED SECOND

The design placed second, by Messrs. Haswell and Shepherd, is in element the winners' scheme reversed, with the restaurant to the west and the Entertainment Hall to the east. The authors have omitted to draw in on their block plan the outline of the hotel (which reaches some two-thirds of the way down the boundary); but it would appear that from the apsidal end of their restaurant one would get a commanding view of the Metropole's six storeys.

Unrestricted access has been arranged from the Entertainment Hall to the terrace and lawns, and this forms perhaps the most pleasing feature of the scheme. The authors have, rightly or wrongly, allowed the Entertainment Hall to dominate their plan. The restaurant wing gives the feeling that it has been added, and one fancies that one's passage through the building from north to south might be a little gloomy when the Entertainment Hall is not in use.

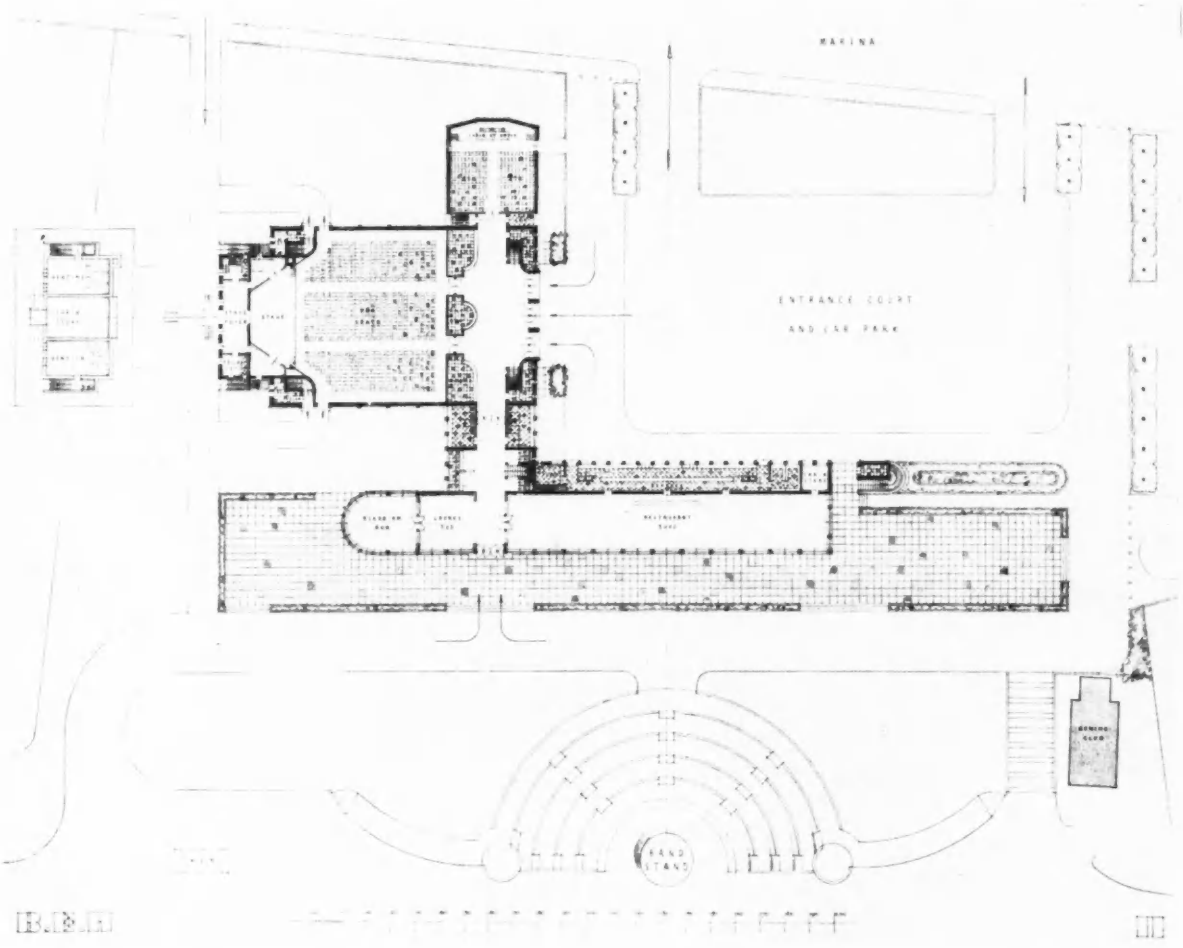


First floor plan and (above) elevations of the design recommended for special merit. By P. Lingwood.

DESIGN PLACED THIRD

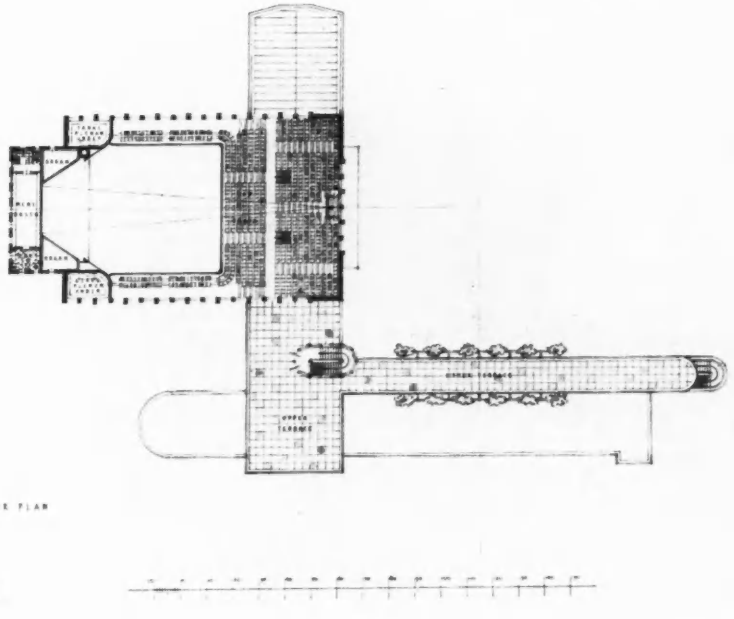
The third design, by Messrs. Freeman and Crabtree, shows very considerable skill. The relationship between Restaurant, Entertainment Hall and Conference Room is so arranged as to allow each to be in use for different purposes at the same time. These three units combine, nevertheless, to form an integral whole. The entrance hall has been kept shallow, and would, one imagines, be very inviting, giving easy access to the tea-lawn and res-

(*Continued on page 208*)

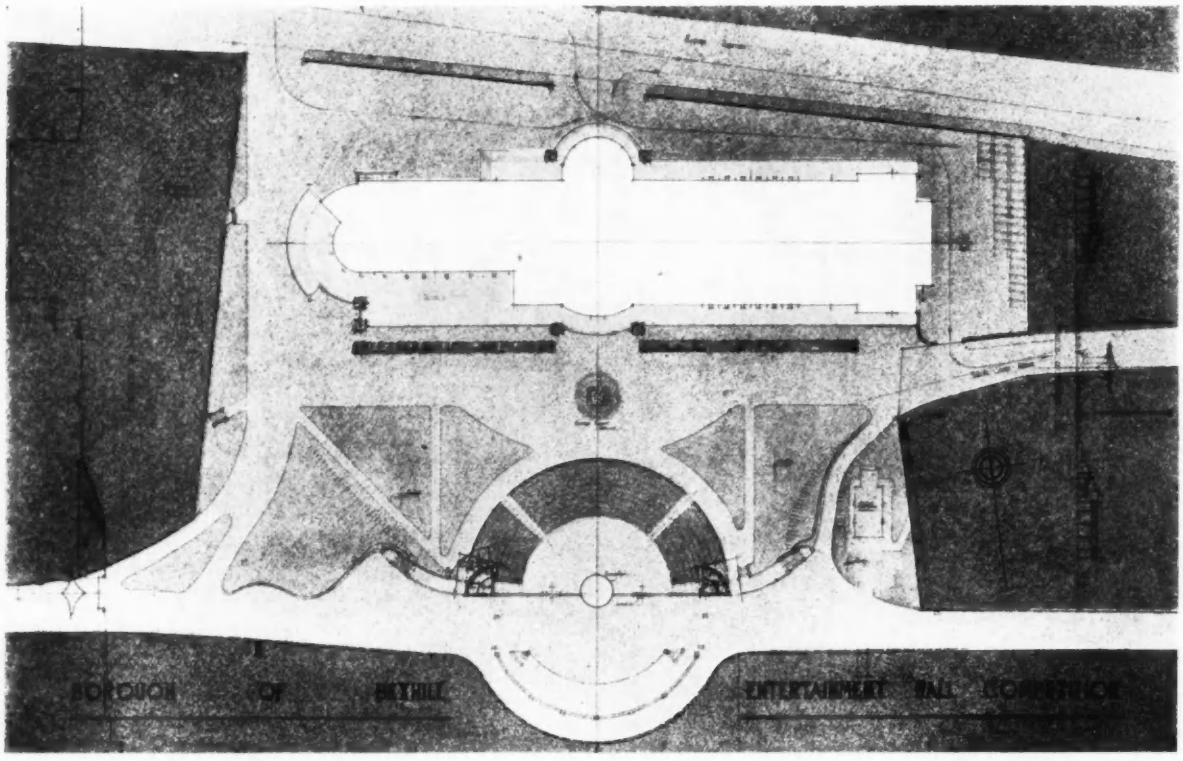


Above: Lay-out plan.

Right: Second floor plan.



DESIGN RECOMMENDED FOR SPECIAL MERIT BY P. LINGWOOD



Lay-out plan of design recommended for special merit. By James Burford and Marshall Sisson.

taurant. The latter occupies the first floor, and a short study of the sections suggests that the scheme is in this respect superior to the other two premiated designs.

THE COMMENDED DESIGNS

The scheme by Messrs. James Burford and Marshall Sisson, AA.R.I.B.A., has an easy and straightforward plan set well back on the site, though it unfortunately suffers from the same disadvantage as the design placed second, in that the restaurant and terrace have too good a view of the Metropole Hotel and the basement below the entertainment hall stage needs unnecessary excavation in view of the sloping site. The scheme is otherwise quite sound, and the elevations spring logically from the plan : this design is also one of the few which retain the existing Cooch Behar memorial.

Access is provided from the Entertainment Hall to the south terrace, a good point, which the Shakespeare Theatre gallery terrace has shown to work well in practice. The car park problem seems to have been a difficulty here, for the building takes up nearly the whole width of the site, and although the model yacht pond has been discarded, the parking space remains small and cramped, and the three rows of closely-packed cars will be far from easy to move.

Mr. Lingwood has followed the winners in placing his entertainment hall next to the Metropole, but his restaurant and reading room unit does not link up too well with the main entrance hall and the other circulations would not be immediately obvious. The elevations of this scheme divide sharply into two units, the entertainment hall and the restaurant, the last having a pleasantly maritime flavour with its signal mast and long tumble-in " anti-suicide " balconies, features which seem faintly to remind us of Mr. Emberton's Yacht Club at Burnham-on-Crouch.

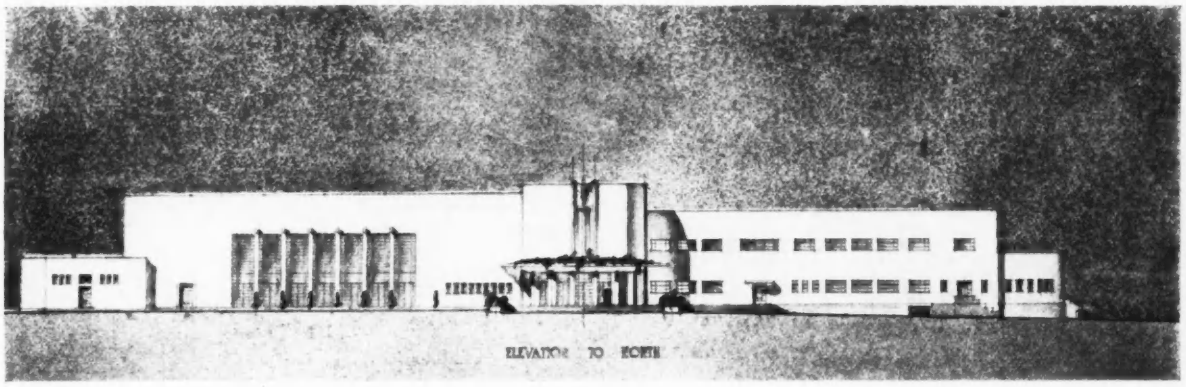
THE UNPREMIATED DESIGNS

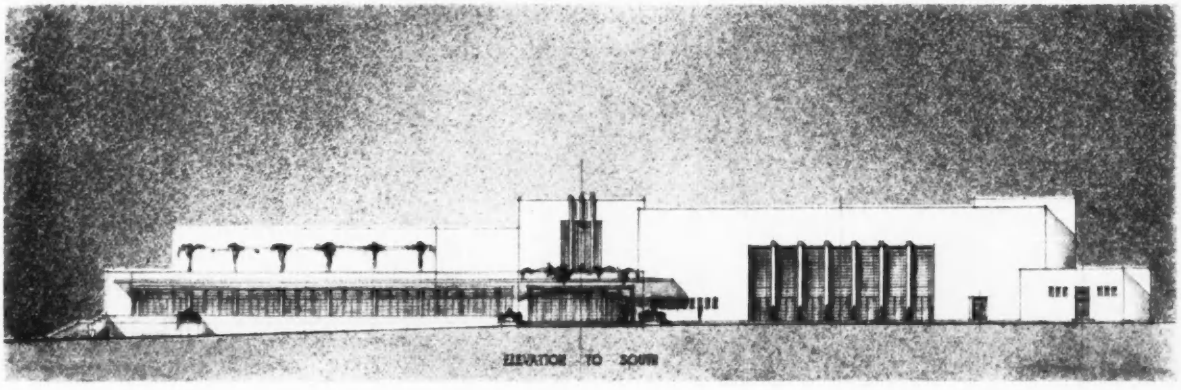
A brief tour round the exhibition of unpremiated designs, which are being shown at the York Hall, Bexhill, from February 7-13, shows that fully three-quarters of the competitors have submitted schemes which are " modern " in elevation, though frequently the plans are confused and somewhat extravagant, with the various circulations not too well arranged.

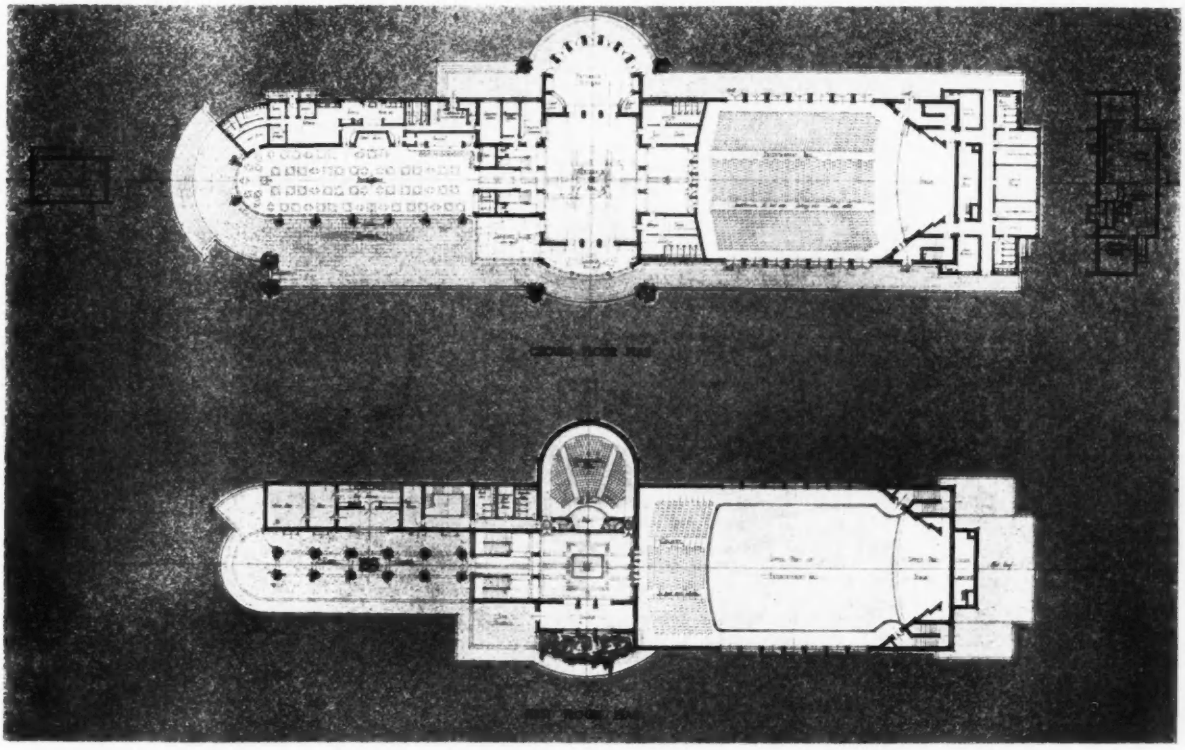
Several competitors seem to have been worried by the problem of the model yacht pond to the north-east of the site, which the conditions suggested might be retained, if possible, but the majority decided to discard it and used the available space as a car park. Not all competitors, however, seem to have realized that in a building of this type the majority of visitors will arrive by car, and that the chauffeur-driven limousine, which could be banished to some distant and congested yard, now scarcely exists. Entrance and car park circulations therefore become all important, a point which has evidently been fully appreciated by the winners, whose lay-out is admirably simple.

The lay-out plans which we illustrate were chosen mainly to show the widely differing methods of approach which have been adopted by various competitors. Several strive after a symmetry which is scarcely justifiable when it involves sacrifices on other important points of efficiency, and the entrances and circulations are by no means easy for visitors arriving on foot or by car.

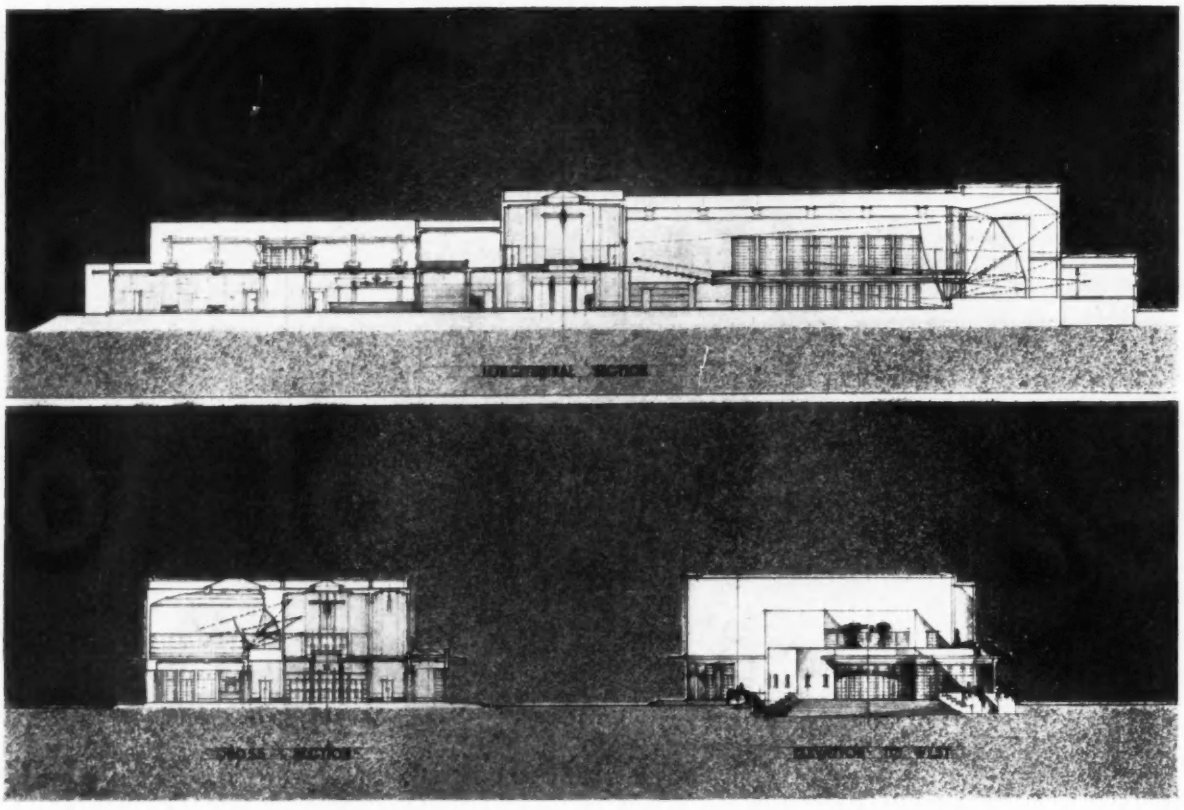
A considerable percentage of the designs submitted are original and competent, and most have some worthy details : perhaps this thought may have influenced the Bexhill Corporation in the hanging of the exhibition, for the designs are in no sort of order and any architect who wishes to find his own scheme will have to walk past nearly all those produced by his rivals.



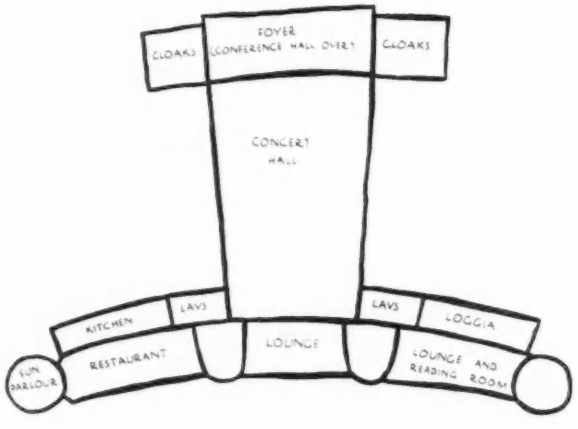




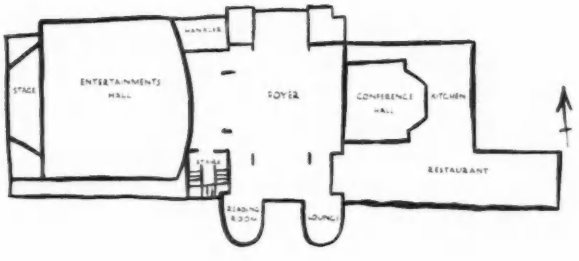
Design recommended for special merit. By James Burford and Marshall Sisson.



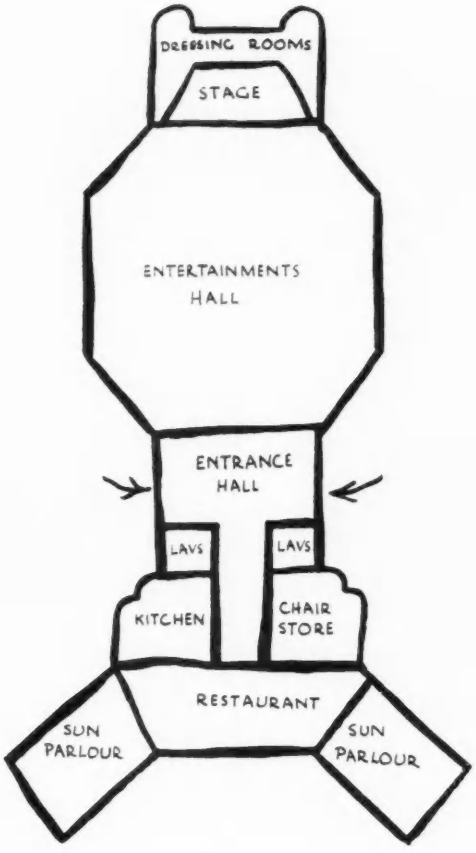
Design recommended for special merit. By James Burford and Marshall Sisson.



Sketch of lay-out plan by L. W. Thornton-White.



Sketch of lay-out plan by John Grey and D. F. Martin-Smith.



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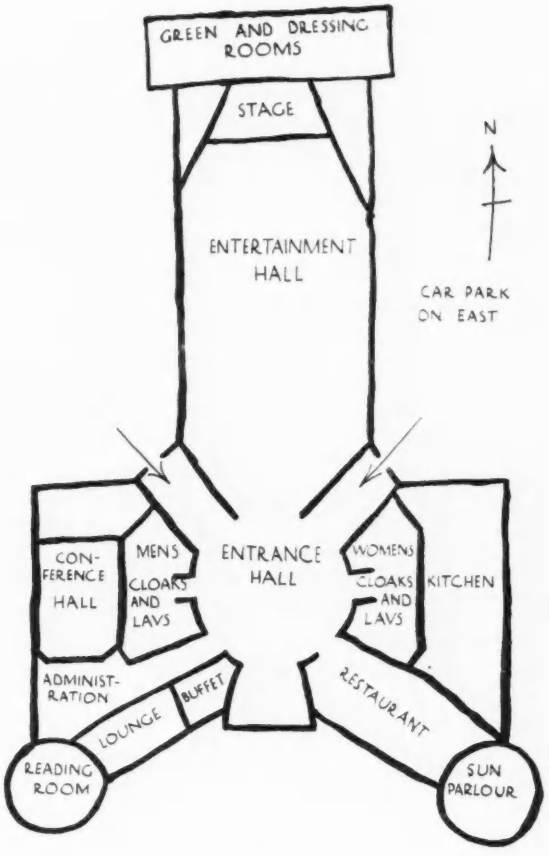

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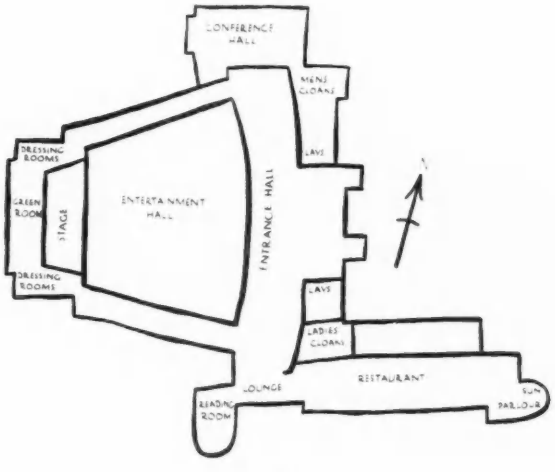

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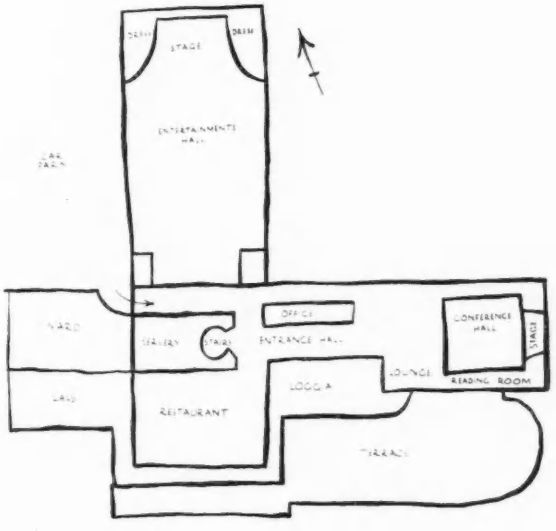
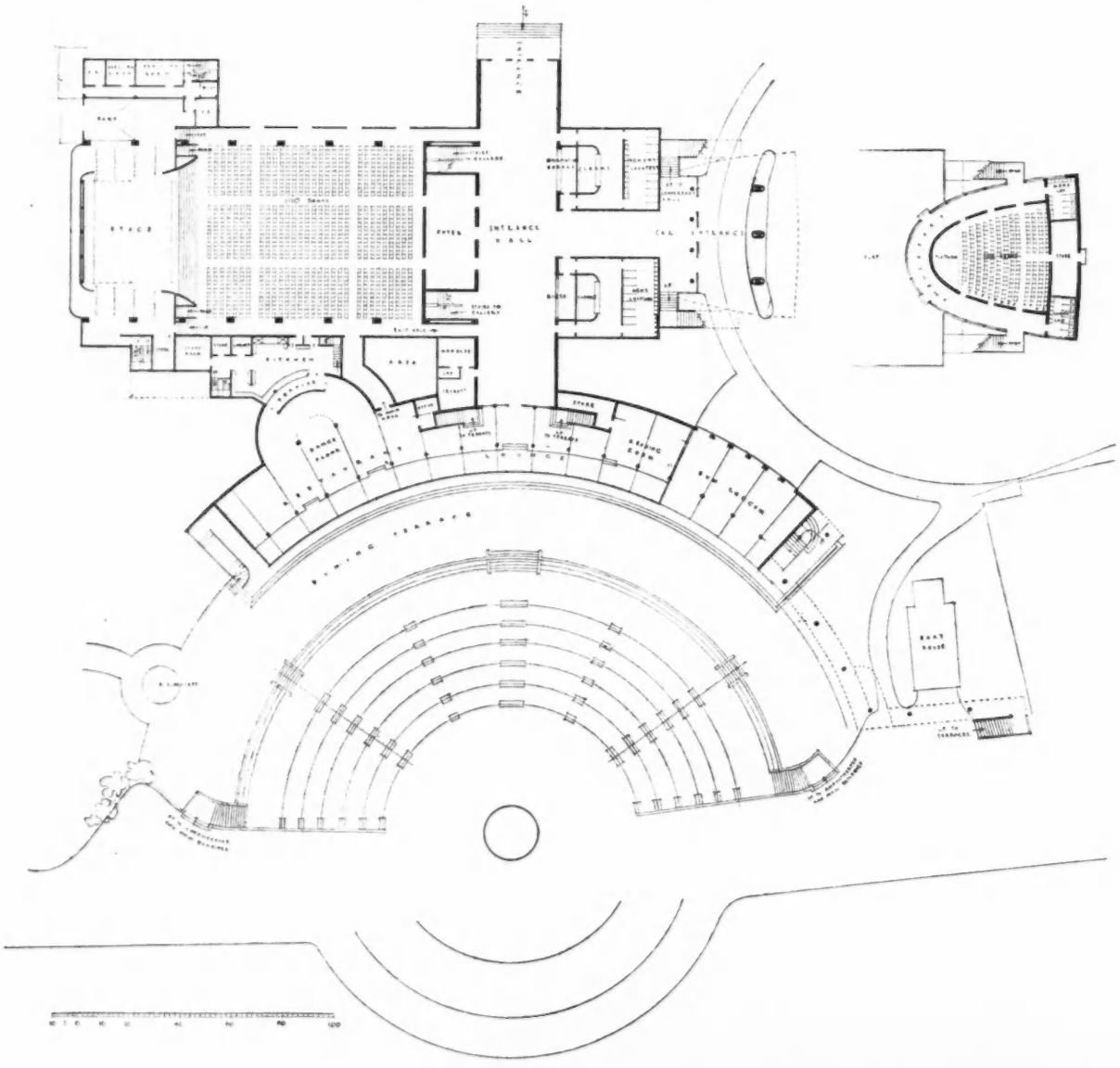


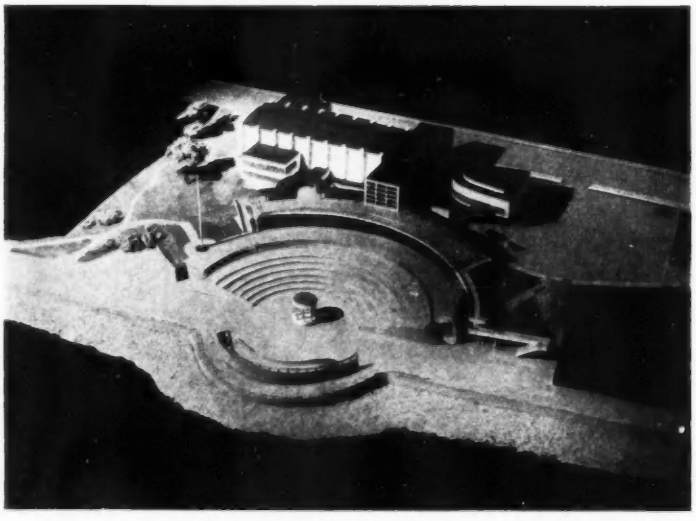
4

Sketches of the lay-out plans submitted by the following competitors: 1—L. L. T. Sloot; 2—Welch, Cachemaille-Day and Lander; 3—F. X. Velarde; 4—T. Murray Ashford.



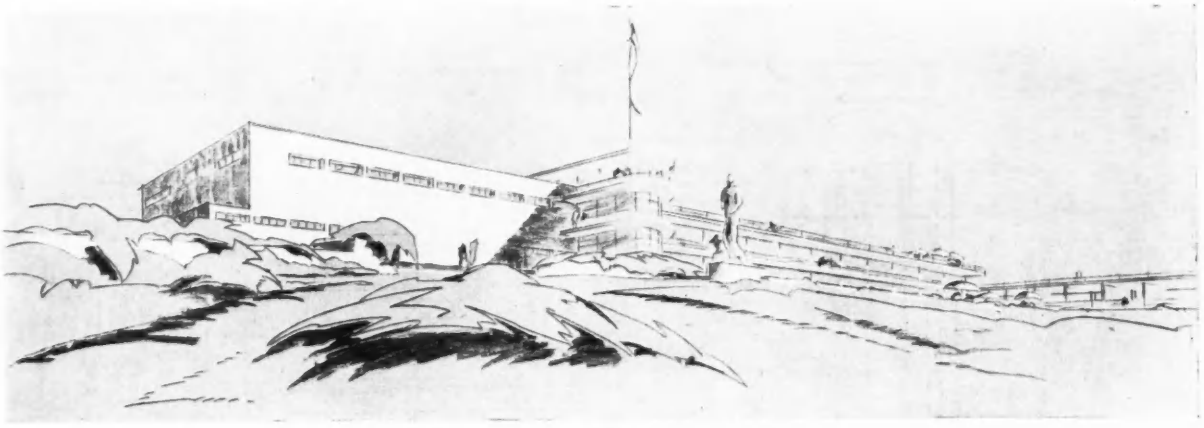
Above : Ground floor plan and the first floor plan of the conference hall.

Right : Photograph submitted instead of a perspective.

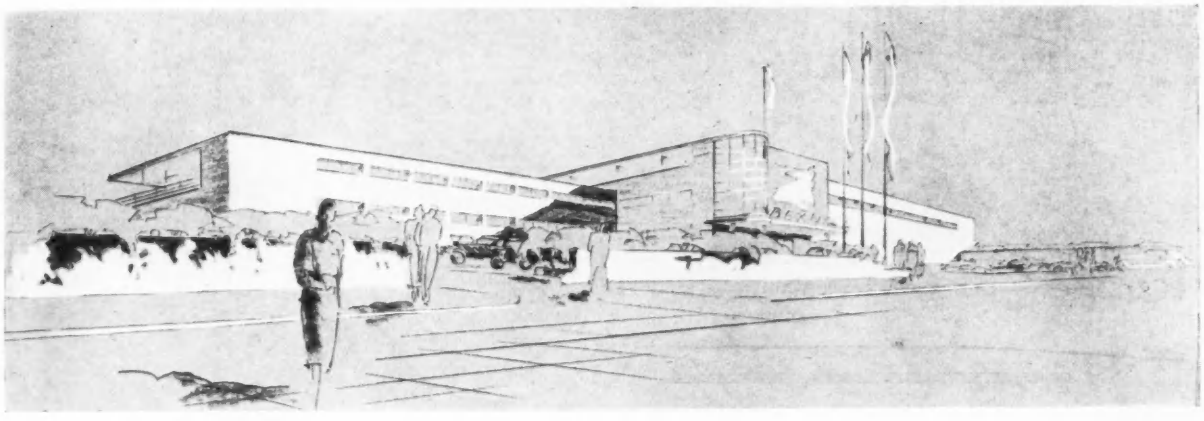


DESIGN SUBMITTED BY ADAMS, THOMPSON AND FRY

D E S I G N P L A C E D F I R S T

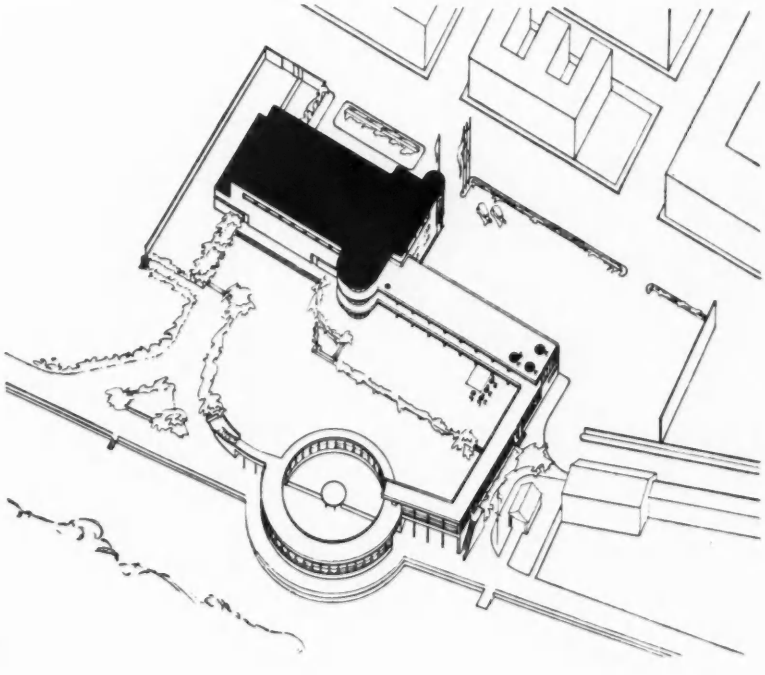


Elevation to Sea Front.



Above: Elevation to North.

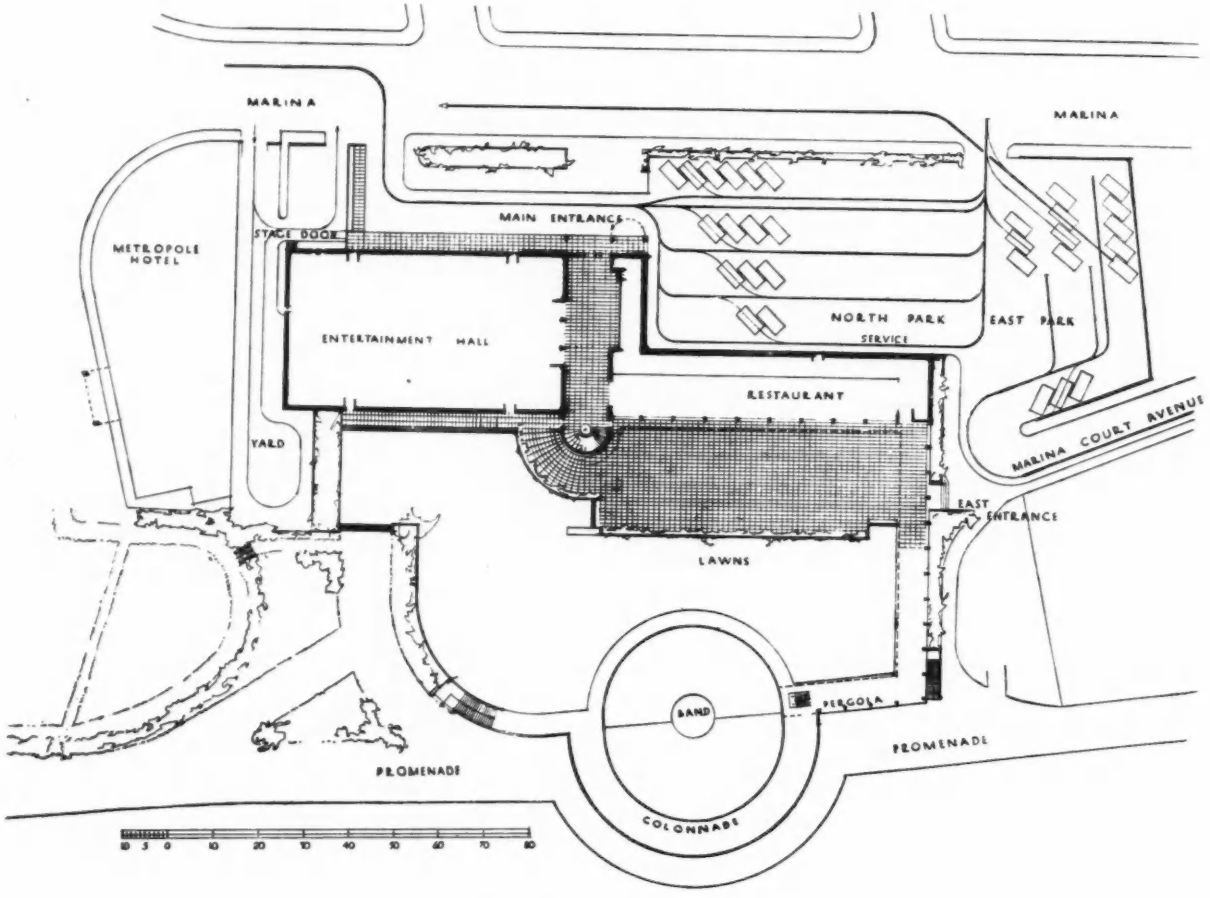
Right: A bird's-eye view.



BY
ERICH MENDELSOHN
AND
SERGE CHERMAYEFF

D

DESIGN PLACED FIRST: BY ERICH



The lay-out plan.

THE WINNERS' REPORT

GENERAL

The requirements of the building fall automatically under the heading of three principal structural units :—

1. The Entertainment Hall.
2. The Restaurant.
3. The Main Entrance Hall, intercommunicating both 1 and 2, which had to be combined into one architectural unity.

LAY-OUT

The placing of the Entertainment Hall on the west of the site was considered expedient for the following reasons :—

1 : The natural drop in the ground made it economical to accommodate heating and other services, such as chair store, under the stage end without sacrificing the low proportion of the structure.

2 : It gives a separate and convenient entrance for service to the stage and heating chamber in the least attractive part of the site, i.e., immediately outside the back of the Metropole Hotel.

3 : The principal approach from the town being from the west by The Marina, this disposition permitted the most logical arrangement of car approach and parking place, which, linked with the Marina Court Avenue on the east, gives a clear unconfused "in" and "out" way to traffic.

4 : The main entrance to the Entrance Hall, with its circular staircase and its special space for display and various announcements of performances peculiar to the character of the building, makes an architectural focussing point to be seen from the Linden Road. This feature is combined with a complete covered drive-in under the Northern staircase and canopy.

5 : The Entertainment Hall masks the back of the hotel from the Restaurant terrace. It offers in addition, together with the projecting south staircase tower, a considerable protection from the west wind.

6 : It leaves the terrace free from shadow and does not interfere with the fullest amenities of sunlight.

7 : It makes possible a separate entrance to the restuarant on the ground floor and to the reading and luncheon rooms on the first floor from Marina Court Avenue.

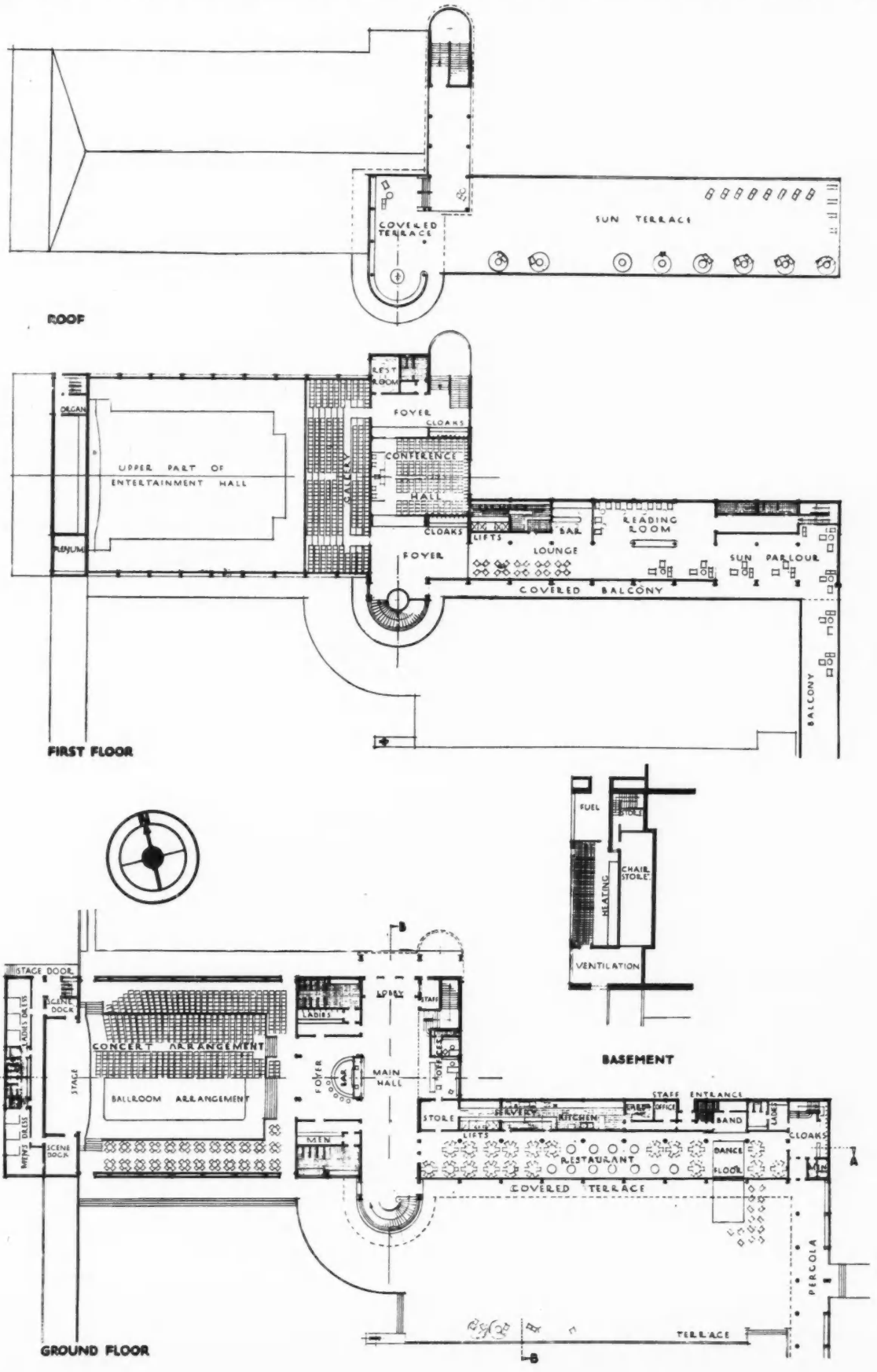
The staircase in the east wing provides, at the same time, an additional escape stair to the first floor public rooms.

8 : The glazed section of the low pergola on the east side suffices to mask the strange buildings further east from the restaurant public, and while being an interesting form of the new building as seen from Marina Court Avenue, provides an architectural connection between building and shore.

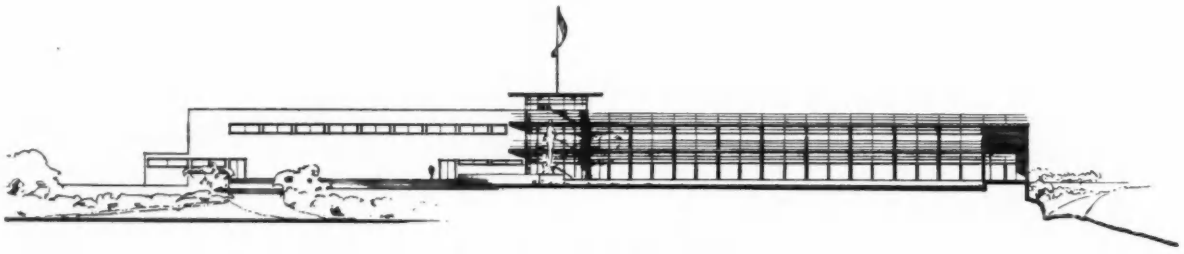
In order to link the existing colonnade and bandstand to the new plan and not allow this to remain as an unrelated structure, the level of the main restaurant terrace has been continued over the

(*Continued on page 217*)

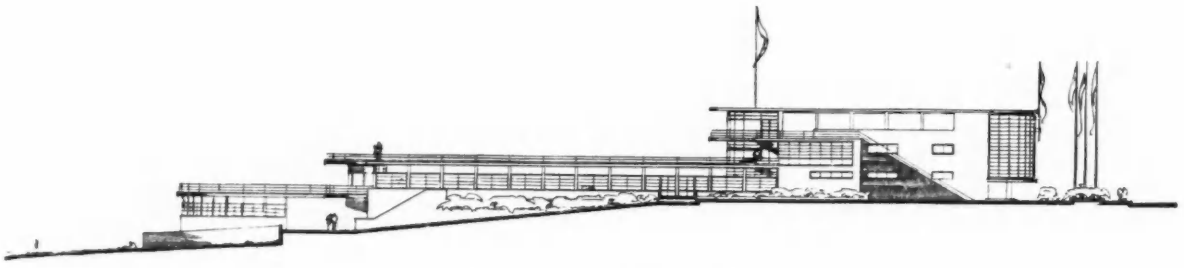
MENDELSOHN AND SERGE CHERMAYEFF



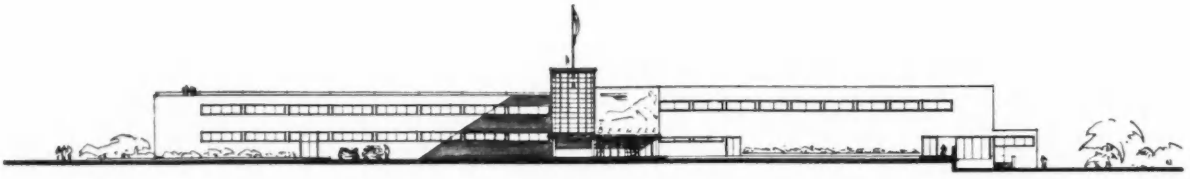
DESIGN PLACED FIRST: BY ERICH



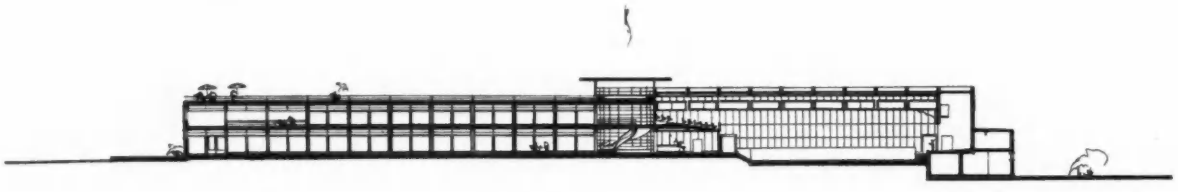
SOUTH ELEVATION



EAST ELEVATION

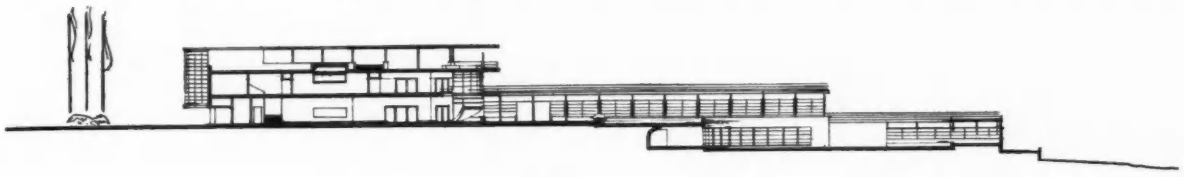


NORTH ELEVATION



SECTION A-A.

MENDELSOHN AND SERGE CHERMAYEFF



SECTION B-B.

colonnade and through the pergola. The existing semi-circle of the colonnade has been completed into a circle. This proposal enables the shore and orchestral colonnade to be further connected through a staircase and promenade above the pergola to the new building.

Such a proposal has the advantage of leaving the essential structure of the existing colonnade practically untouched.

The natural fall of the site towards the south-west has been utilized for the formation of terraces, their different levels and steps lying amidst flower beds and lawns. The whole scheme shares the liveliness of the beach.

The open balconies surrounding the south glazed staircase tower connect with the restaurant roof gardens and covered outlook point on the highest level, and command a view out to sea from various heights and make its enjoyment possible under various weather conditions.

THE MAIN ENTRANCE HALL

The main staircase hall lies across, in order to serve the whole width of the entrance hall, the enquiry offices and the restaurant entrances.

It forms the joint between main entrance and exit between the entertainment hall and restaurant on the ground floor, and provides a double approach to the first floor public rooms.

For this reason the staircases lie at the two ends of this hall. The northern stairs towards the drive-in—the southern stairs to the beach.

This arrangement permits, on the one hand, the use of all these different areas together, and on the other hand their complete separation if special activities take place or various ones at the same time.

The maximum flexibility has been aimed at.

The entertainment hall and its own foyer can be separated from the main hall and normal business of the restaurant. The gallery of the entertainment hall being in that case served by the north staircase, leaving the south staircase free to serve the first floor rooms.

The centrally placed conference room on the first floor can be approached by either staircase and can be opened either to the north or south vestibules, provided with separate cloakroom and lecturers' room off the north vestibule, or can be opened completely as an additional foyer for the gallery of the entertainment hall. The conference hall, being connected with the first floor service, enables this room to be used as a restaurant if required.

THE ENTERTAINMENT HALL

The wide foyer between the cloakrooms accommodates the box office and a bar, in the event of dances.

The stalls are divided into a wide central block and two narrower side blocks of seats.

The narrow raised gallery relieves this large space and gives an interest when the hall is used for performances, especially concerts, and allows the intimate arrangement of chairs and tables overlooking the dancers, when used as a ballroom.

In the latter case, the staircase to the lower part of the stalls is opened to its full width by the removal of a small seat platform and provides an elegant and festive effect, which is repeated in the full-length stair outside communicating the terraces on the south directly with the ballroom.

The seating accommodation is for 1,502 persons and is divided as follows :—

Lower Stalls	740
Stalls Gallery	388
Balcony	374
	1,502

In order to facilitate the flexibility demanded for the various purposes for which the stage might be used, and simplify the arrangement, a sliding proscenium frame is suggested to give maximum accommodation on the stage for orchestral recitals, or the minimum opening for lectures or theatricals.

In order to ensure the best acoustics for vocal or musical recitals, a suspended sounding board has been foreseen over the apron stage.

THE RESTAURANT

The plan has been developed in length and withdrawn from the main entrance traffic for the following reasons :—

1. It gives without annoyance a direct approach for trade deliveries, etc., and provides entrances for the staff and administration well separated from the public entrances.

2. The parallel lay-out of kitchen and restaurant gives the most convenient service lay-out.

3. The long restaurant shape with its fully glazed south wall enables all tables to be in full light and to command a view of the sea.

4. Movable partitions enable a portion of the restaurant to be divided off, of good proportion, and used separately in conjunction with the east entrance—as, for instance, for dancing.

CONSTRUCTION (GENERALLY)

Reinforced concrete frame with a double filling of brick or hollow building blocks, rendered externally.

Internally additionally insulated with insulation board, which will be alternatively treated with a plaster finish or plywood. The main entertainment hall will be finished internally with a dado of ply-faced building board, other surfaces being acoustically treated with insulation board.

Externally all the work will be finished with a waterproofing coloured dressing of tested reliability—such as Castex—applied with an admixture of glass and marble powder to give it brilliance.

The roof, terracing and floor of the main entrance hall to be paved with pre-cast concrete slabs, or similar material, laid in bitumen on Ruberoid or similar three-layer roofing.

The floors to be of hollow tile construction. The roof to be further insulated with insulation board, or other similar material, such as crushed brick or pumice, laid under the bitumen.

Windows throughout to be bronze or other non-corrosive alloy, sliding in large sections provided for the south windows of the restaurant, reading and luncheon rooms, so as to enable these areas to be thrown open to the air as required.

HEATING AND VENTILATION

The main hall and conference room are ventilated by a plenum plant which can circulate warmed or cool air in these areas.

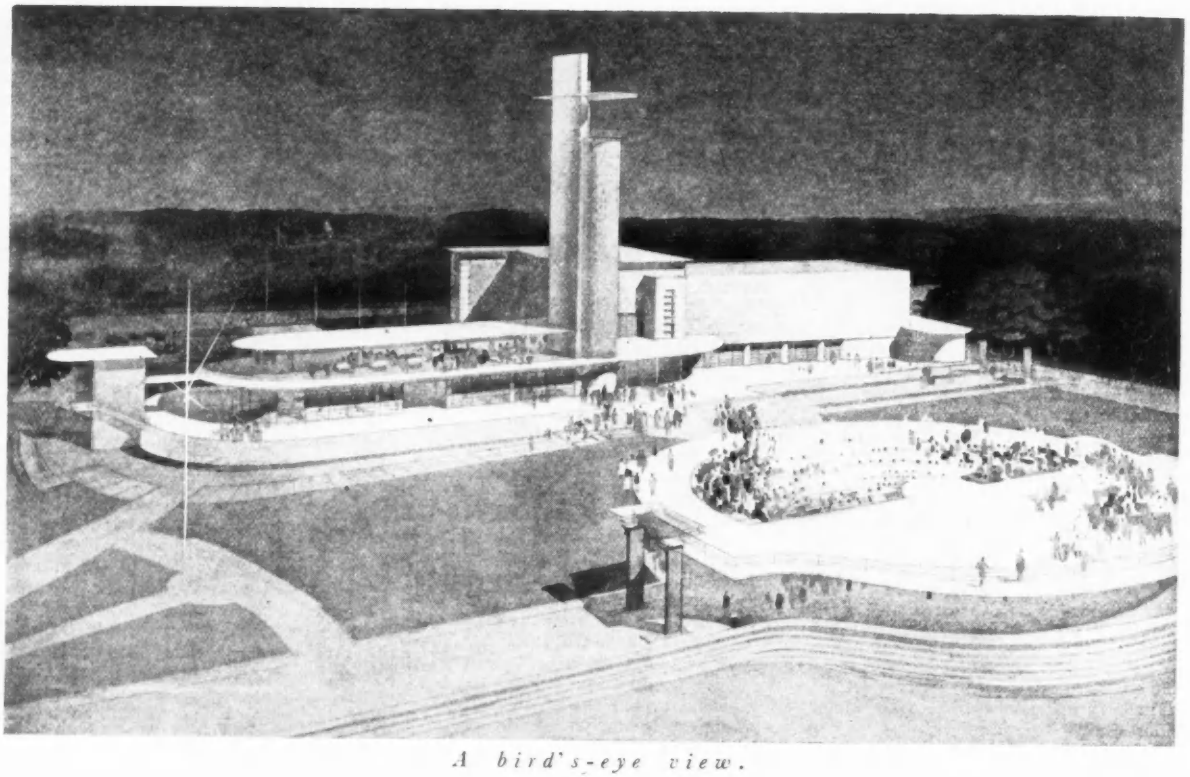
Additional heating points for radiators being provided at ground floor level in the entertainment hall and in the conference room.

Heating generally will be by hospital type radiators, excepting on the south side of the restaurant wing, where Radiant panels will be placed in the ceiling immediately in front of the windows.

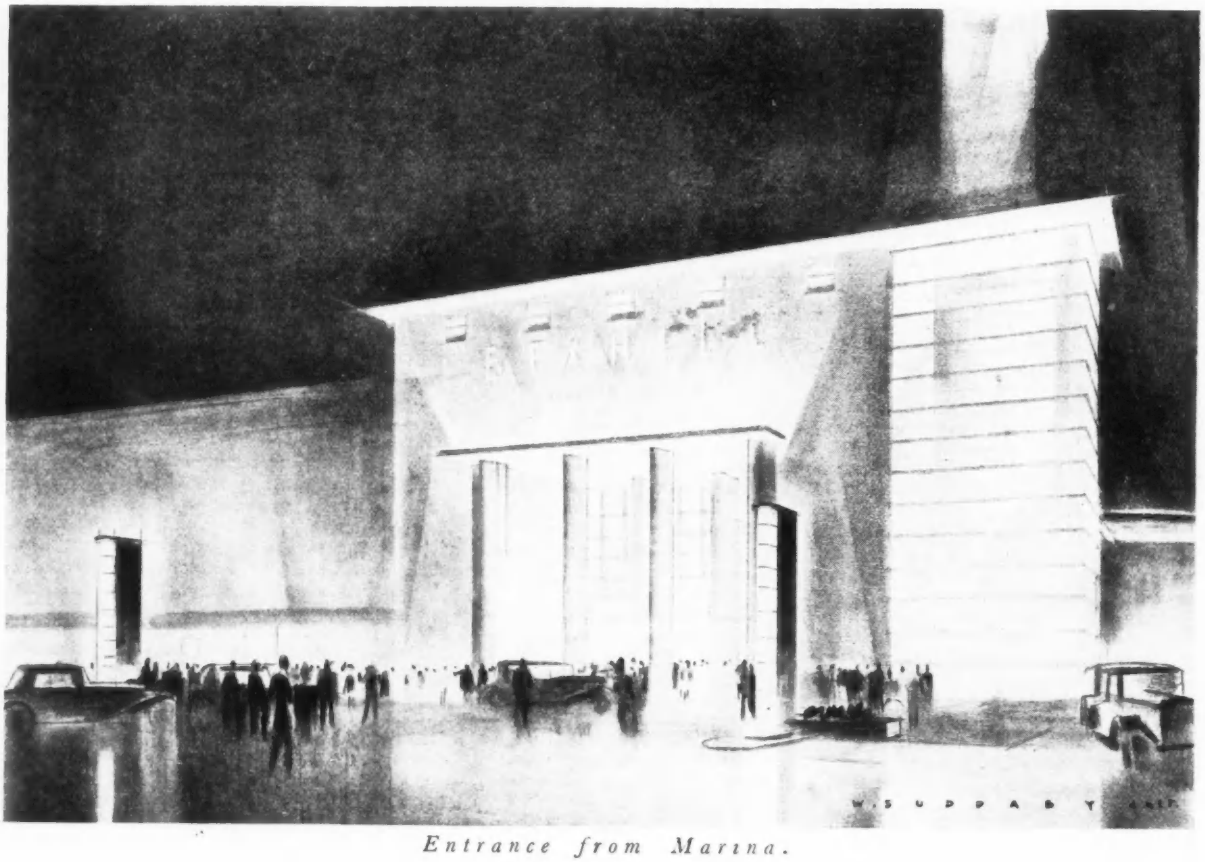
Ventilation throughout these areas, administration offices, etc., being the normal type of intake from outside and with re-circulation ventilation wherever possible internally to maintain an even temperature.

A thermal storage plant is recommended for heating and domestic hot water, as the increased capital layout is amply reduced by maintenance.

DESIGN PLACED SECOND: BY J. W.

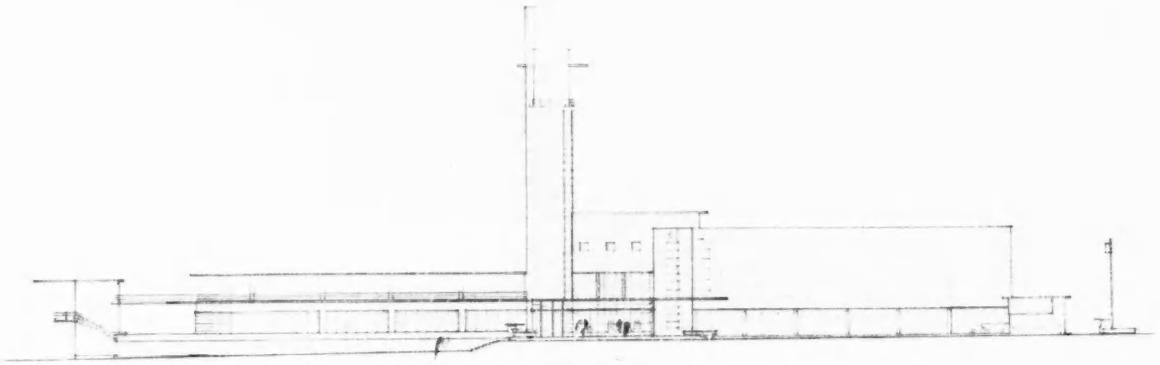


A bird's-eye view.

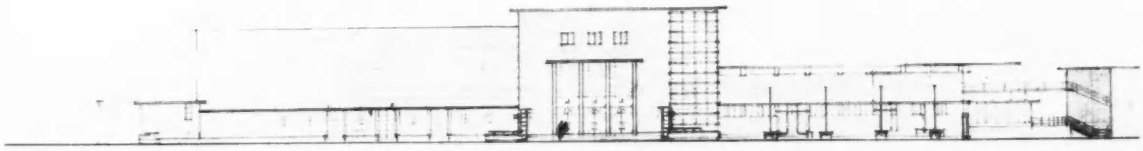


Entrance from Marina.

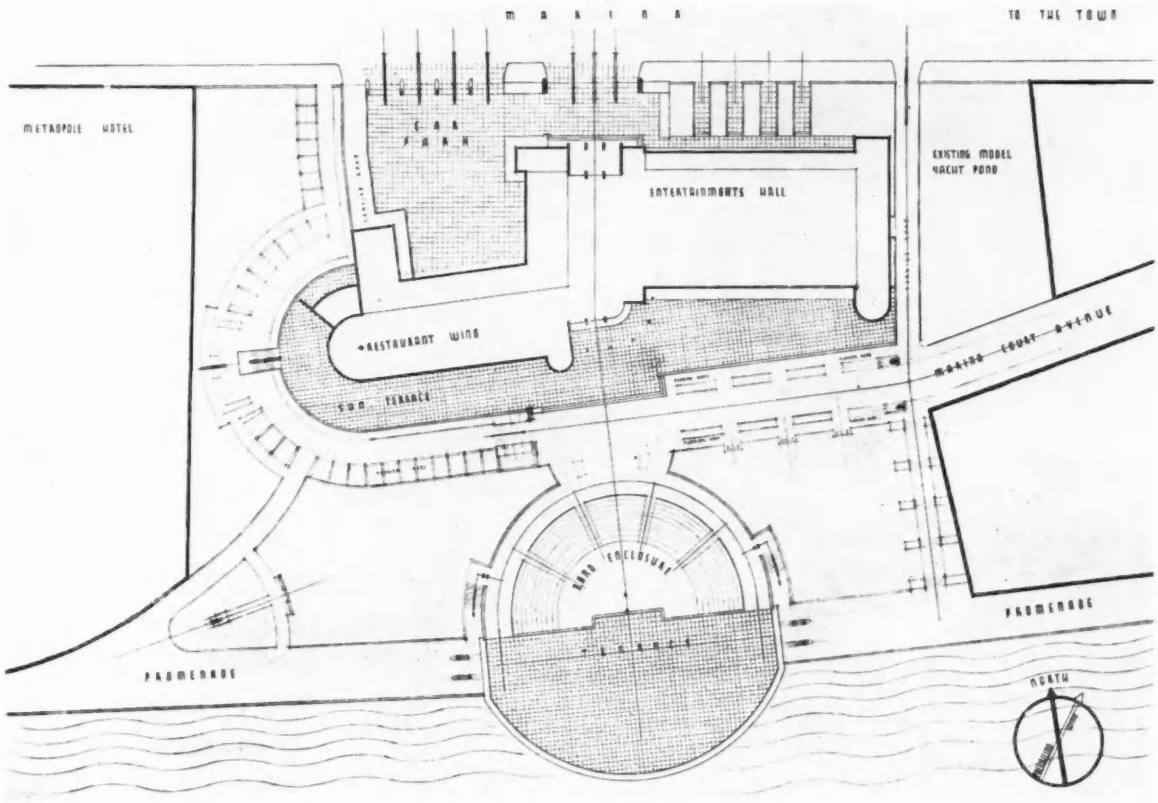
HASWELL AND G. H. SHEPHERD



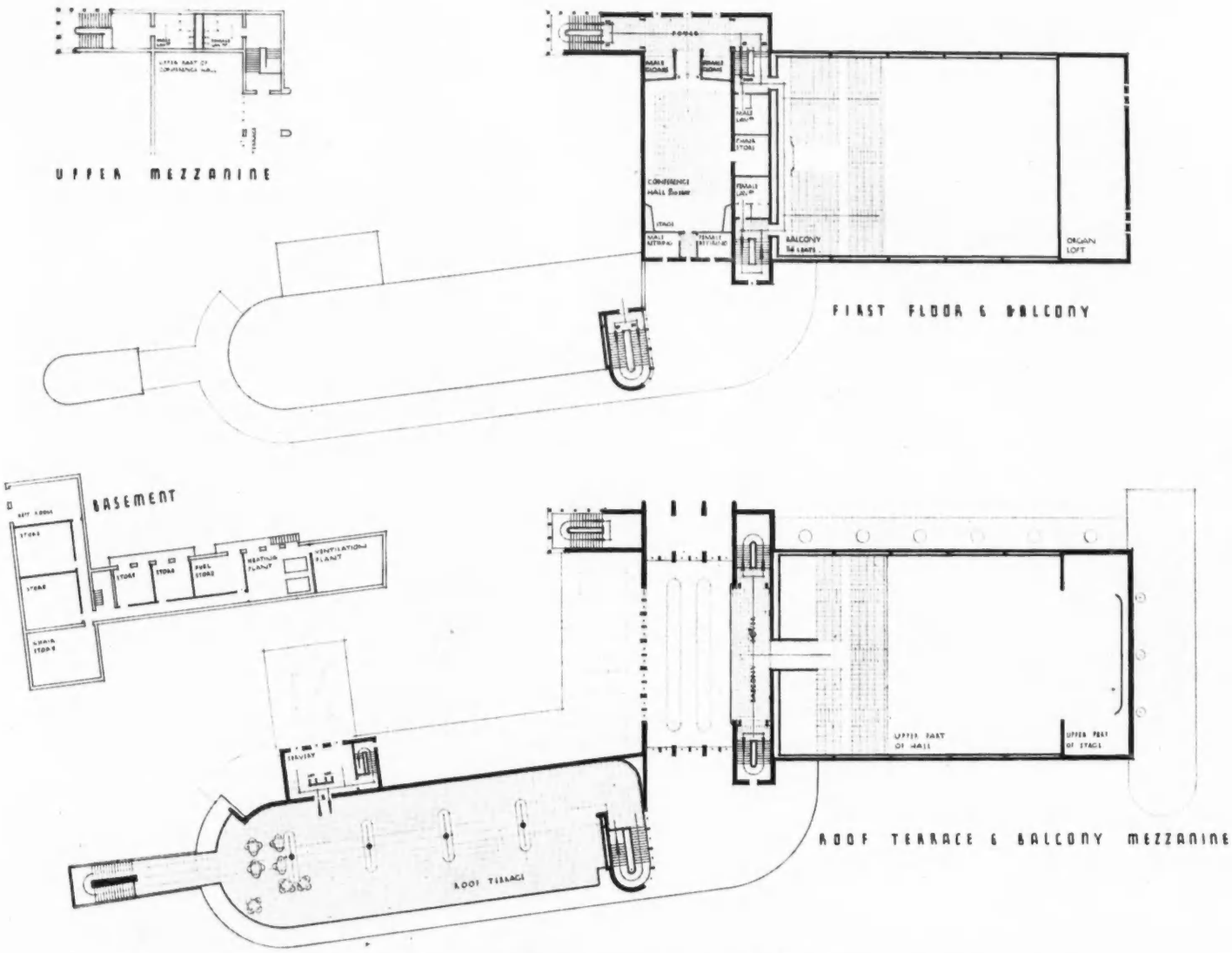
Elevation to Sea.



Elevation to Marina.



Lay-out plan.

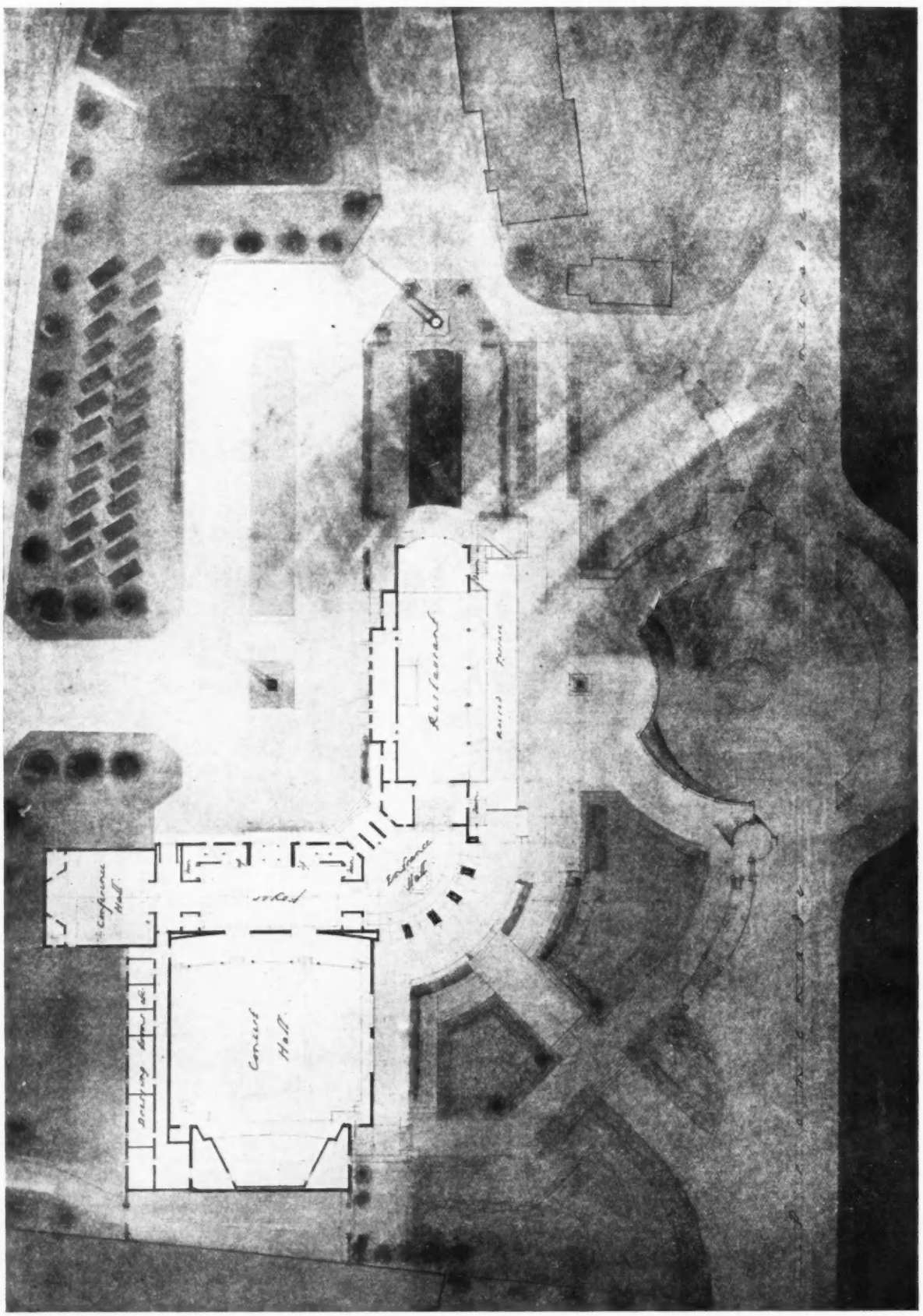


Plans of the basement, first floor and balcony, upper mezzanine, roof terrace and balcony mezzanine.

BY J. W. HASWELL AND G. H. SHEPHERD

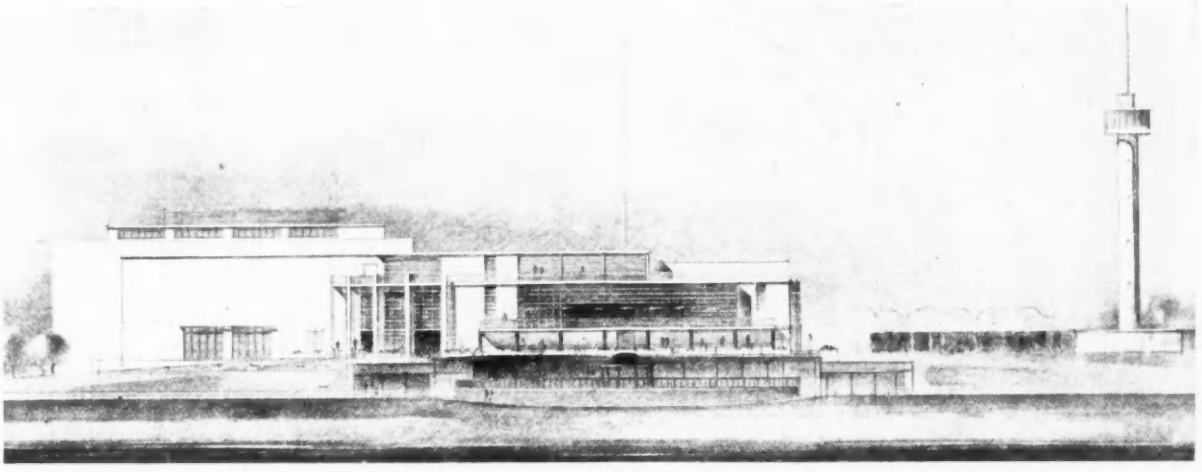
Ground floor plan.

DESIGN PLACED THIRD: BY P. G.

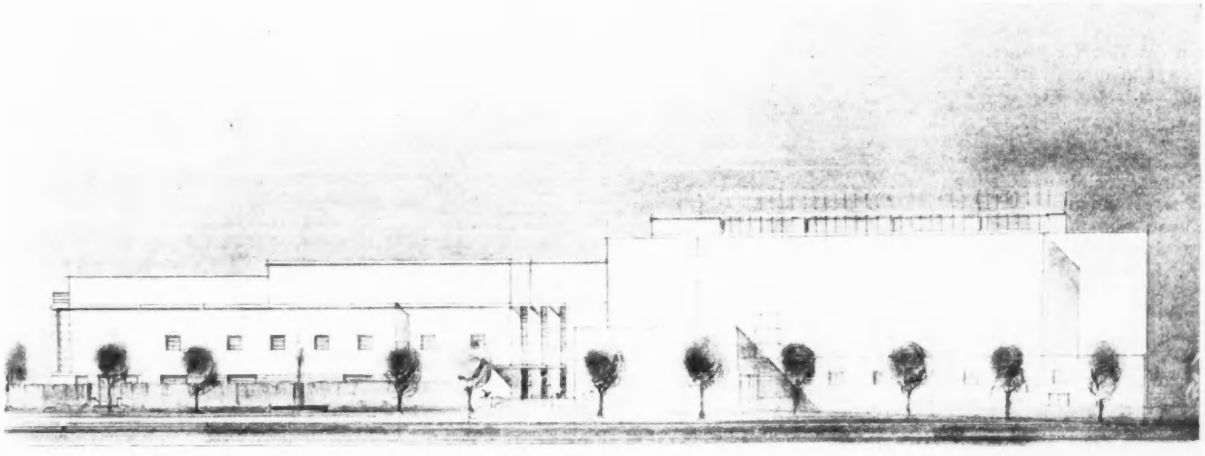


Lay-out plan.

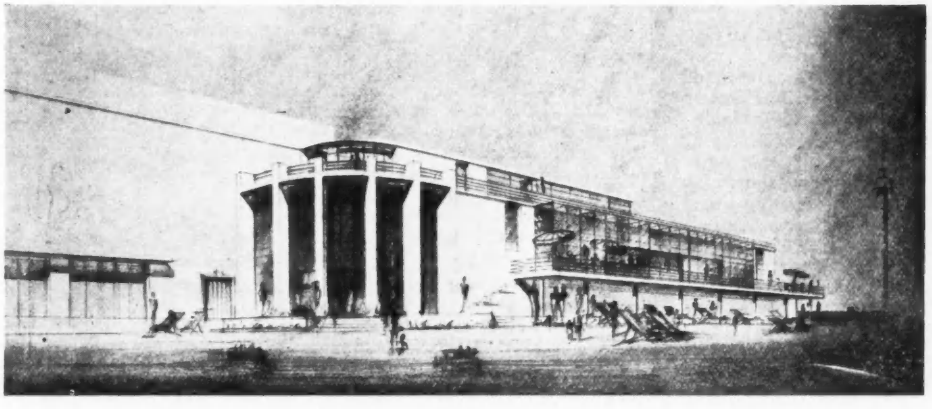
FREEMAN AND W. CRABTREE



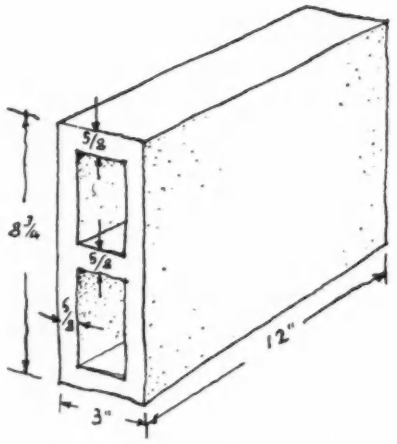
Elevation to Sea Front.



Elevation to North.



The main entrance.



TRADE NOTES

[BY F. R. S. YORKE, A.R.I.B.A.]

Bakelite-faced Plywood

BAKELITE, a phenol-formaldehide synthetic resin product, is manufactured in laminated sheets, $\frac{1}{16}$ in. thick, as a covering for wall surfaces, table-tops, desks and other surfaces having similar purposes.

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This sheet is made by superimposing layers of paper which have been impregnated with bakelite resin, and subjecting the packs thus formed to great hydraulic pressure, introducing heat at the same time, and so causing a chemical reaction, binding the layers into a solid mass that cannot again be softened and will not disintegrate.

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These sheets, like wood veneers, do not in themselves provide a workable material. Unlike wood veneers they cannot be "adhered" on the job, so the $\frac{1}{16}$ in. thick sheet must be converted into a board, capable of being sawn, drilled, shaped, and made as workable as a piece of timber. To provide this material the bakelite is applied, with a special adhesive, to sheets of plywood or laminated board.

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Bakelite veneered on plywood is now produced by several firms in sheets of standard size and thickness. The lowest price per square foot, ex factory, for highly-polished bakelite on high-grade plywood, $\frac{1}{2}$ in. thick, is 3s., and occurs when the length is 42 in. and 84 in. and the width 18 in. and 36 in. Prices for the other sizes depend upon the quantity required, and the standard size sheet of plywood which can coincide with the standard size sheet of bakelite. It is obtainable in most plywood thicknesses, i.e., $\frac{1}{4}$ in., $\frac{3}{8}$ in., $\frac{1}{2}$ in., $\frac{5}{8}$ in., and $\frac{3}{4}$ in.

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The manufacturers point out that there is a tendency for the plywood to pull when the bakelite is cemented to it. Research work has been carried out on this point, and one way of overcoming this defect is by applying a lower grade of synthetic resin sheet on the reverse side, though such treatment makes the job rather expensive. And even then it cannot be guaranteed to remain flat. If a desk top is required, the most satisfactory method is to have thin plywood bakelite on one side and to fix the board down from the top on to a firm base.

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There is still a tendency for manufacturers to reproduce in the new synthetic material the grain or figuring of natural woods. This seems unreasonable, since natural wood is still available at relatively low prices for those who require it, and other surface treatments, a splendid range of plain colours for instance, can be obtained satisfactorily in bakelite.

Glazed Hollow Wall Blocks

I have received from the manufacturers a copy of a report on an investigation of the properties of Attoc glazed hollow wall blocks,* carried out at the Building Research Station by the Department of Scientific and Industrial Research. The tests made were :—

(1) Crushing of Individual Blocks

The blocks to be tested were immersed in water at 16° C. until absorption was complete ; top and bottom surfaces were made plane and parallel by the application of mortar composed of one part rapid hardening Portland cement, three parts dry, clean Leighton Buzzard pit sand (proportioned by weight) and 13·5 per cent. (by weight of the total dry materials) of mixing water.

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The blocks were covered with damp cloths for 24 hours, then immersed in water for a further period of six days, until tested between three-ply wood sheets $\frac{1}{8}$ in. thick.

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An average of the crushing strength of the blocks tested was 1,326 lb. per sq. in., the crushing stress being computed on the gross area of each block. In all cases failure occurred at the junction of web and wall.

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The British Standard Specification for the Use of Structural Steel in Building states that hollow clay blocks, of the dimensions of the Attoc block and tested in the manner described above, shall have a minimum crushing strength of only 675 lb. per sq. in. of gross area.

(2) Crushing Test on Wall Panel

The test wall was built 9 ft. high and 4 ft. 7 in. long, in 1 : 3 (by weight) rapid hardening Portland cement mortar of the same composition as that used for the tests on individual blocks. The blocks used were glazed on both faces and were of different colours. After seven days the wall was tested in compression in a 500-ton Amsler testing machine. The first cracking occurred after a load of 30 tons had been applied. The horizontal webs commenced to crack at 55 tons, and at 100 tons the wall cracked down the centre. Complete failure of the wall occurred suddenly at 118 tons total load.

The results are summarized as follows:—

Load at first crack	=	30 tons.
Final crushing load	=	118 ,,
	=	26 ,, per ft. run.
Average crushing stress	=	103 tons per sq. ft.
	=	1,603 lb. per sq. in. (gross area)

(3) Quenching Test

The quenching test is employed as a measure of the stability of the glaze, and the resistance to differential movements which may be set up between it and the body of the block by thermal and other

Partition built from 3-in. thick, hollow tiles, glazed on both faces.

* Attoc hollow blocks were described in Trade Notes in THE ARCHITECTS' JOURNAL for May 3, 1933.

changes. It consists in heating specimens of the material to specified temperatures and plunging into water at room temperature. The glazed surface is wiped dry and then treated with a dye solution, any cracks which may have occurred becoming readily discernable.

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Test specimens measuring 6 in. by 4 in. were cut from certain blocks and separate specimens from the same block were heated to 80° C. and 120° C. prior to quenching. The results obtained, together with those given by other glazed materials, are shown in the following table :—

Material.	Quenchings at which Crazing Occurred	
	(1) Quenching at 80° C.	(2) Quenching at 120° C.
Attoc Block—		
White glaze ..	Slight surface scratches after 8, but no cracks after 10 quenchings.	Crazings after 3 quenchings.
Black glaze ..	Sound after 10	Sound after 10
Green glaze ..	Sound after 10	Slight crazing after 9.
Yellow mottled glaze.	Sound after 10	Crazing after 5.
Other Materials—		
White glazed bricks A.	Crazed after 6 and 8	Crazed after 1.
White glazed Bricks B.	Crazed after 8 and 10	Crazed after 1.
White glazed bricks C. ..	Crazed after 9	No data.
Ivory glazed bricks D.	Crazed after 9	No data.
Stone glazed terra-cotta.	Crazed after 4 and 10.	Crazed after 1.

It is apparent that the variously coloured glazes on the Attoc blocks compare very favourably with those on other materials used for a similar purpose, and it is considered that they are capable of withstanding any thermal changes likely to occur in practice.

(4) Plastering Trial

For the purpose of this test a number of blocks glazed on one side only were built to form a small wall, and three different plastering materials were applied, viz. :—

(i) Portland cement.
(ii) Gypsum plaster.
(iii) Hydrated lime gauged with a small amount of Portland cement.

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Clean Ham River sand was used for the first two plasters, and a loamy sand was used for the third plaster ; in all cases the sand ratio was such as to give a workable mix.

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It is considered the unglazed faces may be safely plastered with lime, cement or gypsum plaster.

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Owing to the low suction of the blocks the consistence of plaster mixes requires suitable adjustment. The provision of undercut, mechanical keys on the faces intended for rendering would, however, be an advantage.

(5) Thermal Conductivity

The results of the thermal conductivity tests indicate that partitions built of blocks glazed on one side and rendered on the other should afford a degree of heat insulation closely comparable with that of other hollow clay blocks.

(6) Sound transmission

The sound transmission tests show that partitions erected of blocks glazed on one side and plastered on the other should afford moderate sound insulation, comparable with that of other light-weight partitions.

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It should be noted that economy in weight and a high insulation value are not usually compatible ; in general, it may be assumed that the properties which are most useful in reducing sound transmission are mass and rigidity.

(7) Resistance to Frost

Three blocks, glazed one side, were immersed in water for 24 hours. They were then frozen for 24 hours in water-tight metal containers surrounded by a mixture of ice and salt, and then thawed in tap water for 24 hours. After 10 such freezings and thawings no change was visible in any of the blocks.

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From a large amount of data available, it has been concluded that a material which remains unchanged under these conditions will provide satisfactory immunity from frost likely to be experienced in this country.

(8) Moisture Movements

Two blocks, glazed both sides, were dried to constant weight at 50° C., and then wholly immersed in water at 20° C. until no further movement could be observed. The maximum movement occurred after eight days' immersion. The results of the test are recorded in the following table :—

Specimen.	Per cent. expansion of length due to water absorption.
No. 1. Measured in direction of depth (9 in.).	0·0053
No. 2. Measured in direction of length (12 in.).	0·0047
Average	0·0050

Figures for moisture expansion of other hollow clay blocks tested at the station vary from 0·010 per cent. to 0·017 per cent. The movements of the Attoc blocks are the lowest so far recorded.

Literature Received

Portland Stone
The South Western Stone Company

LAW REPORT

CLAIM TO SET OFF VALUE OF REVERSION ON FORFEITURE

Hanson and another v. *Newman.—Chancery Division. Before Mr. Justice Luxmoore.*

THIS matter came before the Court on an application by the defendant, Mr. Edward A. Newman, for an order that he was entitled to set off against the sum of £500 damages for breach of covenant to repair certain premises in Windmill Lane, Stratford, the sum of £475, the value of the reversion on forfeiture.

Mr. Grant, K.C., for Mr. Newman, explained that this sum of £475 was found by a Master of the Court to be the difference between the value of the reversion in possession at the date of the forfeiture, if the lease under which the premises were held by his client for the remainder of the term of 86 years, from 1852, had not been forfeited. The point in the case was a new one under section 18 of the Landlord and Tenant Act, 1927, and was of considerable importance. An action had been brought for ejectment and for possession of the property on the ground of non-repair. The point that emerged was how the values of the reversion were to be ascertained. On behalf of the plaintiffs, Messrs. R. J. E. Hanson and E. W. Airy, possession was claimed for failure to comply with a notice of non-repair, damages for breach of covenant, etc. In the event of non-compliance plaintiffs had the right to enforce the forfeiture and as no defence was put in plaintiffs obtained judgment. The matter went before a Master to ascertain the damage, when the point now raised was referred to his lordship for decision.

The action in question was as follows :—" Damages for a breach of a covenant or agreement to keep or put premises in repair during the currency of a lease, or to leave or put premises in repair at the termination of a lease . . . shall in no case exceed the amount (if any) by which the value of the reversion (whether immediate or not) in the premises is diminished owing to the breach of such covenant or agreement as aforesaid ; and in particular no damage shall be recovered for a breach of any such covenant of the agreement to leave or put premises in repair at the termination of a lease if it is shown that the premises, in whatever state of repair they might be, would at or shortly after the termination of the tenancy have been or be pulled down, or such structural alterations made therein as would render valueless the repairs covered by the covenant or agreement."

Counsel said his contention was that the reversion was to be valued at the rate of issue of the writ, and the Master had found that that amount was £475.

His lordship, after hearing Mr. Elvaston, for the plaintiffs, said what he had to decide was whether the fact that the forfeiture had been accelerated, the termination of the lease was to be taken into account or not. He could not see that the new Act had altered the law by which a landlord could recover by way of damage at the termination of the term, the actual cost of executing the repairs required to fulfil the covenant. In his view all it had done was to impose a limit on the amount of those damages. He thought that in the section the word reversion was used as referring to the land in a case where the lease had terminated and the land, when it had in fact reverted. If his view was correct there was very little difficulty in applying the rest of the section to the present case. The damages were not to exceed the amount by which the value of the reversion had diminished, owing to the breach of covenant. Therefore the Master was right in his conclusion that there was nothing in the section to suggest that they should bring into consideration any appreciation in the value

of the reversion by reason of the forfeiture and the accleration of the termination of the lease. The Master had found that the difference between the value of the property unrepaired and after being put into a proper state of repair, would be £500, which was the measure of damages. The Master also found that the value to the landlord by reason of the acceleration was £475, but in his lordship's opinion there was no warrant in the section for taking that sum into account at all. Under these circumstances there would be a certificate finding that the damages were the sum of £500, with costs.

His lordship granted leave to appeal.

IN PARLIAMENT

[BY OUR SPECIAL REPRESENTATIVE]

The Five-Year Plan

Mr. Stourton asked the Minister of Health if he would state the total number of houses to be demolished under the five-year plan ; and if all local authorities approached by the Ministry had now submitted satisfactory schemes.

Mr. Shakespeare, who replied, said that the programmes received contemplated the demolition and replacement of 224,515 houses containing over one million persons. There were in all 1,716 authorities of which 591 were rural. 1,604 had made returns ; of these 1,257 had been accepted. The remaining 347, together with the 112 who had not yet made a return, were under investigation and discussion with the authorities concerned.

Asked by Mr. G. Hicks whether he had any information to give on the position of slum clearance, Mr. Shakespeare said that as regarded actual progress, during the year 1933 orders were confirmed under the 1930 Act providing for the demolition of 10,313 houses, while approvals were given for building 15,667 new houses under the Act. The corresponding figures for the whole period between the passing of the Act and the end of 1932 were 6,449 and 9,902 respectively.

Mr. Denman asked the Minister whether he was now prepared to encourage local authorities which had made adequate progress with their slum-clearance schemes to build unsubsidized houses in cases where the needs were not being met from other sources.

Mr. Shakespeare said the Minister was so prepared. Local authorities desiring to build unsubsidized houses in the circumstances indicated were encouraged to do so.

Dr. O'Donovan enquired of the Minister if his housing officers were in regular consultation with the local authorities responsible for housing in Stepney ; and was he in a position to make a statement on the efforts being made now, and on those now being planned.

Sir Hilton Young said that the reply to the first part of the question was in the affirmative. The Borough Council were clearing two areas containing 315 houses and providing new accommodation for 1,963 persons with assistance under the Housing Act, 1923. They were purchasing under the Act of 1930 an area containing 72 houses and were about to commence rehousing work on this area. The provision of rehousing accommodation on two further sites was under consideration. 23 dwellings provided under the Housing (Financial Provisions) Act, 1924, were approaching completion. The London County Council were clearing two areas in the Borough containing 682 houses with assistance under the Act of 1923 and providing new accommodation for 4,306 persons. They were arranging with a public utility society for the rehousing of the occupants of an area to be cleared which contains 45 houses. Orders made by the County Council for the purchase of two areas containing 41 houses had been the subject of proceedings in the Courts which terminated successfully for the Council on Thursday last. The purchase of further sites for rehousing was under consideration.

Waterloo Bridge

In reply to Mr. McEntee, Mr. Stanley, the Minister of Transport, said that the L.C.C. would very shortly invite tenders for the reconditioning and widening of Waterloo bridge.

Church of the Holy Sepulchre, Jerusalem

Mr. D. G. Somerville asked the Secretary of State for the Colonies if he could state whether his attention had been called to the fact that it will cost £75,000 to put the Church of the Holy Sepulchre, Jerusalem, into good repair ; whether this work was to be carried out ; and, if so, whether the expense would be entirely borne by the government of Palestine.

Mr. M. MacDonald said that by agreement with the ecclesiastical authorities concerned, the government of Palestine had arranged for an expert survey of the fabric of the Church of the Holy Sepulchre. Preliminary reports indicated that the building was in a dangerous condition and that extensive repairs would be required, but no estimate of the total cost had yet been received. If these repairs were carried out, the question of the provision of funds would be a matter for discussion with the ecclesiastical authorities. Certain immediate works of consolidation which were urgently necessary were already being carried out and the cost would be defrayed in the first instance by the government of Palestine.

Bank News

The directors of the Midland Bank, Ltd., in their report for the year ended December 31, 1933, state that, after making an appropriation towards bad and doubtful debts (all of which have been fully provided for), the net profits for the year ended December 31, 1933, amounted to £2,266,846 13s. 7d., to which has to be added the balance of £859,397 6s. brought forward from last account, making together a total sum of £3,126,243 19s. 7d.

SCHOOL PRINCIPALS

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JAMES MACGREGOR

SCHOOL OF ARCHITECTURE, EDINBURGH COLLEGE OF ART

MR. JAMES MACGREGOR, M.A., A.R.I.B.A., received his architectural training at the School of Architecture, Edinburgh College of Art, Heriot-Watt College, Edinburgh, and in the offices of Messrs. Williamson and Inglis, of Kirkcaldy, Mr. Hippolyte J. Blanc, of Edinburgh, and Sir Edwin Lutyens, R.A. Mr. MacGregor, who was a Pugin student, 1912, visited India with Sir Edwin Lutyens in 1914-1915 in connection with the new Capitol at Delhi. He was in practice in London during 1919-1933, during which period he was architect to the Tyne Main Coal Co.

Mr. MacGregor has held the following appointments : Senior Master in Design and Lecturer on Mediæval Architecture, School of Architecture, Manchester University, 1921-1923 ; Studio Master, Architectural Association, London, 1926-1933 ; Lecturer on Architectural History and Design, L.C.C. School of Building, Brixton, 1931-1933 ; External Examiner, School of Architecture, Manchester University, 1932-1934 ; and a member of the Board of Architectural Education. He was appointed Head of the School of Architecture, Edinburgh College of Art, in September, 1933, in succession to Mr. John Begg, F.R.I.B.A.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILE RADIUS)

BARKING. *Town Hall.* The Corporation has prepared a lay-out plan for a new Town Hall and appointed a committee to consider scheme for the erection of the premises.

CROYDON. *Factories, Houses, etc.* Plans passed by the Corporation: Eight houses, Davidson Road, for Houselands, Ltd.; factory extension, Tanfield Road, for Messrs. C. E. Welstead, Ltd.; six houses, Hartland Way, for Hunt Construction Co.; stores and workshop, 378 London Road, for Mr. J. Featherby; eight shops and flats, South Norwood Hill, for Mr. E. F. Bates; five houses, Bridleway, and six houses, Wickham Road, for Messrs. Burcote, Ltd.; two houses, Addisons Close, for Messrs. Wylie and Berlyn, Ltd.; four houses, Edge Hill Road, for Messrs. Morgan, Baines and Clark; factory, Purley Way, for Croydon Factory Estate, Ltd.; two shops and house, Wickham Road, for Messrs. Bleach and Skipper; six houses, Rutland Gardens, for C. J. Doyle; factory, Waddon Factory estate, for T. G. Crump; three houses, Whitgift Avenue, for Mr. J. G. Cooper; 15 houses, Lloyd Park Avenue, for Mr. S. H. Laver. Plans submitted: Six houses, Biggin Hill, for Mr. G. W. Osborn; 19 houses, Lingfield Road, for Mr. P. Richardson.

FINCHLEY. *Houses and Flats.* Plans passed by the Corporation: 13 shops and 26 flats, Falloden Way, Hampstead Garden Suburb, for Messrs. Kentish and Sons; five shops, Woodhouse Road, for Messrs. Lawes and Son, Ltd.; 10 cottages, Sherwood Street, for Mr. P. G. Saunders; 24 flats, Lyttleton Road, for Mr. G. Payne; two houses, Kingsley Way, for Messrs. Kingstons (Builders), Ltd.; six flats, Northway, for Messrs. C. Miskin and Sons; six houses, Holden Road, for Mr. P. Baldwin.

FRIERN BARNET. *Houses.* Plans passed by the U.D.C.: 35 houses, Cardrew House estate, for Mr. H. Davies.

HENDON. *Roads.* The R.D.C. has made an agreement with Messrs. John Laing and Son, Ltd., in connection with the construction of roads on two estates at Great Stanmore.

HILLINGDON. *Land Development.* Mr. R. T. Warren is to develop land in the vicinity of Uxbridge Road.

ILFORD. *Mains and Services, etc.* The Corporation Electricity Committee is seeking sanction to borrow £30,000 for mains and services and £10,000 for wiring installations.

KINGSBURY. *School.* Middlesex Education Committee is to proceed with the enlargement of the Fryent council school, Kingsbury, to accommodate another 500 children.

POPLAR. *Municipal Offices.* The B.C. has approved plans of the new municipal offices proposed to be erected in Bow. With regard to the public hall in the building, the Council has approved the general lay-out, and authorized provision to be made so that the hall can be made available for meetings, concerts and dancing. The quantity surveyor's estimate for the building is £137,500.

SOUTHALL-NORWOOD. *Public Offices and Baths.* The U.D.C. has obtained sanction to borrow £11,550 for the purchase of the St. Joseph's School site, for the erection of public offices, for station and baths.

UPPER NORWOOD *Library.* The Lambeth and Croydon Corporation are to extend the Upper Norwood Joint Library, at a cost of £3,400.

SOUTH-WESTERN COUNTIES

FARMBOROUGH. *School.* The Hampshire Education Committee is to erect a secondary school for 400 boys, at a cost of £30,000.

GUILDFORD. *Houses.* The Corporation has granted an application by Messrs. F. May and Sons to develop 14 acres of the Winterhill Estate, Burpham, at six houses per acre.

GUILDFORD. *Houses.* Plans passed by the Corporation: Development, Winterhill Estate, Burpham, for Messrs. Armstrong & Co.; four houses, Sheepfold Road, for Mr. W. J. Piner; two houses, Grove Road, for Guildford Estates, Ltd. Plans submitted: 18 houses, Grange Road, for Chapman Building Co.

MIDLAND COUNTIES

BURSLEM. *Houses.* Plans passed at six houses, off Bank Hall Road, for Mr. J. Dickinson: six houses, Edward Street, Smallthorne, for Mr. W. G. Hollins; 10 houses, Bank Hall Road, for Messrs. J. H. Broadhurst and Son; five houses, Chatterley Street, for Mr. F. Barlow.

GLOSSOP. *Houses.* The Corporation is to seek sanction to erect 30 small houses for aged people, provided the inclusive rent of such houses shall not exceed 6s. per week.

HANLEY. *Houses.* Plans passed: Two houses, Longton Road, for Mr. J. James; four houses, Trent Terrace, for Mr. A. G. Owen; 13 houses, Balfour Street, for Mr. A. Lewis.

KETTERING. *Houses and Shop.* Plans passed by the U.D.C.: Four houses, London Road, for Mr. C. W. Miller; 10 houses, Wordsworth Road, for Messrs. F. G. Barlow Ltd.; four houses, Shelley Road, for Messrs. Phillips and Slow Ltd.; shop and house, London Road, for Mr. P. Cook; eight houses, Linden Avenue, for Messrs. Allcock and Sisson.

MANSFIELD. *Houses.* The Corporation is to erect 40 houses on the rehousing estate, at a cost of £16,800 by direct labour.

Plans passed: Six houses, Robin Down Lane, for Mr. J. P. Smith; 10 houses, Carisbrooke Avenue, for Messrs. Rose, Curtis & Co. Plans submitted: 44 houses, Cornwall Avenue, for Mr. C. H. Hill.

NORTHAMPTON. *Library.* The Corporation is to proceed with the erection of a branch library at Far Cotton, at an estimated cost of £3,000.

RAWTENSTALL. *Baths and Office Accommodation.* At the Corporation it was reported that a subcommittee had met to consider the provision of public baths and additional office accommodation.

NORTHERN COUNTIES

CHORLEY. *Small Holdings.* The Lancashire C.C. is to provide small holdings on the Duxworth estate, Chorley, at a cost of £11,400.

ECCLES. *Library, etc.* The Corporation has approved sketch plans of the branch library, etc., proposed to be erected at the junction of Parrin Lane and Worsley Road, Winton. The plans show a one-storey building comprising a branch library, reading rooms, public conveniences and shelter, together with an adjoining two-storey, parlour-type house for the use of the caretakers of the premises.

JARROW. *Houses.* The Corporation is to prepare a scheme for the provision of 50 houses for the aged.

KEIGHLEY. *Offices and Houses.* Plans passed by the Corporation: Offices, Greengate Road, for Messrs. G. Hattersley and Sons, Ltd.; 20 houses, Guard House Road, for Messrs. R. Newell & Partners.

SHIPLEY. *Houses.* Plans passed by the U.D.C.: Two houses, Moorhead Crescent, for Mr. C. Houldon; six houses, Wrose Mount, for Messrs. Walton Bros.; 28 houses, Low Ash Road, for Mr. J. Haigh; two houses, Wrose Road, for Messrs. A. and F. Mellor; four houses, Poplar Grove, for Messrs. Dale and Wild.

TUNSTALL. *Houses.* Plans passed: Four houses, Chell Green Avenue, for Mr. C. Kearton; two houses, Barber Road, for Messrs. Ray and Sons; 12 houses, High Street, Goldenhill, for Mr. G. H. Wignall.

WALLSEND. *Houses.* The Corporation is to erect 100 houses at the Holy Cross estate and at Station Road, without financial assistance, at a cost of about £300 per house.

WARRINGTON. *Housing.* The Corporation is considering the purchase of 50 acres at Orford for housing purposes.

SCOTLAND

GLASGOW. *Houses.* The Corporation Highways Committee has approved proposals for the erection of 350 intermediate houses at Bellahouston.

GLASGOW. *Police Training Quarters.* At the Corporation Police Committee it was reported that plans for providing up-to-date training quarters and barracks accommodation for recruits in accordance with modern conditions, at an estimated cost of £25,000, had been forwarded to the Scottish Office which had suggested certain modifications in connection with the carrying out of the work, and with regard to any future extension of the premises.

GLASGOW. *Schools.* The Education Committee has decided to proceed with the following schemes:—Extension at Victoria Drive School; extensions at Collingwood House School; to erect a temporary school at East Keppoch to accommodate 600 pupils; to erect a permanent school in Kingsbridge Drive, King's Park; to erect a permanent school at Carnwadric to accommodate 1,000 pupils; and erect an advanced division school for Roman Catholic children in Southcroft Street.

WALES

SWANSEA. *Bungalows and Houses.* The Corporation has granted the following building leases:—Mr. Syd. Davies, for 18 bungalows on the Cockett Farm estate; Mr. A. E. Wright, for 10 houses, and Mr. David Griffiths, for six houses, on the Upper Cwmgwyn estate.

TENDERS ACCEPTED

BRIDGES. The Lancashire C.C. has accepted the following tenders: Reconstruction of Glen Mary Bridge, Coniston—Messrs. J. Leck and Sons, of Greenodd. Construction of retaining wall at Read county bridge—Messrs. Ormerod and Shields, of Preston. Strengthening Euxton Chapel bridge, Euxton—Messrs. E. Matthews and Son, of Euxton. Reconstruction of Gubberford county bridge, Garstang—Messrs. T. Croft and Sons, Ltd.

Manufacturers' Items

Mr. Lind, a director of Peter Lind and Co., Ltd., engineers and contractors, Westminster, was made a Knight of the Danish Order of Dannebrog by the King of Denmark on December 11 last.

*

The Reinforced Concrete Association, of 20 Dartmouth Street, S.W.1, announces that it is in a position to deliver lectures on reinforced concrete and its uses in modern buildings and engineering structures, to architectural and engineering societies. Secretaries of such societies should communicate with the Association at 20 Dartmouth Street, S.W.1.

*

The newly published catalogue of the Silverdale Tileries Co., contains a comprehensive list, with coloured illustrations, of the tiles manufactured by the firm.

Apart from this, however, there are several new features of special interest to architects. The last pages of the catalogue contain a series of tables giving the sizes and quantities of tiles required for various types of roofs, and the lengths per foot of span of hip, valley and common rafters.

Silverdale Tiles have been manufactured since the latter part of the eighteenth century, and there are still almost unlimited supplies of clay, ensuring continuity of production. The firm is able, therefore, under certain conditions, to give a definite guarantee for the tiles, and the terms of this guarantee are explained in the catalogue.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I s. d.	II s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A_1	Abergavenny ..	S Wales & M.	1 5	1 0¾
A_3	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1¼
A_3	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1¼
A	Airdrie ..	Scotland	*1 5½	1 1¼
C	Aldeburgh ..	E. Counties	1 1½	10½
A	Altrincham ..	N.W. Counties	1 5½	1 1¼
B_3	Appleby ..	N.W. Counties	1 2	10½
A	Ashton-under-Lyne	N.W. Counties	1 5½	1 1¼
A_3	Atherstone ..	Mid. Counties	1 4	1 0
B_2	Aylesbury ..	S. Counties	1 2½	11
B_1	BANBURY ..	S. Counties	1 3	11¼
B_1	Bangor ..	N.W. Counties	1 3	11¼
A_3	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1¼
B	Barnstaple ..	S.W. Counties	1 3½	11¾
A	Barrow ..	N.W. Counties	1 5½	1 1¼
A	Barry ..	S. Wales & M.	1 5½	1 1¼
B_1	Basingstoke ..	S.W. Counties	1 3	11¼
A_2	Bath	S.W. Counties	1 4½	1 0½
A	Batley ..	Yorkshire	1 5½	1 1¼
A_2	Bedford ..	E. Counties	1 4½	1 0½
A_2	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_3	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	*1 7	1 2¼
A	Birmingham	Mid. Counties	1 5½	1 1¼
A_1	Bishop Auckland	N.E. Coast	1 5	1 0¾
A	Blackburn ..	N.W. Counties	1 5½	1 1¼
A	Blackpool ..	N.W. Counties	1 5½	1 1¼
A	Blyth ..	N.E. Coast	1 5½	1 1¼
B_1	Bognor ..	S. Counties	1 3	11¼
A	Bolton ..	N.W. Counties	1 5½	1 1¼
A_3	Boston ..	Mid. Counties	1 4	1 0
A_3	Bournemouth ..	S. Counties	1 4	1 0
B_2	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1¼
A_1	Brentwood ..	E. Counties	1 5	1 0¾
A	Bridgend ..	S. Wales & M.	1 5½	1 1¼
B_1	Bridgwater ..	S.W. Counties	1 3	11¼
A_1	Bridlington ..	Yorkshire	1 5	1 0¾
A	Brighouse ..	Yorkshire	1 5½	1 1¼
A_3	Brighton ..	S. Counties	1 4	1 0
A	Bristol ..	S.W. Counties	1 5½	1 1¼
B_2	Brixham ..	S.W. Counties	1 2½	11
A_2	Bromsgrove ..	Mid. Counties	1 4½	1 0½
B_3	Bromyard ..	Mid. Counties	1 2	10½
A	Burnley ..	N.W. Counties	1 5½	1 1¼
A	Burslem ..	Mid. Counties	1 5½	1 1¼
A	Burton-on-Trent	Mid. Counties	1 5½	1 1¼
A	Bury ..	N.W. Counties	1 5½	1 1¼
A_1	Buxton ..	N.W. Counties	1 5	1 0¾
A_1	CAMBRIDGE ..	E. Counties	1 5	1 0¾
B_1	Canterbury ..	S. Counties	1 3	11¼
A	Cardiff ..	S. Wales & M.	1 5½	1 1¼
A	Carlisle ..	N.W. Counties	1 5½	1 1¼
B	Carmarthen ..	S. Wales & M.	1 3½	11¾
B	Carnarvon ..	N.W. Counties	1 3½	11¾
A	Carnforth ..	N.W. Counties	1 5½	1 1¼
A	Castleford ..	Yorkshire	1 5½	1 1¼
B	Chatham ..	S. Counties	1 3½	11¾
A_2	Chelmsford ..	E. Counties	1 4	1 0
A_2	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester ..	N.W. Counties	1 5½	1 1¼
A	Chesterfield ..	Mid. Counties	1 5½	1 1¼
B_1	Chichester ..	S. Counties	1 3	11¼
A	Chorley ..	N.W. Counties	1 5½	1 1¼
B_1	Cirencester ..	S. Counties	1 3	11¼
A	Clitheroe ..	N.W. Counties	1 5½	1 1¼
A	Clydebank ..	Scotland	1 5½	1 1¼
A	Coalville ..	Mid. Counties	1 5½	1 1¼
A_3	Colchester ..	E. Counties	1 4	1 0
A	Colne ..	N.W. Counties	1 5½	1 1¼
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_1	Consett ..	N.E. Coast	1 5	1 0¾
A_2	Conway ..	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1¼
A_2	Crewe ..	N.W. Counties	1 4½	1 0½
A_3	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON ..	N.E. Coast	1 5½	1 1¼
A	Darwen ..	N.W. Counties	1 5½	1 1¼
B_1	Deal	S. Counties	1 3	11¼
A_3	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby ..	Mid. Counties	1 5½	1 1¼
A	Dewsbury ..	Yorkshire	1 5½	1 1¼
B	Didcot ..	S. Counties	1 3½	11¾
A	Doncaster ..	Yorkshire	1 5½	1 1¼
B_2	Dorchester ..	S.W. Counties	1 2½	11
A_2	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley ..	Mid. Counties	1 5½	1 1¼
A	Dundee ..	Scotland	1 5½	1 1¼
A	Durham ..	N.E. Coast	1 5½	1 1¼
A_3	EASTBOURNE ..	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0¾
A	Edinburgh ..	Scotland	1 5½	1 1¼
A_1	E. Glamorgan-shire, Rhondda Valley District	S. Wales & M.	1 5	1 0¾
A_2	Exeter ..	S.W. Counties	*1 4½	1 0½
B	Exmouth ..	S.W. Counties	1 3½	11¾
A_2	FELIXSTOWE ..	E. Counties	1 4	1 0
A_2	Filey	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1¼
B_1	Folkestone ..	S. Counties	1 3	11¼
A	Frodsham ..	N.W. Counties	1 5½	1 1¼
B_2	Frome	S.W. Counties	1 2½	11
A	GATESHEAD ..	N.E. Coast	1 5½	1 1¼
B	Gillingham ..	S. Counties	1 3½	11¾
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole	Yorkshire	1 4½	1 0½
A_2	Gosport ..	S. Counties	1 4½	1 0½
A_2	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0¾
A	Greenock ..	Scotland	*1 5½	1 1¼
A	Grimsby ..	Yorkshire	1 5½	1 1¼
B	Guildford ..	S. Counties	1 3½	11¾
A	HALIFAX ..	Yorkshire	1 5½	1 1¼
A	Hanley ..	Mid. Counties	1 5½	1 1¼
A	Harrogate ..	Yorkshire	1 5½	1 1¼
A	Hartlepools ..	N.E. Coast	1 5½	1 1¼
B	Harwich ..	E. Counties	1 3½	11¾
B_1	Hastings ..	S. Counties	1 3	11¼
A_2	Hatfield ..	S. Counties	1 4½	1 0½
B	Hereford ..	S.W. Counties	1 3½	11¾
A_2	Hertford ..	E. Counties	1 4½	1 0½
A	Heysham ..	N.W. Counties	1 5½	1 1¼
A	Howden ..	N.E. Coast	1 5½	1 1¼
A	Huddersfield ..	Yorkshire	1 5½	1 1¼
A	Hull	Yorkshire	1 5½	1 1¼
A	ILKLEY ..	Yorkshire	1 5½	1 1¼
A	Immingham ..	Mid. Counties	1 5½	1 1¼
A_2	Ipswich ..	E. Counties	1 4½	1 0½
B_3	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1¼
A	KEIGHLEY ..	Yorkshire	1 5½	1 1¼
B	Kendal ..	N.W. Counties	1 3½	11¾
B	Keswick ..	N.W. Counties	1 3½	11¾
A_2	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster	Mid. Counties	1 4½	1 0½
B_1	King's Lynn ..	E. Counties	1 3	11¼
A	LANCASTER ..	N.W. Counties	1 5½	1 1¼
A_1	Leamington ..	Mid. Counties	1 5	1 0¾
A	Leeds	Yorkshire	1 5½	1 1¼
A	Leek	Mid. Counties	1 5½	1 1¼
A	Leicester ..	Mid. Counties	1 5½	1 1¼
A	Leigh	N.W. Counties	1 5½	1 1¼
B_3	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln ..	Mid. Counties	1 5½	1 1¼
	Liverpool ..	N.W. Counties	*1 7	1 2¼
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly ..	S. Wales & M.	1 5½	1 1¼
	London (12-miles radius)		1 7	1 2¼
	Do. (12-15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1¼
A	Loughborough	Mid. Counties	1 5½	1 1¼
A_3	Luton	E. Counties	1 4	1 0
A	Lytham ..	N.W. Counties	1 5½	1 1¼
A_1	MACCLES-FIELD	N.W. Counties	1 5	1 0¾
B	Maidstone ..	S. Counties	1 3½	11¾
A_3	Malvern ..	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1¼
A	Mansfield ..	Mid. Counties	1 5½	1 1¼
B_1	Margate ..	S. Counties	1 3	11¼
A	Matlock ..	Mid. Counties	1 4	1 0
A_1	Merthyr ..	S. Wales & M.	1 5	1 0¾
A	Middesbrough	N.E. Coast	1 5½	1 1¼
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1 2½	11
A	Morecambe ..	N.W. Counties	1 5½	1 1¼
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1¼
A	Nelson ..	N.W. Counties	1 5½	1 1¼
A	Newcastle ..	N.E. Coast	1 5½	1 1¼
A	Newport ..	S. Wales & M.	1 5½	1 1¼
A	Normanton ..	Yorkshire	1 5½	1 1¼
A	Northampton	Mid. Counties	1 5½	1 1¼
A	North Staffs ..	Mid. Counties	1 5½	1 1¼
A	North Shields ..	N.E. Coast	1 5½	1 1¼
A_1	Norwich ..	E. Counties	1 5	1 0¾
A	Nottingham ..	Mid. Counties	1 5½	1 1¼
A	Nuneaton ..	Mid. Counties	1 5½	1 1¼
A_3	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham ..	N.W. Counties	1 5½	1 1¼
A_3	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford ..	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	*1 5½	1 1¼
B_3	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth ..	Scotland	*1 5½	1 1¼
A_2	Peterborough ..	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	*1 5½	1 1¼
A	Pontefract ..	Yorkshire	1 5½	1 1¼
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0¾
A_2	Portsmouth ..	S. Counties	1 4½	1 0½
A	Preston ..	N.W. Counties	1 5½	1 1¼
A	QUEENSFERRY	N.W. Counties	1 5½	1 1¼
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate ..	S. Counties	1 3½	11¾
A_3	Retford ..	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0¾
A_3	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1¼
B	Rochester ..	S. Counties	1 3½	11¾
A_1	Ruabon ..	N.W. Counties	1 5	1 0¾
A	Rugby ..	Mid. Counties	1 5½	1 1¼
A_2	Rugeley ..	Mid. Counties	1 4½	1 0½
A	Runcorn ..	N.W. Counties	1 5½	1 1¼
A_1	ST. ALBANS ..	E. Counties	1 5	1 0¾
A	St. Helens ..	N.W. Counties	1 5½	1 1¼
B_2	Salisbury ..	S.W. Counties	1 2½	11
A_1	Scarborough ..	Yorkshire	1 5	1 0¾
A	Scunthorpe ..	Mid. Counties	1 5½	1 1¼
A	Sheffield ..	Yorkshire	1 5½	1 1¼
A	Shipley ..	Yorkshire	1 5½	1 1¼
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton ..	Yorkshire	1 4½	1 0½
A_2	Slough ..	S. Counties	1 4½	1 0½
A_1	Solihull ..	Mid. Counties	1 5	1 0¾
A_2	Southampton ..	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport ..	N.W. Counties	1 5½	1 1¼
A	S. Shields ..	N.E. Coast	1 5½	1 1¼
A_1	Stafford ..	Mid. Counties	1 5	1 0¾
A	Stockport ..	N.W. Counties	1 5½	1 1¼
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1¼
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1¼
B	Stroud ..	S.W. Counties	1 3½	11¾
A	Sunderland ..	N.E. Coast	1 5½	1 1¼
A	Swadlincote ..	Mid. Counties	1 5½	1 1¼
A	Swansea ..	S. Wales & M.	1 5½	1 1¼
A_3	Swindon ..	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0¾
B	Taunton ..	S.W. Counties	1 3½	11¾
A	Teesside Dist. ..	N.E. Counties	1 5½	1 1¼
A_3	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1¼
A_1	Torquay ..	S.W. Counties	1 5	1 0¾
B_2	Truro	S.W. Counties	1 2½	11
B	Tunbridge Wells	S. Counties	1 3½	11¾
A	Tunstall ..	Mid. Counties	1 5½	1 1¼
A	Tyne District ..	N.E. Coast	1 5½	1 1¼
A	WAKEFIELD ..	Yorkshire	1 5½	1 1¼
A	Walsall ..	Mid. Counties	1 5½	1 1¼
A	Warrington ..	N.W. Counties	1 5½	1 1¼
A_1	Warwick ..	Mid. Counties	1 5	1 0¾
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid. Counties	1 5½	1 1¼
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby ..	Yorkshire	1 4½	1 0½
A	Widnes ..	N.W. Counties	1 5½	1 1¼
A	Wigan	N.W. Counties	1 5½	1 1¼
B	Winchester ..	S. Counties	1 3½	11¾
A_2	Windsor ..	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1¼
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_3	Worksop ..	Yorkshire	1 4	1 0
A_1	Wrexham ..	N.W. Counties	1 5	1 0¾
A_3	Wycombe ..	S. Counties	1 4	1 0
B_2	YARMOUTH ..	E. Counties	1 3	11¼
B_1	Yeovil	S.W. Counties	1 3	11¼
A	York	Yorkshire	1 5½	1 1¼

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	£ s. d.
Bricklayer . . . . per hour	1 7
Carpenter . . . . ,,	1 7
Joiner . . . . ,,	1 7
Machinist . . . . ,,	1 8
Mason (Banker) . . . ,,	1 7
,, (Fixer) . . . ,,	1 8
Plumber . . . . ,,	1 7
Painter . . . . ,,	1 6
Paperhanger . . . ,,	1 6
Glazier . . . . ,,	1 7
Slater . . . . ,,	1 7
Scaffolder . . . . ,,	1 3
Timberman . . . . ,,	1 3
Navvy . . . . ,,	1 2½
General Labourer . . . ,,	1 2½
Lorryman . . . . ,,	1 8
Crane Driver . . . ,,	1 6
Watchman . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£ s. d.
Grey Stone Lime . . . . per ton	2 2 0
Blue Lias Lime . . . . ,,	1 16 6
Hydrated Lime . . . . ,,	3 0 9
Portland Cement . . . ,,	2 6 0
Rapid Hardening Cement . . ,,	2 13 6
White Portland Cement . . ,,	8 15 0
Thames Ballast . . . . per Y.C.	6 3
¾" Crushed Ballast . . . ,,	6 9
Building Sand . . . . ,,	7 3
Washed Sand . . . . ,,	8 3
2" Broken Brick . . . ,,	8 0
¾" ,, ,, . . . ,,	10 3
Pan Breeze . . . . ,,	6 6
Coke Breeze . . . . ,,	8 9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

	4" s. d.	6" s. d.
Straight Pipes . .per F.R	0 9	1 1
Bends . . . each	1 9	2 6
Taper Bends . . ,,	3 6	5 3
Rest Bends . . ,,	4 3	6 3
Single junctions . . ,,	3 6	5 3
Double . . ,,	4 9	6 6
Straight channels . .per F.R.	1 6	2 6
¾" Channel bends . . each	2 9	4 0
Channel junctions . ,,	4 6	6 6
Channel tapers . . ,,	2 9	4 0
Yard gullies . . ,,	6 9	8 9
Interceptors . . ,,	16 0	19 6

IRON DRAINS:

Iron drain pipe . . per F.R.	1 6 — 2 6
Bends . . . each	5 0 — 10 6
Inspection bends . . ,,	9 0 — 15 0
Single junctions . . ,,	8 9 — 18 0
Double junctions . . ,,	13 6 — 30 0
Lead wool . . . lb.	6 —
Gaskin . . . ,,	5 —

BRICKLAYER

	£ s. d.
Flettons . . . . per M.	2 18 0
Grooved do. . . . ,,	3 0 0
Phorpres bricks . . ,,	2 18 0
Stocks, 1st quality . . ,,	4 11 0
,, 2nd ,, . . ,,	4 2 6
Blue Bricks, Pressed . . ,,	8 17 6
,, Wirecuts . . ,,	7 17 6
,, Brindles . . ,,	7 0 0
,, Bullnose . . ,,	9 0 0
Red Sand-faced Facings . ,,	6 18 6
Red Rubbers for Arches . ,,	12 0 0
Multicoloured Facings . ,,	7 10 0
Luton Facings . . . ,,	7 10 0
Phorpres White Facings . ,,	3 17 3
Phorpres Rustic Facings . ,,	3 12 3
Midhurst White Facings . ,,	5 0 0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:	
Stretchers . . . . ,,	21 0 0
Headers . . . . ,,	20 10 0
Bullnose . . . . ,,	27 10 0
Double Stretchers . . ,,	29 10 0
Double Headers . . ,,	26 10 0
Glazed Second Quality, *Less* . ,,	1 0 0
,, Buffs and Creams, *Add* . ,,	2 0 0
,, Other Colours . . ,,	5 10 0
2" Breeze Partition Blocks . per Y.S.	1 7
2½" ,, ,, ,, . . ,,	1 10
3" ,, ,, ,, . . ,,	2 1
4" ,, ,, ,, . . ,,	2 6

MASON

	s. d.
The following d/d F.O.R. at Nine Elms:	
Portland stone, Whitbed . . F.C.	4 4½
,, ,, Basebed . . ,,	4 9
Bath stone . . . . ,,	2 11
York stone . . . . ,,	6 6
,, ,, Sawn templates . ,,	7 6
,, ,, Paving, 2" . . F.S.	1 8
,, ,, ,, 3" . . ,,	2 6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£ s. d.
24" × 12" Duchesses . . per M.	28 17 6
22" × 12" Marchionesses . ,,	24 10 0
20" × 10" Countesses . . ,,	19 5 0
18" × 10" Viscountesses . ,,	15 10 0
18" × 9" Ladies . . . ,,	13 17 6
Westmorland green (random sizes) . per ton	8 10 0
Old Delabole slates d/d in full truck loads to Nine Elms Station:	
20" × 10" medium grey per 1,000 (actual)	21 11 6
,, green ,, ,,	24 7 4
Best machine roofing tiles . . ,,	4 10 0
Best hand-made do. . . . ,,	5 0 0
Hips and valleys . . . each	9½
,, hand-made . . . ,,	10
Nails, compo . . . . lb.	1 4
,, copper . . . ,,	1 6

CARPENTER AND JOINER

	s. d.
Good carcassing timber . . F.C.	2 2
Birch . . . . as 1" F.S.	9
Deal, Joiner's . . . ,, ,,	5
,, ,, 2nds . . ,, ,,	4
Mahogany, Honduras . . ,, ,,	1 3
,, African . . ,, ,,	1 1
,, Cuban . . ,, ,,	2 6
Oak, plain American . . ,, ,,	1 0
,, Figured ,, . . ,, ,,	1 3
,, Plain Japanese . . ,, ,,	1 2
,, Figured ,, . . ,, ,,	1 8
,, Austrian wainscot . ,, ,,	1 6
,, English . . ,, ,,	1 11
Pine, Yellow . . ,, ,,	1 0
,, Oregon . . ,, ,,	4
,, British Columbian . ,, ,,	4
Teak, Moulmein . . ,, ,,	1 3
,, Burma . . ,, ,,	1 2
Walnut, American . . ,, ,,	2 3
,, French . . ,, ,,	2 3
Whitewood, American . . ,, ,,	1 1
Deal floorings, ¾" . . . Sq.	18 6
,, 1" . . . ,,	1 1 6
,, 1¼" . . . ,,	1 2 0
,, 1½" . . . ,,	1 5 0
,, 1¾" . . . ,,	1 10 0
Deal matchings ¾" . . ,,	14 0
,, ¾" . . ,,	15 6
,, 1" . . ,,	1 4 0
Rough boarding ¾" . . ,,	16 0
,, 1" . . ,,	18 0
,, 1½" . . ,,	1 6 0

Plywood, per ft. sup. Thickness	¼"	⅜"	½"	¾"	1"
Qualities	AA. A. B. d. d. d.	AA. A. B. d. d. d.	AA. A. B. d. d. d.	AA. A. B. d. d. d.	AA. A. B. d. d. d.
Birch	4 3 2	5 4 3	7½ 6 4½	8½ 7 6	
Alder	3½ 3 2	5 4 3	6½ 5½ 4½	8 7 6	
Gaboon Mahogany	4 3 3	6½ 5½ 4½	9½ 7½ –	1/0½ 10 –	
Figured Oak 1 side	8½ 7 –	10 8 –	11½ – –	1/6 – –	
Plain Oak 1 side	6½ 6 –	7½ 7 –	9½ – –	1/– – –	
Oregon Pine	5 4 –	5½ 5 –	6 – –	– – –	

	d.
Scotch glue . . . . lb.	8

SMITH AND FOUNDER

Tubes and Fittings:

(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	¼"	½"	1"	1¼"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10
Pieces, 12"-23¼" long each	10	1/1	1/11	2/8	4/9
,, 3"-11¾" long ,,	7	9	1/3	1/8	3/–
Long screws, 12"-23¼" long ,,	11	1/3	2/2	2/10	5/3
,, ,, 3"M-½" long ,,	8	10	1/5	1/11	3/6
Bends . . . ,,	8	11	1/7⅛	2/7½	5/2
Springs not socketed . ,,	5	7	1/1¼	1/11½	3/11
Socket unions . . ,,	2/–	3/–	5/6	6/9	10/–
Elbows, square . . ,,	10	1/1	1/6	2/2	4/3
Tees . . . ,,	1/–	1/3	1/10	2/6	5/1
Crosses . . . ,,	2/2	2/9	4/1	5/6	10/6
Plain Sockets and nipples ,,	⅜	4	6	8	1/3
Diminished sockets . ,,	4	6	9	1/–	2/–
Flanges . . . ,,	9	1/–	1/4	1/9	2/9
Caps . . . ,,	3½	5	8	1/–	2/–
Backnuts . . . ,,	2	3	5	6	1/1
Iron main cocks . . ,,	1/6	2/3	4/2	5/4	11/6
,, ,, with brass plugs ,,	—	4/–	7/6	10/–	21/–

Discounts: TUBES.

Per cent.		Per cent.
Gas . . . 65	Galvanized gas .	52½
Water . . . 61½	,, water	47½
Steam . . . 57½	,, steam	42½

FITTINGS.

Per cent.		Per cent.
Gas . . . 57½	Galvanized gas .	47½
Water . . . 52½	,, water	42½
Steam . . . 47½	,, steam	37½

SMITH AND FOUNDER—*continued*

	s. d.
Rolled steel joists cut to length . . cwt.	10 0
Mild steel reinforcing rods, ⅜" . . ,,	8 6
,, ,, ½" . . ,,	8 3
,, ,, ⅝" . . ,,	8 0
,, ,, ¾" . . ,,	7 6
,, ,, ⅞" . . ,,	7 6
,, ,, 1" . . ,,	7 6
,, ,, 1¼" . . ,,	7 6
,, ,, 1½" . . ,,	7 6

Cast-iron rain-water pipes of ordinary thickness metal	3" s. d.	4" s. d.
	F.R 8	10
Shoes	each 2 0	3 0
Anti-splash shoes . . . ,, 4 6		8 0
Boots . . . . ,, 3 0		4 0
Bends . . . . ,, 2 7		3 9
,, with access door . . ,, —		6 3
Heads . . . . ,, 4 0		5 0
Swan-necks up to 9" offsets . ,, 3 9		6 0
Plinth bends, 4½" to 6" . ,, 3 9		5 3
Half-round rain-water gutters of ordinary thickness metal	F.R. 5	6
Stop ends	each 6	6
Angles . . . . ,, 1 7		1 11
Obtuse angles . . . ,, 2 0		2 6
Outlets . . . . ,, 1 9		2 3

PLUMBER

	£ s. d.
Lead, milled sheets . . . cwt.	1 0 0
,, drawn pipes . . . ,,	17 0
,, soil pipe . . . ,,	1 0 0
,, scrap . . . ,,	10 6
Solder, plumbers' . . . lb.	9½
,, fine do. . . . ,,	1 0
Copper, sheet . . . ,,	8½
,, tubes . . . ,,	11

L.C.C soil and waste pipes:	3"	4"	6"
Plain cast . .	F.R. 1 0	1 2	2 6
Coated . . .	,, 1 1	1 3	2 8
Galvanized . .	,, 2 0	2 6	4 6
Holderbats . .	each 3 10	4 0	4 9
Bends . . .	,, 3 9	5 3	10 3
Shoes . . .	,, 2 10	4 4	9 6
Heads . . .	,, 4 8	8 5	12 9

PLASTERER

	£ s. d.
Lime, chalk . . . per ton	2 5 0
Plaster, coarse . . . ,,	2 10 0
,, fine . . . ,,	4 15 0
Hydrated lime . . . ,,	3 0 9
Sirapite . . . . ,,	3 6 0
Keene's cement . . . ,,	5 0 0
Sand, washed . . . Y.C.	11 6
Hair . . . . lb.	6
Laths, sawn . . . bundle	2 4
,, rent . . . ,,	3 9
Lath nails . . . lb.	3½

GLAZIER

	s. d.	s. d.
Sheet glass, 21 oz., squares n/e 2 ft.		s. F.S. 2½
,, ,, 26 oz. ,, ,, ,, ,,		3½
Arctic glass, white . . ,,		7
Cathedral glass, white, dbl.-rolled, plain, hammered, rimpled, waterwite,		6½
¼" Hartley's rough rolled . ,,		7
¼" ,, wired cast . ,,		10
¼" Georgian wired cast . ,,		11
¼" Polished plate, n/e 1 ft. . ,,	†10 to‡1	1
,, ,, 2 . ,,	†1 2 ,, ‡1	4
,, ,, 3 . ,,	†1 8 ,, ‡1	11
,, ,, 4 . ,,	†2 3 ,, ‡2	6
,, ,, 6 . ,,	†2 7 ,, ‡2	9
,, ,, 8 . ,,	†2 9 ,, ‡3	2
,, ,, 12 . ,,	†3 1 ,, ‡3	7
,, ,, 20 . ,,	†3 7 ,, ‡4	2
,, ,, 45 . ,,	†3 11 ,, ‡4	7
,, ,, 65 . ,,	†4 4 ,, ‡4	11
,, ,, 90 . ,,	†4 9 ,, ‡5	5
,, ,, 100 . ,,	†5 0 ,, ‡5	7
Vita glass, sheet, n/e 1 ft. . ,,		1 0
,, ,, ,, 2 . ,,		1 3
,, ,, ,, over 2 . ,,		1 9
,, ,, plate, n/e 1 ft. . ,,		1 6
,, ,, ,, 2 . ,,		3 0
,, ,, ,, 5 . ,,		4 0
,, ,, ,, 7 . ,,		5 0
,, ,, ,, 15 . ,,		6 0
,, ,, ,, over 15 . ,,		7 6
Putty, linseed oil . . lb.		3

†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

	£ s. d.
White lead in 1 cwt. casks . cwt.	2 6 0
Linseed oil . . . . gall.	2 2½
Boiled oil . . . . ,,	2 4½
Turpentine . . . . ,,	4 1½
Patent knotting . . . ,,	14 0
Distemper, washable . . . cwt.	2 6 0
,, ordinary . . . ,,	2 0 0
Whitening . . . . ,,	4 0
Size, double . . . firkin	3 0
Copal varnish . . . gall.	13 0
Flat varnish . . . ,,	14 0
Outside varnish . . . ,,	16 0
White enamel . . . ,,	1 15 0
Ready-mixed paint . . ,,	13 6
Brunswick black . . ,,	7 6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR

		£ s. d
Digging over surface n/e 12" deep and cart away	Y.S.	2 9
" to reduce levels n/e 5' 0" deep and cart away	Y.C.	8 6
" to form basement n/e 5' 0" deep and cart away	"	9 0
" " 10' 0" deep and cart away	"	9 6
" " 15' 0" deep and cart away	"	10 0
If in stiff clay	add "	2 6
If in underpinning	" "	4 0
Planking and strutting to sides of excavation	F.S.	1 0
" " to pier holes	"	5
" " to trenches	"	5
" " extra, only if left in	"	3
Hardcore, filled in and rammed	Y.C.	10 0
Portland cement concrete in foundations (6-1)	"	1 6 0
" " (4-2-1)	"	1 12 6
" " underpinning	"	1 16 0
Finishing surface of concrete, spade face	Y.S.	7

DRAINLAYER

		4" s. d.	6" s. d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1 6	2 3
Extra, only for bends	Each	2 8	3 9
" junctions		3 9	4 6
Gullies and gratings	"	16 6	18 0
Cast iron drains, and laying and jointing	F.R.	4 9	6 9
Extra, only for bends	Each	10 6	15 6

BRICKLAYER

		£ s. d.
Brickwork, Flettons in lime mortar	Per Rod	27 10 0
" " in cement	"	28 15 0
" Stocks in cement	"	35 0 0
" Blues in cement	"	52 0 0
Extra only for circular on plan	"	2 0 0
" backing to masonry	"	1 10 0
" raising on old walls	"	2 0 0
" underpinning	"	5 10 0
Fair Face and pointing internally	F.S.	1½
Extra over fletton brickwork for picked stock facings and pointing	"	8¼
" " " red brick facings and pointing	"	11
" " " blue brick facings and pointing	"	1 4
" " " glazed brick facings and pointing	"	3 6
Tuck pointing	"	7
Weather pointing in cement	"	3½
Slate dampcourse	"	10
Vertical dampcourse	"	1 1

ASPHALTER

		s. d.
½" Horizontal dampcourse	Y.S.	4 6
¾" Vertical dampcourse	"	6 9
¾" paving or flat	"	4 0
1" paving or flat	"	5 6
1"×6" skirting	F.R.	1 0
Angle fillet	"	2
Rounded angle	"	2
Cesspools	Each	5 0

MASON

		s. d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C.	17 9
Bath stone and do., all as last	"	13 6
Artificial stone and do.	"	13 0
York stone templates, fixed complete	"	10 6
" thresholds	"	13 6
" sills	"	1 0 6

SLATER AND TILER

		£ s. d.
Slating, Bangor or equal, laid to a 3" lap, and fixing with compo nails, 20"×10"	Sqr.	3 10 0
Do., 18"×9"	"	3 7 0
Do., 24"×12"	"	3 17 0
Westmorland slating, laid with diminished courses	"	6 0 0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course	"	3 0 0
Do., all as last, but of machine-made tiles	"	2 16 0
20"×10" medium Old Delabole slating, laid to a 3" lap (grey)	"	4 6 0
" " " " " " (green)	"	4 15 0

CARPENTER AND JOINER

		£ s. d.
Flat boarded centering to concrete floors, including all strutting	Sqr.	2 5 0
Shuttering to sides and soffits of beams	F.S.	8
" to stanchions	"	8
" to staircases	"	1 8
Fir and fixing in wall plates, lintols, etc.	F.C.	3 9
Fir framed in floors	"	4 6
" " roofs	"	6 6
" " trusses	"	7 6
" " partitions	"	8 6
¾" deal sawn boarding and fixing to joists	Sqr.	1 14 6
1" " " " "	"	1 17 6
1¼" " " " "	"	2 3 0
2"×2" fir battening for Countess slating	"	9 6
Do. for 4" gauge tiling	"	12 0
Stout feather-edged tilting fillet	F.R.	4½
Patent inodorous felt, 1 ply	Y.S.	2 3
" " " 2 "	"	2 9
" " " 3 "	"	3 3
Stout herringbone strutting to 9" joists	F.R.	10½
1" deal gutter boards and bearers	F.S.	1 2
1¼" " " "	"	1 6
2" deal wrought rounded roll	F.R.	8
1" deal grooved and tongued flooring, laid complete, including cleaning off	Sqr.	2 1 0
1¼" do.	"	2 10 0
1½" do.	"	2 17 0
1" deal moulded skirting, fixed on, and including grounds plugged to wall	F.S.	1 6
1¼" do.	"	1 9

CARPENTER AND JOINER—*continued*

		s. d.
1¼" deal moulded sashes of average size	F.S.	1 9½
2" " " " "	"	1 11½
1½" deal cased frames double hung, of 6"×3" oak sills, 1¼" pulley stiles, 1¼" heads, 1" inside and outside linings, ⅜" parting beads, and with brass faced axle pulleys, etc., fixed complete	"	3 7
2" " " " "	"	3 10
Extra only for moulded horns	Each	6
1¼" deal four-panel square, both sides, door	F.S.	2 0
2" " " " "	"	2 8
1¼" " but moulded both sides	"	2 4
2" " " " "	"	3 0
4"×3" deal, rebated and moulded frames	F.R.	1 0
4½"×3½" " " "	"	1 4
1½" deal tongued and moulded window board, on and including deal bearers	F.S.	1 9
1¼" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	"	2 6
1¼" deal moulded wall strings	"	2 1
1½" " outer strings	"	2 4
Ends of treads and risers housed to string	Each	1 9
3"×2" deal moulded handrail	F.R.	1 3
1"×1" deal balusters and housing each end	Each	2 0
1¼"×1¼" " " "	"	2 9
3"×3" deal wrought framed newels	F.R.	1 3
Extra only for newel caps	Each	6 0
Do., pendants	"	6 6

SMITH AND FOUNDER

		£ s. d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt.	15 6
Riveted plate or compound girders, and hoisting and fixing in position	"	19 6
Do. stanchions with riveted caps and bases and do.	"	19 0
Mild steel bar reinforcement, ½" and up, bent and fixed complete	"	17 6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S.	11
Wrot-iron caulked and cambered chimney bars	Per cwt.	1 10 0

PLUMBER

		£ s. d.
Milled lead and labour in flats	cwt.	1 13 6
Do. in flashings	"	1 17 0
Do. in covering to turrets	"	2 3 0
Do. in soakers	"	1 9 0
Labour to welted edge	F.R.	3½
Open copper nailing	"	3½
Close " "	"	4½

	½" s. d.	¾" s. d.	1" s. d.	1¼" s. d.	2" s. d.	4" s. d.
Lead service pipe and fixing with pipe hooks	F.R. 1 0	1 2	1 5	2 1	3 0	—
Do. soil pipe and fixing with cast lead tacks	—	—	—	—	—	5 9
Extra, only to bends	Each —	—	—	—	2 3	6 3
Do. to stop ends	" 6½	8	9	11	1 0	—
Boiler screws and unions	" 3 3	3 9	5 0	8 0	—	—
Lead traps	" —	—	—	6 3	8 9	—
Screw down bib valves	" 6 9	9 6	11 0	—	—	—
Do. stop cocks	" 9 9	11 0	14 6	20 6	47 0	—
4" cast-iron ½-rd. gutter and fixing					F.R.	1 0
Extra, only stop ends					Each	1 0
Do. angles					"	1 6
Do. outlets					"	2 9
4" dia. cast-iron rain-water pipe and fixing with ears cast on					F.R.	1 2
Extra, only for shoes					Each	1 3
Do. for plain heads					"	5 6

PLASTERER AND TILING

		s. d.
Expanded metal lathing, small mesh	Y.S.	2 3
Do. in n/w to beams, stanchions, etc.	"	3 6
Lathing with sawn laths to ceilings	"	1 4
½" screeding in Portland cement and sand for tiling, wood block floor, etc.	"	1 8
Do. vertical	"	2 1
Rough render on walls	"	1 3
Render, float and set in lime and hair	"	1 11
Render and set in Sirapite	"	2 1
Render, backing in cement and sand, and set in Keene's cement	"	2 10
Extra, only if on lathing	"	4
Keene's cement, angle and arris	F.R.	6
Arris	"	2
Rounded angle, small	"	3
Plain cornices in plaster, including dubbing out, per 1" girth	"	1½
1" granolithic pavings	Y.S.	3 6
1½" " "	"	4 6
6"×6" white glazed wall tiling and fixing on prepared screed	"	17 6
9"×3" " " " "	"	1 2 6
Extra, only for small quadrant angle	F.R.	8

GLAZIER

		s. d.
21 oz. sheet glass and glazing with putty	F.S.	7½
26 oz. do. and do.	"	8¾
Arctic glass and glazing with putty	"	1 1
Cathedral glass and do.	"	1 2
Glazing only, British polished plate	"	7
Extra, only if in beads	"	2
Washleather	F.R.	4

PAINTER

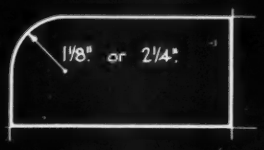
		s. d.
Clearcolle and whiten ceilings	Y.S.	6½
Do. and distemper walls	"	9
Do. with washable distemper	"	1 1
Knot, stop, prime and paint four coats o foil colour on plain surfaces	"	3 3
Do. on woodwork	"	3 6
Do. on steelwork	"	3 0
Do. and brush grain and twice varnish	"	5 6
Stain and twice varnish woodwork	"	1 11
Stain and wax-polish woodwork	"	4 6
French polishing	F.S.	1 2
Stripping off old paper	Piece	2 0
Hanging ordinary paper	from "	2 9

OAB
18-11-33

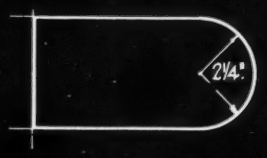
38·B·

NOTE. All specials are made in 3" & 2 5/8" sizes, & where not otherwise shown conform to the R.I.B.A. standard sizes.

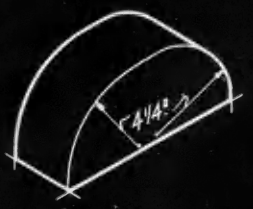
The numbers given below are the reference numbers of London Brick Company & Forders Ltd.



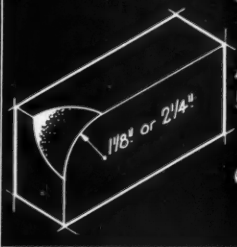
1. Single bullnose, 1⅛" radius.
2. Single bullnose, 2¼" radius.



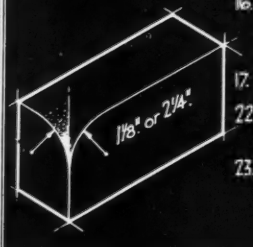
15. Bullnose on end (Cownose) 2¼" radius.



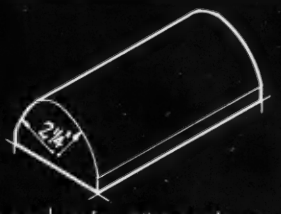
36. Coping brick, 4¼" radius.



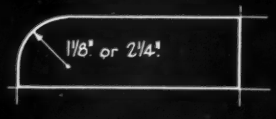
3. Single bullnose stop, 1⅛" radius, Right hand
4. ditto, Left hand.
5. Single bullnose stop, 2¼" radius, Right hand.
6. ditto, Left hand.



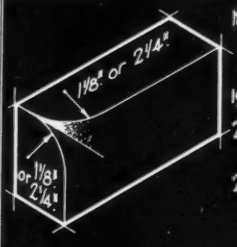
16. Bullnose internal return on end, 2¼" rad. Right hand
17. ditto, Left hand.
22. ditto, 1⅛" radius, Right hand.
23. ditto, 1⅛" radius, Left hand.



37. Coping brick 2¼" radius.



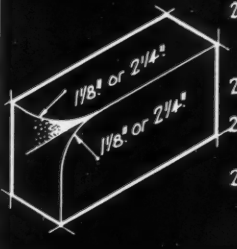
7. Bullnose header, 1⅛" radius.
8. Bullnose header, 2¼" radius.



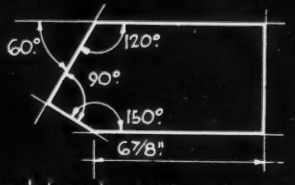
18. Bullnose internal return on flat, 2¼" rad. Right hand.
19. ditto, Left hand.
24. ditto, 1⅛" radius, Right hand.
25. ditto, 1⅛" radius, Left hand.

38. Squint brick, 48°

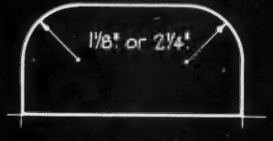
9. Bullnose stretcher, 1⅛" radius.
10. Bullnose stretcher, 2¼" radius.



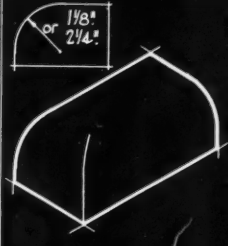
20. Bullnose internal return on edge, 2¼" rad. Right hand.
21. ditto, Left hand.
26. ditto, 1⅛" radius, Right hand.
27. ditto, 1⅛" radius, Left hand.



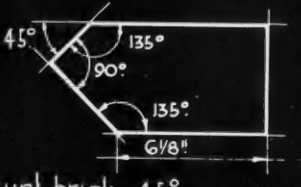
39. Squint brick, 60°



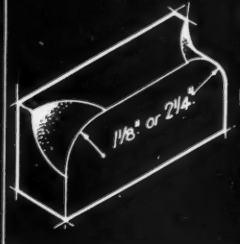
11. Double bullnose, 1⅛" radius.
12. Double bullnose, 2¼" radius.



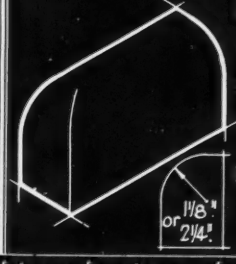
28. Bullnose external return on flat 2¼" rad. Right hand.
29. ditto, Left hand.
32. ditto, 1⅛" radius Right hand.
33. ditto, 1⅛" radius, Left hand.



40. Squint brick, 45°



13. Double bullnose stop, 1⅛" radius.
14. ditto, 2¼" radius



30. Bullnose external return on edge 2¼" rad. Right hand.
31. ditto, Left hand.
34. ditto, 1⅛" radius, Right hand.
35. ditto, 1⅛" radius, Left hand.

41. Squint brick, 68°

Information from London Brick Company & Forders Ltd.

DAB 18-11-33

INFORMATION SHEET: PHORPRES BRICKS: STANDARD SPECIALS. I.
SIR JOHN BURNET, TAIT AND LORNE ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.I.

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET
• 81 •
BRICKS
(STANDARD SPECIALS)

Name of Product: "Phorpres"

Type Illustrated: Standard Specials I.

SCHEDULE OF SPECIAL BRICKS

Makers' Number		
1.	Single Bullnose	1¼" radius
2.	" "	2¼" "
3.	" " Stop Right Hand	1¼" "
4.	" " " Left Hand	1¼" "
5.	" " " Right Hand	2¼" "
6.	" " " Left Hand	2¼" "
7.	Bullnose Heading	1¼" "
8.	" "	2¼" "
9.	" Stretcher	1¼" "
10.	" "	2¼" "
11.	Double Bullnose	1¼" "
12.	" "	2¼" "
13.	" " Stop	1¼" "
14.	" " "	2¼" "
15.	Bullnose on End (Cownose)	2¼" "
16.	" Internal Return on End Right Hand	2¼" "
17.	" " Return on End Left Hand	2¼" "
18.	" " Return on Flat Right Hand	2¼" "
19.	" " Return an Flat Left Hand	2¼" "
20.	" " Return on Edge Right Hand	2¼" "
21.	" " Return on Edge Left Hand	2¼" "
22.	" " Return on End Right Hand	1¼" "
23.	" " Return on End Left Hand	1¼" "
24.	" " Return on Flat Right Hand	1¼" "
25.	" " Return on Flat Left Hand	1¼" "
26.	" " Return on Edge Right Hand	1¼" "
27.	" " Return on Edge Left Hand	1¼" "
28.	" External Return on Flat Right Hand	2¼" "
29.	" " Return on Flat Left Hand	2¼" "
30.	" " Return on Edge Right Hand	2¼" "
31.	" " Return on Edge Left Hand	2¼" "
32.	" " Return on Flat Right Hand	1¼" "
33.	" " Return on Flat Left Hand	1¼" "
34.	" " Return on Edge Right Hand	1¼" "
35.	" " Return on Edge Left Hand	1¼" "
36.	Coping Brick	4¼" "
37.	" "	2¼" "
38.	Squint	
39.	"	
40.	"	
41.	"	

Examples of these bricks will be shown in an Information Sheet which will appear in next week's issue.

N.B.—The Company's process permits the manufacture of special shapes other than those enumerated, which may be required for particular purposes.

Blue prints giving all measurements and angles of the special bricks illustrated can be obtained from the manufacturers.

Name of Manufacturers : London Brick Company and Forders Ltd.

Address Africa House, Kingsway London, W.C.2

Telephone Holborn 8282 (10 lines)

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PERMISSIBLE CONCRETE STRESSES:

MIX REFERENCE.	NOMINAL MIX.	PROPORTIONS: Cub. ft. of aggregate per 112 lb. bag of cement.		MINIMUM CUBE STRENGTH: Requirements at 28 days, in lbs per sq. inch.		MODULAR RATIO "m"	PERMISSIBLE CONCRETE STRESSES in lbs per square inch.			
		FINE.	COARSE.	PRELIM. TEST.	WORKS TEST.		BENDING	DIRECT	SHEAR	BOND.
ORDINARY GRADE CONCRETE.										
				4·5 x.	3x	$\frac{40,000}{3x}$	x.	0·8 x	0·1x	0·1x + 25
I	1 : 1 : 2.	1¼.	2½.	4328.	2925.	14	975.	780	98.	123.
II	1 : 1·2 : 2·4	1½	3.	4163.	2775.	14	925.	740.	93.	118.
III.	1 : 1·5 : 3.	1⅞	3¾.	3825.	2550.	16.	850.	680.	85.	110.
IV.	1 : 2 : 4.	2½"	5.	3375.	2250	18.	750.	600.	75	100.
HIGH GRADE CONCRETE.										
				4·5 x	3 x.	$\frac{40,000}{3x}$.	x.	0·8 x.	0·1 x.	0·1x + 25.
I	1 : 1 : 2.	1¼.	2½.	5625.	3750.	11.	1250.	1000.	125.	150.
II	1 : 1·2 : 2·4.	1½.	3.	5400.	3600.	11.	1200.	960.	120.	145.
III	1 : 1·5 : 3.	1⅞.	3¾.	4950.	3300.	12.	1100.	880.	110.	135.
IV	1 : 2 : 4.	2½.	5.	4275.	2850.	14.	950.	760.	95.	120.
SPECIAL GRADE CONCRETE. (LIMITING VALUES.)										
				5x.	3x.	$\frac{40,000}{3x}$.	x.	0·8x.	0·1x but not greater than 150	0·1x+25 but not greater than 150.
I	1 : 1 : 2.	1¼	2½.							
II	1 : 1·2 : 2·4.	1½.	3.							
III	1 : 1·5 : 3.	1⅞.	3¾.							
IV	1 : 2 : 4.	2½.	5.							

Strength requirements, Modular ratios & permissible stresses to be calculated from the above factors & to be based on preliminary test results. The values for the permissible stresses shall not exceed those for similar mixes of High Grade concrete by more than 25%. Shear & bond stresses shall not exceed 150 lbs. per sq. inch.

Where other proportions of fine to coarse aggregate are used the requirements shall be based on the ratio of the sum of the volumes of the fine & coarse aggregates, each measured separately, to the quantity of cement, & shall be obtained by proportion from the two nearest defined mixes. Exact values for Modular ratio may be used.

PERMISSIBLE STEEL STRESSES.	Permissible Stress, lbs per sq.in.	
	Mild steel complying with B.S.S. N° 15.	Mild steel complying with B.S.S. N° 15. & with a Yield Point stress of not less than 44,000 lbs. per sq.in.
Bending: Tension in longitudinal steel in beams, slabs or columns subject to bending	18,000.	20,000.
Compression in longitudinal steel in beams, slabs or columns subject to bending where the compressive resistance of the concrete is taken into account	The compression stress in the surrounding concrete multiplied by the Modular ratio.	
Compression in longitudinal steel in beams, where the compressive resistance of the concrete is not taken into account	18,000	20,000.
Direct Compression: Compression in longitudinal steel in axially loaded columns	13,500	15,000
Tension in spiral reinforcement	13,500	15,000
Shear: Tension in web reinforcement	18,000	18,000

RULES FOR USE OF VARIOUS GRADES:

ORDINARY GRADE, Tests made when required by designer.

HIGH GRADE, preliminary tests required. Work to be carried out under special supervision by competent foreman & Clerk of Works. At least 2 strength cubes shall be tested weekly & whenever mix or materials change. At least one consistence test daily.

SPECIAL GRADE, Structure to be designed as a continuous monolithic framework, bending in all members being taken into account. Special provision to be made for uniform supply of cement & aggregate. Water content to be controlled so that ratio, water to cement never exceeds the ratio used in preliminary tests by 10%. Frequency of tests as for High grade.

NOTE FOR ALL GRADES, the quantity of cement must be determined by weight.

Information from W. E. J. Budgen, B.Sc., A.M. Inst. C.E.

INFORMATION SHEET: DIGEST OF THE CODE OF PRACTICE FOR REINFORCED CONCRETE: PERMISSIBLE STRESSES.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.1.

Supplement to THE ARCHITECTS' JOURNAL for February 8, 1934

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

• 82 •

THE CONCRETE CODE

(iii)

THIS is the third of a series of six Information Sheets dealing with the new concrete code. The first and second of the series were presented with our last issue. This Sheet gives a schedule of the composition, cube strength and permissible stresses for the three types of concrete to which the new Code refers. A table of the permissible steel stresses, which have been raised slightly, is also given both for B.S.S. No. 15 mild steel, and for this steel with a yield point of 44,000 lb. per sq. in.

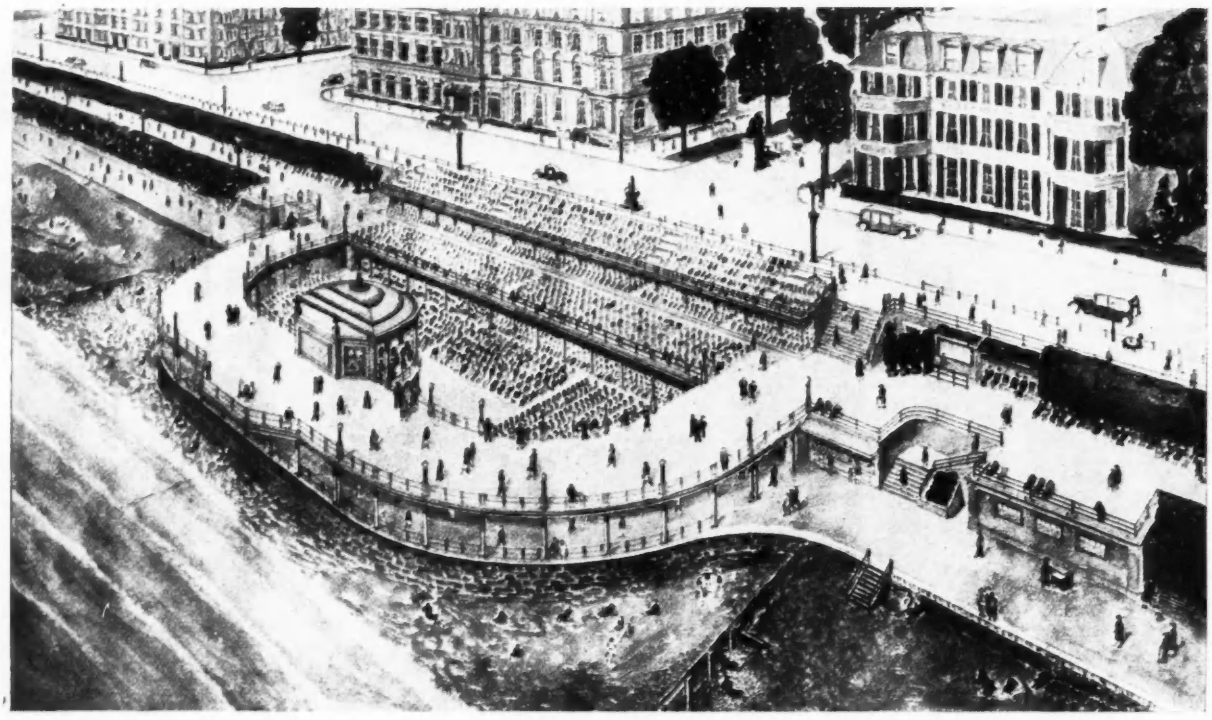
OPENED LAST MONDAY

EUSTON HOUSE, SEYMOUR STREET, N.W.

EUSTON HOUSE, the new head offices of the L.M.S. Railway Company, was formally opened by Mr. Oliver Stanley, Minister of Transport, on Monday last.

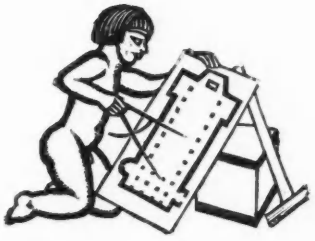
The building is of steel-frame construction; and the external walls are faced to the street with Travertine on the ground floor, Portland stone on the first floor, and multi-coloured facing brick and Portland stone dressings on the upper storeys. Walls of the internal courts are faced with ivory-white faience slabs with black bands at the levels of the window cills and heads.

The building, designed by Messrs. A. V. Heal and W. T. Hamlyn, was erected at a cost of about £150,000.



SEASIDE ARCHITECTURE

A perspective of a portion of the proposed improvement scheme for Eastbourne sea front. The scheme has been designed by Major Leslie Rosebeard and will include an open-air auditorium. The cost is estimated at £29,000. Eastbourne is not the only South-coast resort which proposes to provide additional attractions for the holiday-maker. Bexhill has just held a competition for a new entertainments hall, and future development of the Coastguard site (see our last issue), and Torquay is considering a sea front improvement scheme, estimated to cost about £50,000. The Torquay scheme includes the provision of a rendezvous and band enclosure, a car park, involving the filling in of a portion of the inner harbour, and a sun-bathing deck in front of the Princess Gardens, facing the harbour, are also projected. At Livermead, on the main road between Torquay and Paignton, it is proposed to construct a swimming pool with accommodation for 3,000 spectators.



PUNISHMENT

REGISTERED architects interested in State intelligence and such matters as bullion and specie, places registered for solemnizing marriages and changes of names by deed may be regular subscribers to *The London Gazette*, a newspaper published by Authority by His Majesty's Stationery Office. Those who are not have missed some information which may affect their very existence as registered architects. For in the issue for January 26 last appeared the DRAFT REGULATIONS MADE BY THE ARCHITECTS' REGISTRATION COUNCIL OF THE UNITED KINGDOM AS TO HOW ALLEGATIONS SHOULD BE MADE AGAINST, AND ANSWERED BY, A REGISTERED PERSON ACCUSED OF CONDUCT DISGRACEFUL TO HIM IN HIS CAPACITY AS AN ARCHITECT. The draft regulations were made by the Registration Council on December 19 last, and have been submitted to the Privy Council for approval. REPRESENTATIONS BY PERSONS TO WHOM THE REGULATIONS ARE APPLICABLE MAY BE MADE IN WRITING TO THE PRIVY COUNCIL ON OR BEFORE FEBRUARY 26 NEXT.

A huge majority of registered architects have not heard that the draft regulations have been issued. It would have been a miracle if they had. Few architects are regular readers of *The London Gazette*, and no intimation of the publication of the draft regulations has been made by the Registration Council, as far as we are aware, either to the architectural newspapers or to registered persons individually. Now our readers have just eleven days in which to digest the draft regulations and make their representations to the Privy Council. The Registration Council seem to have proceeded with rapidity and unusual secrecy.

While reading the draft regulations an ordinary architect might struggle to establish a direct connection —a sequence of cause and effect—with the Registration Act and suffer a species of temporary paralysis in being unable to do so. He will perceive a remarkable and most unaccountable omission. There is no code of professional practice for *all* registered persons. This ordinary architect will be unable to comprehend how the wayward are to be punished without a clear definition of architectural crime.

There must be between one and two thousand registered architects who are members of no professional society. The remaining majority belong to various bodies, such as possibly the R.I.B.A., the I.A.A.S., the Chartered Surveyor's Institution, the Institution of Structural Engineers and the Institution of Municipal and County Engineers. If all these societies possess codes of professional practice, they can readily be assumed, with perhaps two exceptions, to be different, one from another. It can also be assumed that many members of one professional society might be unwilling to recognize a different code of another body, simply because some members of that body have become registered.

According to the Act the Registration Council can only remove the name of an architect from the Register after he has been "convicted of a criminal offence" or has been "guilty of conduct disgraceful to him in his capacity as an architect."

An attempt by any individual to define these clauses is mere desperate speculation. In extremity it fills the mind with singular fancies. It might be possible to prove that a registered person is guilty of disgraceful conduct if he sets up in practice in the same building or even in the same town as other registered architects. In fact it might seem possible for an architect to be struck off the Register for building in the so-called modern instead of the traditional manner.

Allegations against a registered architect, according to the draft regulations, must be made in writing under the hand of the applicant in the form set out in the schedule and sent to the Clerk of the Registration Council, together with an affidavit. The name of the applicant and a copy of his affidavit is then sent by the Clerk to the registered architect against whom the complaint is made—a proceeding likely to fill some applicants with trepidation. The applicant and the alleged guilty person then exchange (and also forward to the clerk of the Discipline Committee) lists of all the documents upon which they propose to rely. And then, finally, the Committee will conduct the inquiry *in private* unless otherwise directed by the Council.

Such regulations read in conjunction with the Registration Act become almost Gilbertian. Disgraceful conduct is not defined, yet here is the machinery for removing offenders. The Council should have begun by drawing up a code of professional practice.

B

The Architects' Journal
9 Queen Anne's Gate
Westminster, S.W.1
Telephones: Victoria
9212-7
Telegrams:
Buildable
Parl
London

NOTES & TOPICS

THE WILLIAM MORRIS CENTENARY

WHO would have thought in the 'sixties that a queer "artistic" fellow like "Topsy," with his head full of wild "unbusinesslike" thoughts about colour and design and decent sense in the making of things, would have secured the presence of an ex-Prime Minister of Great Britain to open the centenary exhibition of his work. All his life William Morris and his associates spoke a different language from their contemporaries, and stood for a different civilization.

*

Morris once said that "the study of history and the love and practice of art" forced him into "a hatred of the civilization, which if things were to stop as they are would turn history into inconsequent nonsense, and make art a collection of the curiosities of the past, which would have no serious relation to the life of the present."* But Morris had to be inspired by the past himself, and unfortunately one effect of his work and his ideas was a backward-looking phase of taste that repressed original creative effort.

*

We owe to Morris the arts and crafts movement, with all its variations and ramifications, and the antique furniture and decoration business. We gained Gimson and Barnsley, whose woodwork was far superior in the way it was handled to anything produced in any previous period. Nothing in the seventeenth or eighteenth centuries, even in the Puritan period when woodworking was highly accomplished, nothing made in the workshops of Chippendale, Inee, Mayhew, Hepplewhite, Shearer, or Seddon can compare in sheer skill and in understanding of material with the work of the artist-craftsmen who were inspired by Morris. The vigour of that inspiration is also traceable in the highly individual work of Sir Ambrose Heal and Gordon Russell.

*

But on the whole, Sweden has probably gained more from the example and the magnificent craftsmanship of Morris than his native land. The building of the Stockholm town hall was conceived in the Morris spirit; and the activating power of contemporary Swedish arts and crafts was partly generated by the genius of that Englishman whom Mr. Baldwin described on Friday as "the greatest craftsman of all time."

*

Yet he was more even than that. The father of the Arts and Crafts was also the father of the modern movement. Both the French and Germans accept him automatically as such.

THE FUTURE OF THE BUILDING INDUSTRY

Sir Raymond Unwin's return from America should revive activity in the Building Industries National Council.

*

Sir Raymond has seen at first hand the effects of Mr. Roosevelt's National Recovery Act on the prostrate American Building Industry, and with his knowledge of our own conditions, is in the best possible position to advise us on our future recovery plans.

AWNINGS

I observe that the L.C.C. is contemplating an amendment to the Building Act, under which a wider variety of buildings will be allowed to have awnings over the pavement.

*

At present such shelters are only permitted to cinemas and theatres, restaurants, hotels (with provisos as to the sizes of the buildings) and railway stations. It is quite time that the public were recognized as patronizing also shops, offices, and other public buildings.

*

I observe, further, that the Minister of Transport, the Commissioner of Police, and the London and Home Counties Traffic Advisory Committee are prepared to smile on the proposal, subject to "certain considerations." We can be satisfied that all technical points will receive full recognition, and that there will be necessary limitations.

*

But as the proposal will alter, out of all recognition, the character and appearance of our streets, I feel that architectural opinion should also be asked. I know the difficulties, but there should be *some* code to curb the antics of building owners.

*

As compared with, say, Paris, London is a disgrace over a matter so trifling as swinging signs. Imagine awnings as well, uncontrolled.

GOVERNMENT OFFICES, WHITEHALL

Mr. Vincent Harris is busily preparing his plans for the new block of Government offices in Whitehall.

*

I understand, however, that the Cabinet have not yet decided whether to spend money or not on new buildings. All that has been done is to ask Mr. Harris to go ahead and

* *How I Became a Socialist.*

PLANNED INFORMATION

WORKING DETAILS

PERFORATED PAGES

IT is our intention, as we have stated before, to rationalize as far as possible, both the information which appears in this JOURNAL, and the manner in which that information is presented to the reader. The extraordinary success of the Library of Planned Information has shown that this aim is appreciated, and we are now able to announce a second move in our programme. This issue is enlarged by the first four of a new series of fully dimensioned constructional details, which will be found on pages 257-260. The subjects chosen may or may not have reference to jobs illustrated in the body of the paper—the current ones have—but they are selected as being of specific interest in themselves and hence worthy of specific filing. For easy filing, the sheets need to be detached—or detachable. It has been arranged, therefore, that the pages in question shall be perforated so that they can be removed and filed with least possible difficulty.

The series is called *Working Details*, and we believe that it will be found to be as useful in its own way as the Information Sheets.

prepare his plans on which estimates of cost may be formed.

*

I am also told that these plans will not be ready for another six or eight months at least. They will then have to be submitted to the Royal Fine Art Commission, and after that the figures will be placed before the Government with a view to a decision being taken.

*

None of the permanent buildings at present facing on Whitehall, including Gwydir House, will be affected by the new offices, even if the plans are proceeded with.

THE BEXHILL COMPETITION

I was glad to read Lord De La Warr's letter in defence of Mr. Tait's Bexhill Competition Award.

*

The attacks on the R.I.B.A.'s conduct have been consistently narrow and far removed from the consensus of opinion of its members, who are by a large majority solidly behind their Institute in its considered decision to regard their art as something above the petty nationalism that is lowering the standards of living in so many countries in Europe.

*

Furthermore, the Institute's welcome, given generously and without qualification, is now vindicated by the competition system of which we have good reason to be proud. The best design won.

*

The system substantiated Mr. Mendelsohn's reputation as a great architect, and England, as most of us felt, before this proof, is the richer by a strain of pure design of which the struggling practice of contemporary architecture stands greatly in need.

SLUM

The latest figures of the slum clearance programme announced in the House of Commons last week do not bear close analysis.

*

The programmes received "contemplate" the demolition and replacement of 224,000 houses, and most members of housing committees, especially in London, realize that they are only just beginning to face the real difficulties.

*

An unexpected "snag" has recently been discovered, due to the wording of the 1930 Act. If a house in occupation is condemned under the Act, the owner can only receive compensation to the extent of site value. But recently some buildings that have fallen into ruin have been discovered. As they are no longer occupied and possess neither roofs nor doors they cannot legally—so I am told by an authority—be classified as a dwelling-house. In that case compensation will have to be given on the commercial value.

*

This is indeed a ludicrous situation which was evidently not foreseen by Mr. Greenwood when he was Minister of Health. An owner has only to evict his tenants, which is, of course, not a simple operation if they are protected by the Rents Restrictions Act, and allow the building to fall down, if he wishes to evade the provisions of the Act, and receive more cash for his ruin.

GLASS STARRED

Three of the best technical films I have ever seen were those shown at the Polytechnic Theatre, Regent Street, last Thursday morning on the making of Plate, Sheet and Armourplate glass at the Pilkington's St. Helens factory. It was a show specially arranged for the members of the Architecture Club and the Design and Industries Association ; and I gathered that the films had been exhibited to various technical audiences in the provinces.

*

The producers had resisted the temptation to dribble sales talk and advertising matter all over the shots, and it was exactly the sort of compact demonstration, full of interest and facts, that appeals to a busy architect. I hope lots of architects are going to have the opportunity of seeing it.

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

A special committee of the L.C.C. has been appointed to deal with slum clearance 236

" This is a letter of protest against the employment of an Alien Architect for the erection of a Building (Bexhill Entertainments Hall) by a Public Body to the exclusion of British Architects." 244

" The result (of the Bexhill Competition) has been that the prize has been awarded to a set of plans of which I hope all those interested in architecture in this country may be proud" 244

The main entrance hall of the B.I.F., Birmingham, is 15 ft. by 28 ft., leading straight into the Fair, the approximate size of which is some hundred yards wide by 600 yards deep 250

" We cannot ask the architect to be at the same time biologist, sociologist, economist and philosopher" 253

The first of a series of perforated sheets devoted to working drawings 257

£250,000 G.P.O. EXTENSION

The text was issued last week of the Bill presented by the Postmaster-General in Parliament for the compulsory purchase of property behind the Central Telegraph Office in St. Martin's le Grand. It is intended to erect an extension of the General Post Office, costing about £250,000.

SLUM CLEARANCE IN LONDON

The appointment of a special committee of the L.C.C. to deal with slum clearance was proposed by Mr. H. R. Selley chairman of the Housing Committee, at a meeting of the Council on Tuesday last.

Mr. Selley's motion stated that " in view of the magnitude and urgency of the operations involved in the council's declared policy of slum clearance and improvement it is desirable that a special committee should be constituted to deal with all questions relating to unhealthy areas and the provision of rehousing accommodation in respect of the displacement of persons of the working classes."

The following amendment was moved by Mr. Herbert Morrison : " That the failure of the council to discharge its slum clearance responsibilities is the result of lack of will and determination on the part of the majority of the Housing Committee and of the council ; and that, in the opinion of the council, the mere appointment of a special committee will not of itself achieve better results, but may, on the contrary, produce lack of co-ordination and confusion as a consequence of dividing the housing work of the council between two committees."

At the same meeting the Building Acts Committee recommended a relaxation of the rules governing the erection of shelters over the public way in London. " We have had before us," the committee reported, " applications for permission to construct continuous shelters along the whole frontage of large store buildings, and we are of opinion that in future favourable consideration should be given to proposals of this nature."

Both recommendations were adopted.

THE ARCHITECTS' DIARY

Thursday, February 15

INSTITUTION OF STRUCTURAL ENGINEERS. *At 10 Upper Belgrave Street, S.W.1. " Methods of Producing Artistic Surfaces in Concrete." By Thomas Wallis.* 6.30 *p.m.* *(Yorkshire Branch.) At the Hotel Metropole, Leeds. " Some Problems Arising in the Reconstruction of the Bank of England." By Dr. O. Faber.* 7 *p.m.*

SOUTH WALES INSTITUTE OF ARCHITECTS AND INSTITUTE OF BUILDERS. *At the South Wales Institute of Engineers, Cardiff. " The Art of the Bridge Builder." By G. H. Jack.*

I.A.A.S., 1 *Wilbraham Place, S.W.1. " Romance of Wrought Iron in the Architectural Arts." By E. Holden* 7 *p.m.*

INSTITUTION OF STRUCTURAL ENGINEERS. *(Western Counties Branch.) At the Merchant Venturers' Technical College, Bristol. " The Application of the L.C.C. Code of Practice." By C. H. Williams.* 7.15 *p.m.*

LONDON SOCIETY. *At the Royal Society of Arts, 18 John Street, Adelphi, W.C.2. " Billingsgate." By Rev. Arthur G. B. West.* 5 *p.m.*

Saturday, February 17

INSTITUTE OF STRUCTURAL ENGINEERS. *(Western Counties Branch.) Annual Dinner.*

Monday, February 19

R.I.B.A. *At 9 Conduit Street, W.1. Social Evening.*

Tuesday, February 20

ROYAL SOCIETY OF ARTS. *At John Street, Adelphi, W.C.2. " Collaboration between Manufacturers and Artists." By John de la Valette.* 8 *p.m.*

Wednesday, February 21

BRITISH WOOD PRESERVING ASSOCIATION. *At the Auctioneers' and Estate Agents' Institute, 29 Lincoln's Inn Fields, W.C.2. " Creosote as a Wood Preservative." By N. A. Richardson.*

DESIGN AND INDUSTRIES ASSOCIATION. *At the London School of Hygiene and Tropical Medicine, W.C.1. " Are We Civilized ? 2. Look at Our Towns." By F. E. Towndrow.* 8.15 *p.m.*

UNIVERSITY OF LONDON. *At University College, Gower Street, W.C. " Modern Danish Architecture." By J. H. Helweg.* 5.30 *p.m.*

L.C.C. CENTRAL SCHOOL OF ARTS AND CRAFTS. *At Southampton Row, W.C.1. " English Mediæval Architecture : 6. Westminster Abbey." By Sir Banister Fletcher, F.S.A., P.P.R.I.B.A.* 6 *p.m.*

HORNIMAN MUSEUM EXTENSION

The extension to the Horniman Museum will be opened by the Chairman of the L.C.C., Mr. E. M. Dence, today. The extension has been built out of a bequest of £10,000 to the L.C.C. under the will of the late Mr. Emslie J. Horniman.

HONAN SCHOLARSHIP

For the second year in succession, no award is made of the Liverpool Architectural Society's Honan Scholarship. The value this year was increased from £50 to £75, but only two entries were attracted. The award of an honorarium of £10 was made to one of them, that of Mr. George Kenyon.

The reason for the lack of entries seems to be, not that young members of the Society and its associated societies do not want £75 and encouragement to travel, but that a very considerable amount of work was called for in preparing a rehousing scheme of five hundred tenement dwellings on a gently sloping site behind south-end Liverpool docks.

A good deal was done in laying down the conditions to simplify the problem, but even so Colonel Gee, in criticizing the designs at last week's meeting of the Liverpool Architectural Society, was moved to say that a great deal of time had been wasted on repetitive drawing, which the conditions expressly discouraged, that might better have been devoted to improving details of the planning.

SMALL HOUSES

Mr. A. W. Kenyon, F.R.I.B.A., in a paper entitled " Small Houses," read before the Sheffield, South Yorkshire and District Society of Architects and Surveyors last week, said : " The architects of England have a great responsibility before them in seeing that the fine tradition of our domestic architecture is not lost in the bad work which we are now allowing to be built. The improvement necessary in houses built by speculative builders can only be solved by the architect. Unless we take this matter extremely seriously and see that beautifully designed houses are erected, we have lamentably failed as architects and have not done our duty to our country. The speculative builder does not hold the situation in his hands. We are allowing him to ' put across ' the public the mediocre type of house—and the public can't help themselves. It is for us to see that they get something better. The urban, town and city councils now have it in their power to deal with elevations, so there is no excuse whatever for inferior architecture.

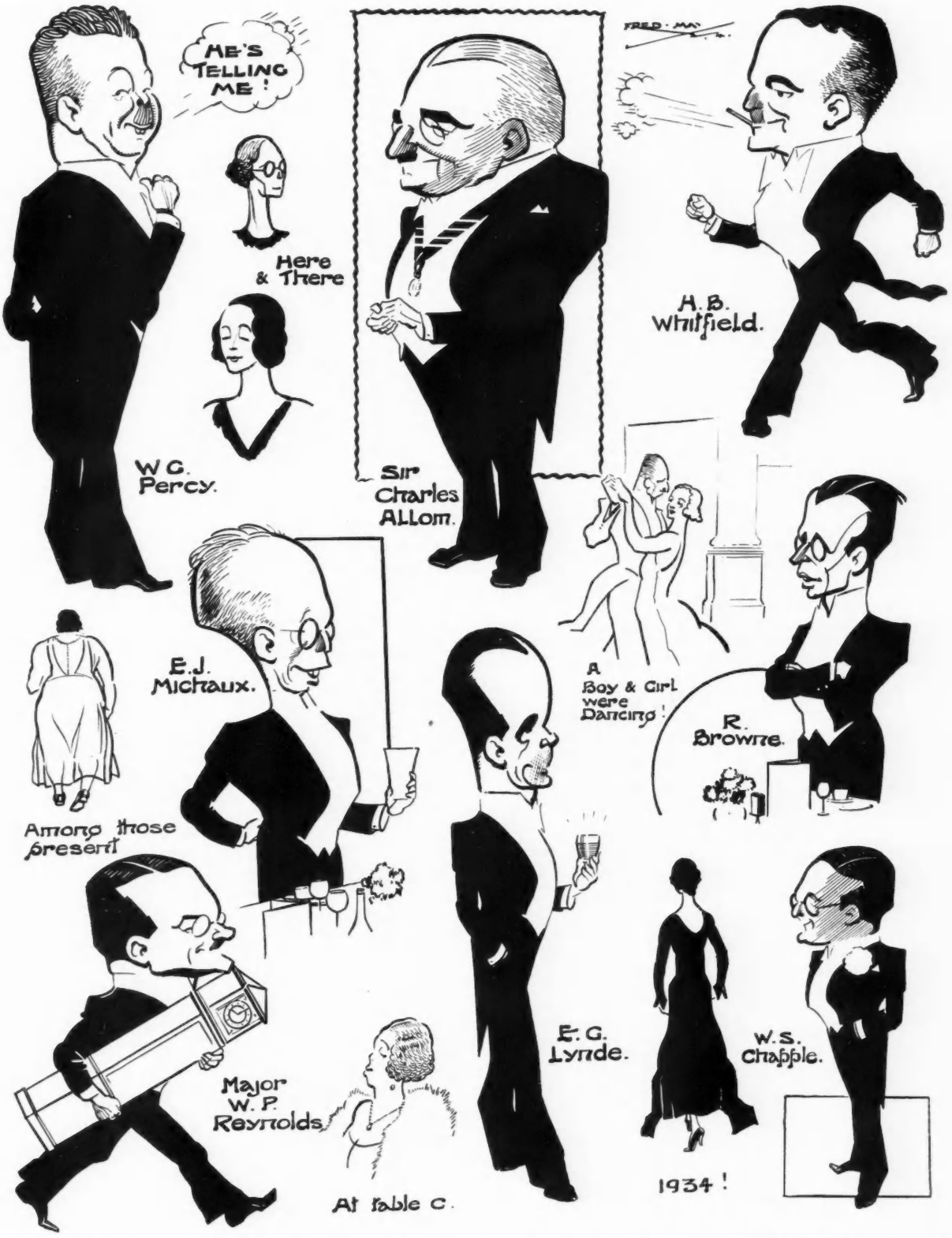
" The small house development for the community is far more important than town halls or civic buildings. It is a more difficult problem and every student of architecture should make it one of his special studies."

NORFOLK ARCHITECTS AT DINNER

The annual dinner of the Norfolk and Norwich Association of Architects was held at Norwich on Friday last. Mr. Cecil Upcher, F.R.I.B.A. (President), occupied the chair.

Sir Giles Gilbert Scott, R.A., P.R.I.B.A., in responding to the toast of " The R.I.B.A. " (proposed by Mr. P. W. Jewson), referred to the formation of the local branch of the C.P.R.E. He said : " I think it is really a scandalous state of affairs that one of the greatest blots on our beautiful country is the blot of the speculating builder. It is ruining our natural beautiful country. That is the one aspect of architecture most urgent and important of any. I think when you think of it you will see that in, I suppose, 90 per cent. of the buildings in this country architects have no say. We are concerned more with banks, municipal buildings, big stores and big commercial undertakings. But factories, speculative buildings, railway stations and power houses have not in the past been done by architects. The result is our country is being ruined, and the C.P.R.E. is simply one straw which shows which way the wind is blowing. The country has awakened to the fact that something has got to be

FACULTY OF ARCHITECTS AND SURVEYORS



Some of the members and guests present at the annual dinner and dance of the London and Home Counties Branch of the Faculty of Architects and Surveyors, held in London on Wednesday of last week. The above sketches are by Fred May.

done. Therefore, I think that is one of the main things the Institute and the allied societies must tackle. We must try to influence the speculative builder."

Mr. E. T. Boardman, F.R.I.B.A. (the High Sheriff), proposed the toast of "The City of Norwich." Mr. F. C. Jex (the Lord Mayor); in reply, said: "There will be an inquiry before many days are passed, held by the Government in this city to inquire as to the carrying on with new municipal offices in accordance with the accepted plan. I suggest every architect should throw his weight, not unfairly, but correctly, into the balance when people complain about the extravagance of the City Council and about the unfortunate time selected for the spending of so much money. Although it is too much to hope that there will be no opposition at all, I hope people who are going to oppose the scheme will have some reasonable grounds on which they fix their opposition. . . . There should be something which characterizes our time in the buildings of our city, something to represent the mind and need of our present day."

The toast of "The Norfolk and Norwich Association of Architects" was proposed and seconded by Mr. R. H. Mottram and Mr. C. Upcher, respectively. Mr. E. H. Buckingham, F.R.I.B.A., gave "Our Guests," and Mr. H. P. Gowen responded.

FACULTY OF ARCHITECTS AND SURVEYORS

The second annual dinner of the London and Home Counties Branch of the Faculty of Architects and Surveyors was held at St. Ermin's, Westminster, S.W., on February 7. Mr. E. G. Lynde, F.F.A.S. (chairman), presided over about 150 members and guests.

Mr. Lynde pointed out that architectural societies should collaborate in order to defeat the menace to building—the speculative builder; no individual society could tackle it alone. It was also essential to educate the public in architectural matters; they should be taught to realize that when they have points dealing with land, building, rating, etc., they should consult an architect, in the same way as they visit a doctor or dentist.

Other speakers included Sir Charles Allom, President of the Society, and Messrs. E. J. Michaux, R. Browne and W. S. Chapple. During the evening Major W. P. Reynolds, O.B.E. (Past-Chairman), was presented with a clock.

R. I. B. A.

THE ROYAL GOLD MEDAL

Intimation has just been received that H.M. the King has approved the award of the Royal Gold Medal to Mr. H. V. Lanchester, F.R.I.B.A., in recognition of the merit of his work as an architect.

The medal will be presented to Mr. H. V. Lanchester at a general meeting of the Institute on Monday, April 9, at 8.30 p.m.

ELECTION OF MEMBERS

At a recent meeting of the Council of the R.I.B.A., the following members were elected:—

As FELLOWS (9): Messrs. E. W. Armstrong, R. F. Bargman, H. A. Johnson, N. D. Quick, G. H. Williams, S. R. Crocker, R. S. Dixon, B. W. Thomas and H. Oswald.

As ASSOCIATES (14): Messrs. N. Brandon-Jones, T. J. Cahill, P. C. Crookes, E. T. Dowling, H. A. Halstead, B. A. Hebeler, A. M. Irvine, L. F. Liscombe, S. W. Minson, J. S. Mould, E. C. O'Farrell, G. R. Roberts, R. Tatam and W. J. Twemlow.

As LICENTIATES (30): Messrs. S. H. Browne, E. Cannon, G. L. Cook, E. C. Cooper, V. E. Croll, W. Y. Feurtado, A. G. Fletcher, H. W. Fletcher, W. H. Ford, E. D. Griffiths, A. Harrison, D. A. Haywood, H. L. Keeble, E. P. Lee, T. W. Lewis, T. E. Llewellyn, A. S. McNair, A. E. Matthew, K. V. Nanji, D. Ospalak, O. Parker, E. Priestley, A. S. Roberts, M. Seymour, W. D. Taggart, G. Tolley, J. A. Videan, J. Wallace, O. V. Webb and W. E. Woodin.

COUNCIL MEETING

The following are some notes from a recent meeting of the Council:—

Report of the Joint Committee of the R.I.B.A., C.P.R.E. and Institute of Builders on the Elevation and Siting of Buildings: On the recommendation of the Art Standing Committee and the Town Planning and Housing Committee this report was approved and it was agreed to give it the widest possible publicity.

Advisory Committee on Town and Country Planning: In response to the invitation of the Minister of Health it was agreed to suggest the names of the following members for appointment upon the Advisory Committee which the Minister proposes to set up in connection with the operation of the Town and Country Planning Act: Sir Raymond Unwin, F.R.I.B.A., Professor C. H. Reilly, O.B.E., F.R.I.B.A., and Messrs. R. Barry Parker, J.P., F.R.I.B.A.; W. Harding Thompson, M.C., F.R.I.B.A.; H. V. Lanchester, F.R.I.B.A.; and E. Maxwell Fry, A.R.I.B.A.

The Institute of South African Architects and R.I.B.A. Publications: At the suggestion of Mr. F. W. Masey, President-in-Chief of the Institute of South African Architects, copies of certain R.I.B.A. publications have been presented to the four Provincial Institutes of the Institute of South African Architects for the use of members and students.

Reinstatement: The following ex-members were reinstated:—As Fellow: Major E. Summerhayes. As Associate: Mr. M. C. Sunter. As Licentiates: Messrs. A. F. Duke, L. C. Fairbairn and R. A. Waite.

Resignations: The following resignations were accepted with regret:—Messrs. Ernest Tatham Richmond (F.), John B. Bramwell (A.), Cecil William Rosher (L.), and Mrs. Margaret Jean McEwen Thomson (A.).

Transfer to the Retired Members' Class: The following members were transferred to the Retired Members' Class:—As Retired Fellows: Messrs. W. Bevan, H. A. Chapman, D. Newman and A. N. Paterson. As Retired Associates: Messrs. A. M. Bisiker and W. B. Savidge. As Retired Licentiates: Messrs. P. E. C. Lain, R. T. Miller, W. H. George and A. Floyd.

COMPETITION

NEWS

DESIGN FOR SMALL HOUSES

The Manchester Society of Architects has completed the competition it held for the design of small houses suitable for erection by speculative builders at reduced fees, and has announced that the constitution of the first panel of architects, which is decided by the competition, will be as follows:—

Messrs. Alfred Hopkinson and Son, Bury; Isaac Taylor and Young, Manchester; T. A. Collins, Timperley; T. W. Sutcliffe, Rochdale; J. C. Prestwich and Sons, Leigh; Herbert Rhodes and Albert H. Walker, Manchester; Thomas Rieve, Manchester; Halliday and Agate, Manchester; and R. A. Cordingley, Manchester.

Designs by the above architects will shortly be put at the disposal of builders.

Competitions Open

March 17.—Sending-in Day. Limited Competition for municipal buildings, etc., for the Stoke Newington Borough Council. (Twenty-eight firms of architects have been selected to submit designs.) Assessor: Sir Edwin Lutyens, R.A., P.I.A.A.S. Premiums: £250, £100 and £50. Full particulars were published in the *A.J.* for January 25 last.

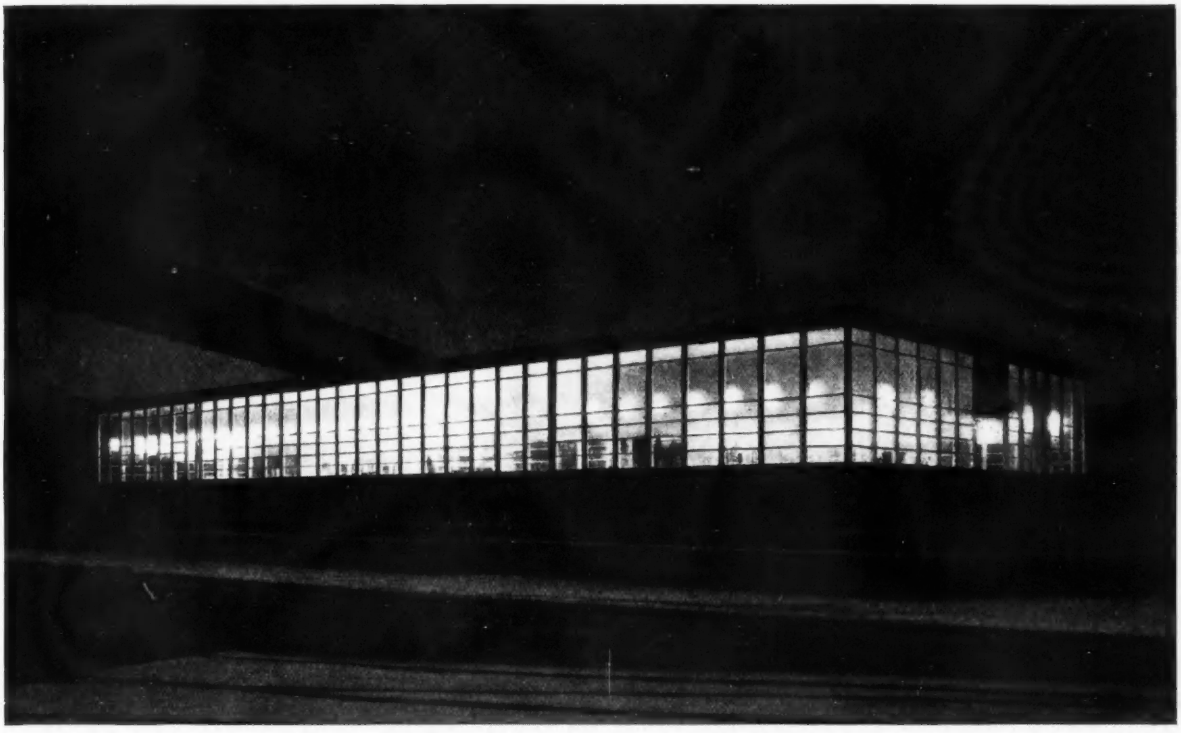
March 26.—Sending-in Day. Façade in grey Cornish granite, for the Cornish Quarry Masters' Association. Open to all architects, architects' assistants, and architectural students. Assessors: C. Lovett Gill, F.R.I.B.A., Professor A. B. Knapp-Fisher, F.R.I.B.A., and Howard Robertson, F.R.I.B.A. Also, two members of the Cornish Quarry Masters' Association. Premium: £50. The design, etc., is to be sent to the Secretary, Architectural Association, 34-36 Bedford Square, W.C.1, by Monday, March 26. Full particulars of the competition may be obtained from the Secretary of the A.A.

THIS ARSHETECTURE

The following is a list of persons who purchased *Help Yourself* annuals . . . and who have been presented with gifts: . . . Miss E. A. Bath, of Sunderland: architect's plans of a house, or fruit and flowers value £1 1s. . . .

From LOCAL GOVERNMENT SERVICE

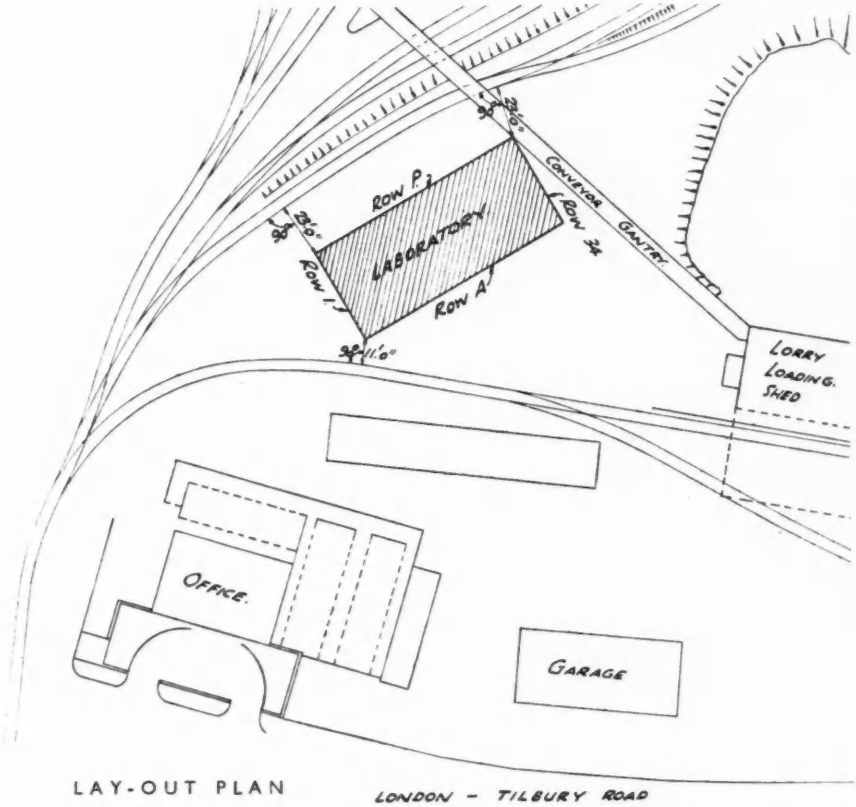
LABORATORY AT THURROCK, ESSEX



A night view from the north-west. The purpose of the building makes the admission of the maximum amount of light and the exclusion of dust-laden air from the adjacent cement factory a necessity, so the laboratory is designed as a box in reinforced concrete and glass.

It is painted externally and internally in light colours, and the windows are fixed to slender concrete mullions. Conditioned air from a central duct at ceiling level passes through all the rooms, ventilating and maintaining them at a temperature required for the experiments which take place there.

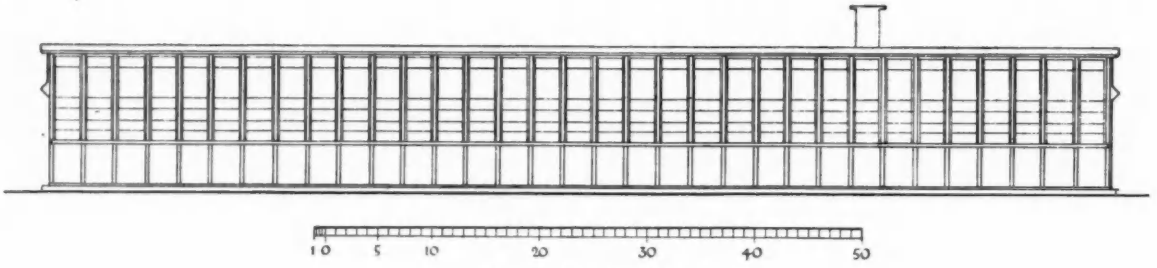
Working details of the glazing, concrete mullions and concrete racks are given on the perforated sheets (pages 257-260).



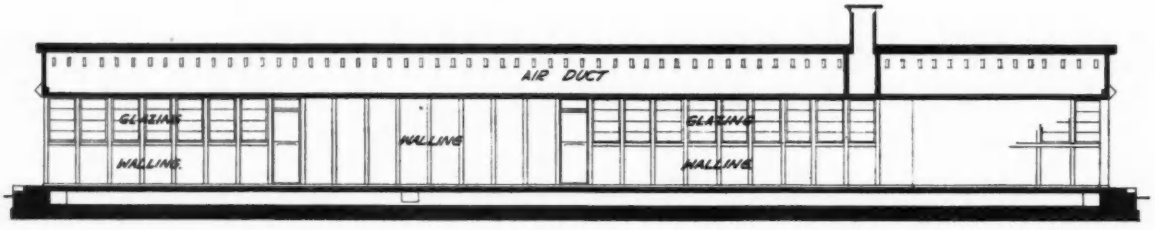
LAY-OUT PLAN

DESIGNED BY SIR E. OWEN WILLIAMS

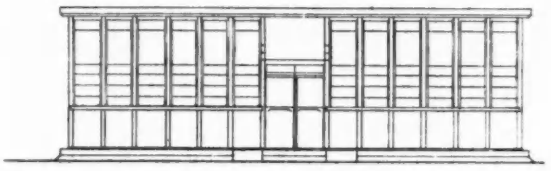
LABORATORY AT THURROCK, ESSEX:



SIDE ELEVATION



LONGITUDINAL SECTION

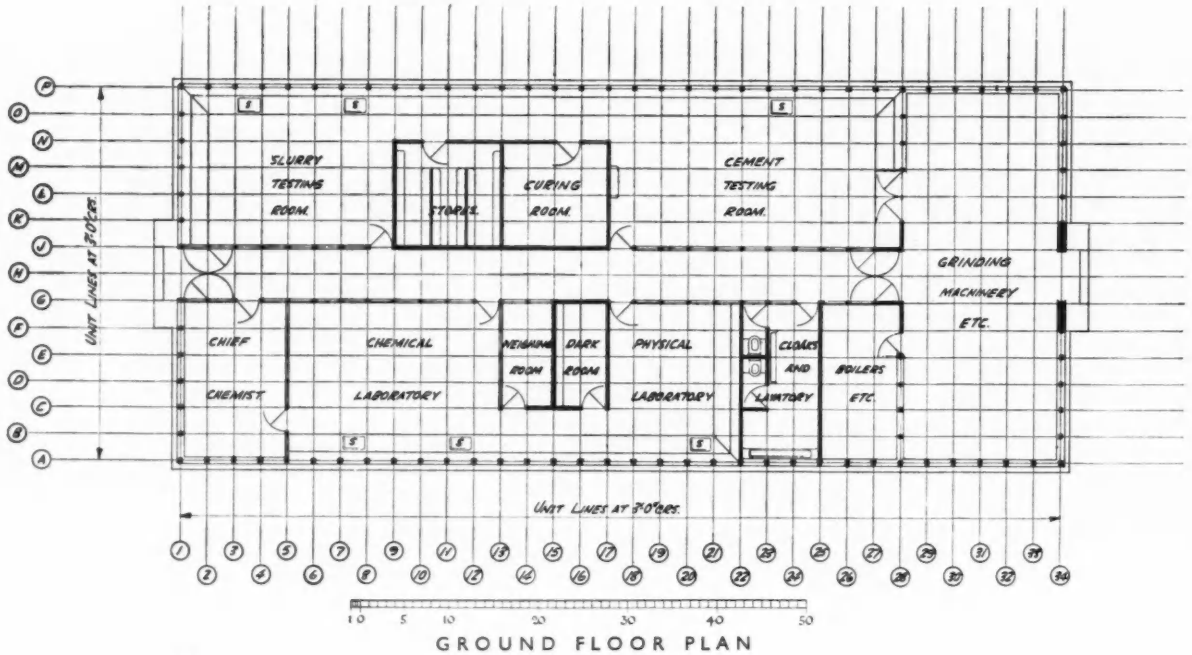


END ELEVATION

The sections on this and the facing page show the duct at ceiling level through which warmed and purified air is pushed by means of fans, passing into the rooms through slots and being withdrawn through ducts below floor level beneath the windows.

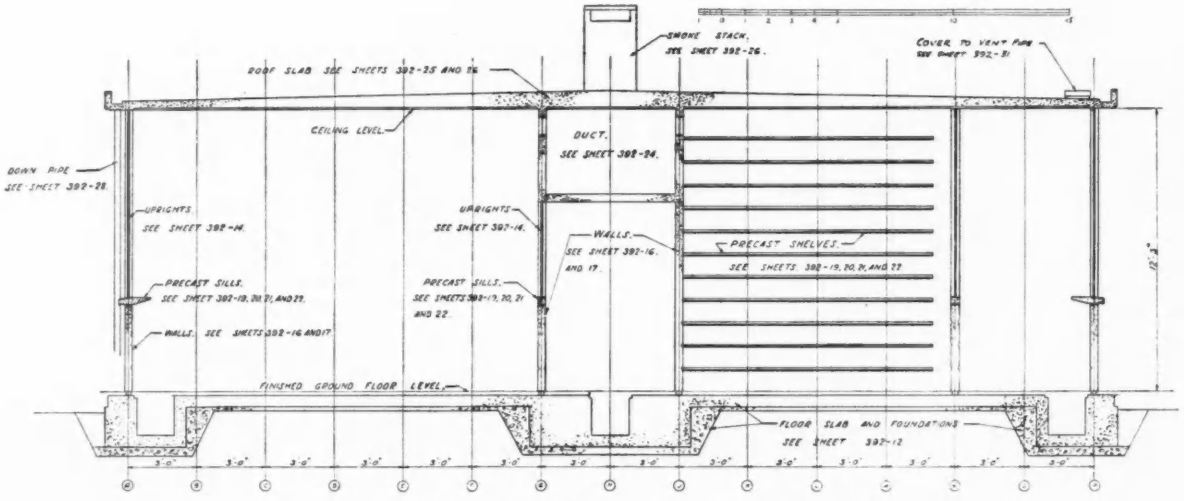
The plan below shows how the building is divided into units three feet square, simplifying construction and enabling the sizes of the rooms, etc., to be adapted for various purposes.

The desk in the foreground of the photograph of the slurry testing room on page 241 has a rubber top, but is constructed entirely from reinforced concrete, as are all the work tables, shelves, and experiment benches throughout the building.

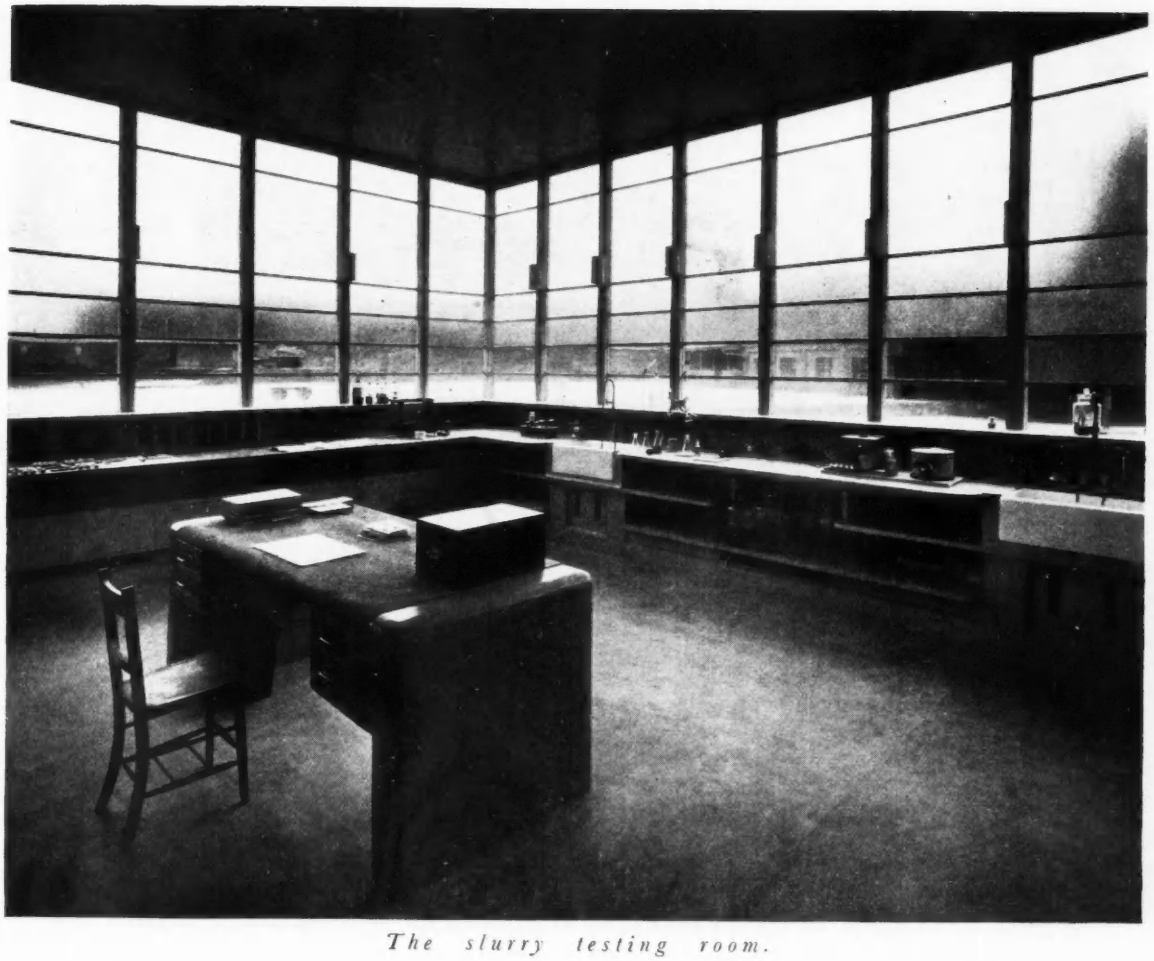


GROUND FLOOR PLAN

BY SIR E. OWEN WILLIAMS



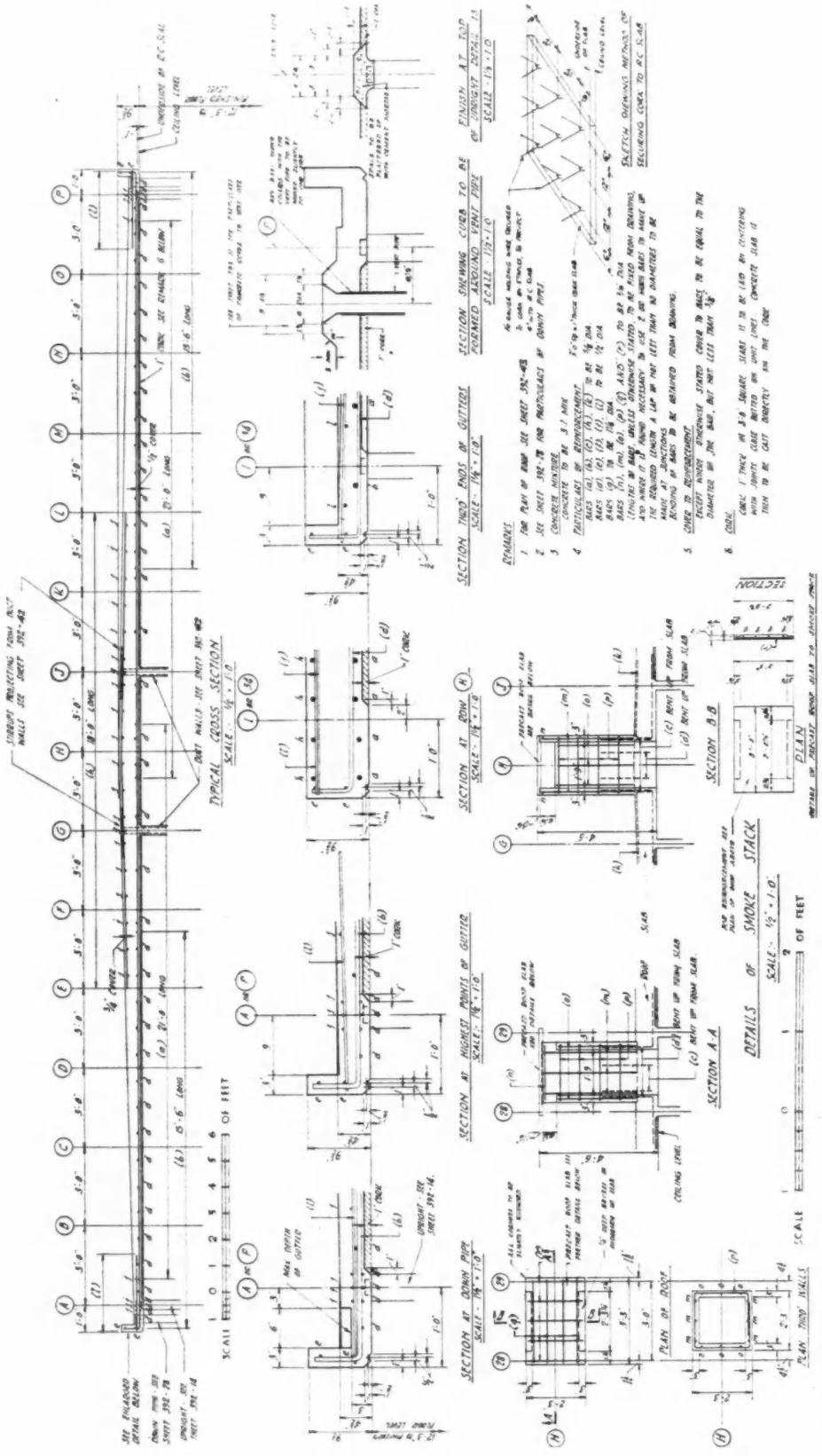
TYPICAL CROSS SECTION



The slurry testing room.

LABORATORY AT THURROCK, ESSEX

BY SIR E. OWEN WILLIAMS



Details of the roof. It is cantilevered from the centre of the building and partially supported by the mullions to the windows on the external walls.

LETTERS FROM READERS

M. L. ANDERSON
JOHN GLOAG
JOHN G. MARTIN
(Secretary, National Housing and Town Planning Council)
CONSULTANTS
H. T. BROCK GRIGGS
(British Union of Fascists)
DELIGHTED READER

Gentleman

SIR,—As Mr. Gloag says, "picking out a sentence from a speech and laughing at it is good easy fun." In the particular case referred to, the "professional humorists" made the mistake of picking the right sentence, and then laughing at the wrong thing in it.

"Gentleman" is a difficult word to use today. In common with "nice," "classical," "pretty" and many others, it has come, by a process of vulgar mis-use, to be regarded askance. On the other hand, there are occasions when the wish for the finer expression of meaning makes it necessary to go back one hundred and fifty years for a word which lack of use has led us to consider as archaic, though that same lack of use has allowed its pure meaning to be preserved.

It is possible that there are no gentlemen today; but Sir Gilbert Scott's meaning is none the less perfectly and abundantly clear to anyone of any perception at all; and there is no other English word which would properly have expressed his meaning. "Scholarly" does not by any means go all the way, and even "decent," "polite," and "reticent" lack the hint of scholarship which "gentlemanly" (in architecture) implies.

When an author of skill and literary merit writes, his personality shines clearly through his prose, whether it be a love scene or a duel which he is describing. Wren had an inherent quality of breeding and scholarship which is apparent in all his work and which he could not have avoided even if he would. It was quite unnecessary for him to sit back and give conscious consideration to the "manners" and "artistic integrity" of his buildings.

It seems to me that the joke which *The Daily Express* and *The New Statesman* might have found, but missed, lies not in the choice of the word "gentleman," to express an otherwise indefinable quality, but in Sir Gilbert Scott's suggestion that it is necessary for architects to strive so very earnestly and consciously after that quality.

Whether that is more damning than Mr. Fry's statement, that "the gentlemanly approach to architecture has become impossible to us" I cannot quite decide. The one is as fallacious as the other. That quality can no more be produced by effort than can scholarship by the unlearned or art by the philistine; a man cannot help but behave in all conditions according to his breeding and upbringing, and that without any effort at all.

It is disappointing to find Sir Giles Scott, on the one hand, implying that architects have not this innate sensibility; and, on the other, Mr. Fry, happy in the conviction that they are content to be without it.

M. L. ANDERSON

SIR,—I must thank Mr. Maxwell Fry for supporting every statement I made in my letter on the subject of heavy-handed fun by hack humorists at the expense of Sir Giles Gilbert Scott's common sense, and I should like to suggest that Mr. Fry be appointed by those in authority as supplementary editor of that section of *The Encyclopædia Britannica* (FRA to GIB) in which the word gentleman occurs. Its meaning, he fears, is becoming vague; its significance archaic. Maybe he's right; maybe the gentlemen of this age, brutalized by bloodless sports like golf and synthetic coursing, have lost the refinements that were common among Georgian gentlemen who drank themselves under the table with regularity and precision, hunted the fox three days a week, and made England the most beautiful country in the world. I wish some of them were alive today and, by their understanding of the art of living, were potent influences in making Englishmen once again appreciate order and decency in their surroundings. But instead of the English genius for knowing how to live we now pride ourselves upon the English genius for compromise, which leads us to form relief organizations for slum-dwellers instead of clearing away slums, to endanger the peace of the world by quibbling about the details of disarmament instead of having the moral guts to disarm, to tolerate the vapourings of Mr. Ramsay MacDonald, the barbarism of jerry builders, the official obstruction of all lucid attempts to plan anything, the muddled horror of our big main line stations in London, and the savage inefficiency of English hotel-keeping.

One could go on with a list like this for some time about the mess into which "This other Eden, demi-paradise" has got because significance has been drained from the term *gentleman* and "those set in authority over us" are no longer conscious of their responsibilities to civilization. Well, Mr. E. Maxwell Fry, what *does* it mean now: *pukka sahibery*, holdin' a straight bat, playin' the game, an' all that, with the old school tie firmly embedded in the dickey? Is there no hope that it still means good manners, a sense of obligation to one's neighbour and a respect for his comfort, reticence, and a serene determination to sacrifice private advantage to civic amenity, or must it be placed in a coffin with other good words, long since ruined by commerce, such as "quality," "artistic" and "original"?

JOHN GLOAG

Houses at Low Rents

SIR,—My attention has been called to Sir Enoch Hill's letter in your issue for February 8, in which he states that "owing apparently to inaccurate information, Mr. Martin has failed to give due credit" to his scheme at Hipperholme under the Housing (Financial Provisions) Act, 1933.

May I explain that my observations as to the rents of these houses were based on the statement which appeared in *The Times* for January 23, and which was actually circulated to the Press by the Publicity Section of the Halifax Building Society?

I have since received a courteous acknowledgment from Sir Enoch Hill that the error occurred in his office, and am glad to note that the rents of the houses in question will be cheaper than appeared in the first instance.

JOHN G. MARTIN

Shipping

SIR,—As people rather intimately connected with the evolution of modern passenger carrying tonnage from many points of view, we should like to be among the first of what we feel sure will be many people to congratulate you heartily on your excellent article in your issue for January 25, entitled "Ship Interiors."

You have here voiced an opinion which has long been felt by many of the younger school of naval architects in this country but the practical expression of which has, unfortunately, been denied not to any particular obtuseness on the part of our interior decorators but rather through lethargy, ignorance and *Anno Domini* of the directors of our shipping companies.

It is merely another one of the reasons why foreign companies are beginning to take the business which formerly was held by British companies. It

is not by any means a question of subsidy in each case but rather that the foreigner is offering a better service, not only with better machinery, but also with interior arrangement that is in line with modern thought, economy and efficiency.

CONSULTANTS

Alien Architects Invade Britain

SIR,—Your comment in THE ARCHITECTS' JOURNAL on the article in the *Fascist Week* for January 26–February 1, evades the issue.

In view of the strong feeling which this matter has aroused within the profession, and in fairness to the many Fascist architects, we shall be grateful if you will have the courtesy to reprint the article in full.

H. J. BROCK GRIGGS

[*Yes, with pleasure.*—ED., *A.J.*]

At a time when so many of our young and vital architects are in a desperate position, the Royal Institute of British Architects chooses to welcome alien architects and to encourage them in professional practice within this country. Indeed, these fugitives have been very warmly received.

We have been affronted by the spectacle of prosperous British architects lavishing on these aliens, at big professional functions, encouragement which they conspicuously withhold from the younger architects of their own race, men of undoubted ability who, in many cases, have already suffered from this invasion.

The R.I.B.A. have had their attention drawn to this glaring injustice. But with the typical evasion which characterizes Old Gang methods they attempt to shift the responsibility on to others. Such denial fails to convince us after their admission that when their advice was sought by the Ministry of Labour they expressed their complete approval of this incursion into their ranks.

Repeated requests for an explanation have only led to attempts to hush the matter up.

Why this reticence, unless there is something of which they are ashamed?

Thus the Royal Institute of British Architects, whose primary duty is presumably to protect the interests of British architects, betrays them by encouraging the professional activities in this country of those aliens who have found it advisable to flee from their own land.

No other country would permit this dilution of one of its professions.

This is a further example of the contemptible and despicable betrayal of our countrymen which is going on in all trades and professions at this moment.

Admirable as the individual work of some of these immigrants has been, Fascism will not tolerate aliens practising their trade or profession within Britain or the Empire in unfair competition with British citizens.

The planning of our future towns and homes lies before us as an immense and glorious opportunity.

Britons, not aliens, shall carry out the task!

[*If this article refers, as it presumably must, to Mr. Erich Mendelsohn, the writer might have the courage to say so. He might also have referred to the many English jews who are at present engaged in architecture, building presumably under the OLD GANG methods of the R.I.B.A. and to the detriment no doubt of many "Fascist Architects."*

The letters which follow have already appeared in a Bexhill paper. They are reprinted here as they bear upon the same question. Lord De La Warr's letter appears to us to be representative of fair-minded opinion throughout the profession and the country.—ED., *A.J.*]

51, Chudleigh Road,
Brockley, S.E.4.
February 3, 1934.

The Town Clerk,
Town Hall,
Bexhill-on-Sea.

DEAR SIR,—This is a letter of protest against the employment of an alien architect for the erection of a building by a public body to the exclusion of British architects.

It cannot be news to the Bexhill Municipal Council to know that a fund is now in circulation amongst architects to assist the numerous members of the profession who are unfortunately out of employment. Yet you, who are using the British public funds to erect an entertainment hall to attract the British public are employing an alien architect to design this building. I put it to every member of your Council, could such a thing happen in a foreign country? There is only one answer, No.

I am sending a copy of this letter to the *Daily Mail* who I hope will do the right thing—publish it. I give their readers the opportunity of knowing what a patriotic Council you are.

Should you decide to employ this architect you are deserving of the severest censure.

I am.

Yours faithfully.
WALTER HEATH.

Town Hall.
Bexhill.
February 7, 1934.

DEAR SIR,—The Town Clerk has shown to me your letter of the 3rd instant about the successful architect in the Bexhill competition.

It is a pity that you did not ascertain the facts before courting publicity. The task of laying down the conditions of the competition and the appointment of the assessor were entrusted to the Royal Institute of British Architects; and the Bexhill Council acted upon those conditions and accepted the recommendations of the Institute's assessor.

You are no doubt aware that in a competition of this character, no one, not even the Council or the Assessor himself knows the names of the competitors until the award has actually been made.

The winning firm is a British firm and Mr. Chermayeff is not only a British citizen but is actually a member of the R.I.B.A.

It is true that the firm has lately taken into partnership Mr. Erich Mendelsohn, who was one of the greatest architects on the continent before he was turned out of Germany by the present regime. No foreign member of a profession is, however, admitted into this country without a certificate from the Home Office, and this certificate is not issued without consultation with the profession in this country. I am given to understand that the reply of the R.I.B.A. to the Home Office when consulted about Mr. Erich Mendelsohn was that he was so distinguished an artist that they welcomed his admission to the country; and further that if he stayed and applied for naturalization they would be pleased and proud to consider him for the bestowal of the highest honours that the profession could give.

By the appointment of Mr. Tait as assessor it was sought to encourage entries from the younger architects with the submission of new idea and I am informed that the Bexhill Council is the first municipal authority to have had a competition which was so successful in this respect. No fewer than 230 architects competed; and the result has been that the prize has been awarded to a set of plans of which I hope that not only our small town, but all those interested in architecture in this country may be proud.

I hope this letter will have convinced you that not only is Bexhill acting in a way that is right in itself but in doing so it is acting upon the conditions laid down by, and the recommendations of the representative body of architects in this country.

Yours faithfully,
(Signed) DE LA WARR,
Mayor.

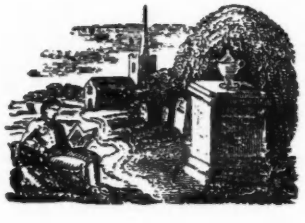
Letters in Smaller Type

SIR,—I find an apologetic phrase constantly appearing at the end of your correspondence columns, saying that lack of space has prevented more letters from being published.

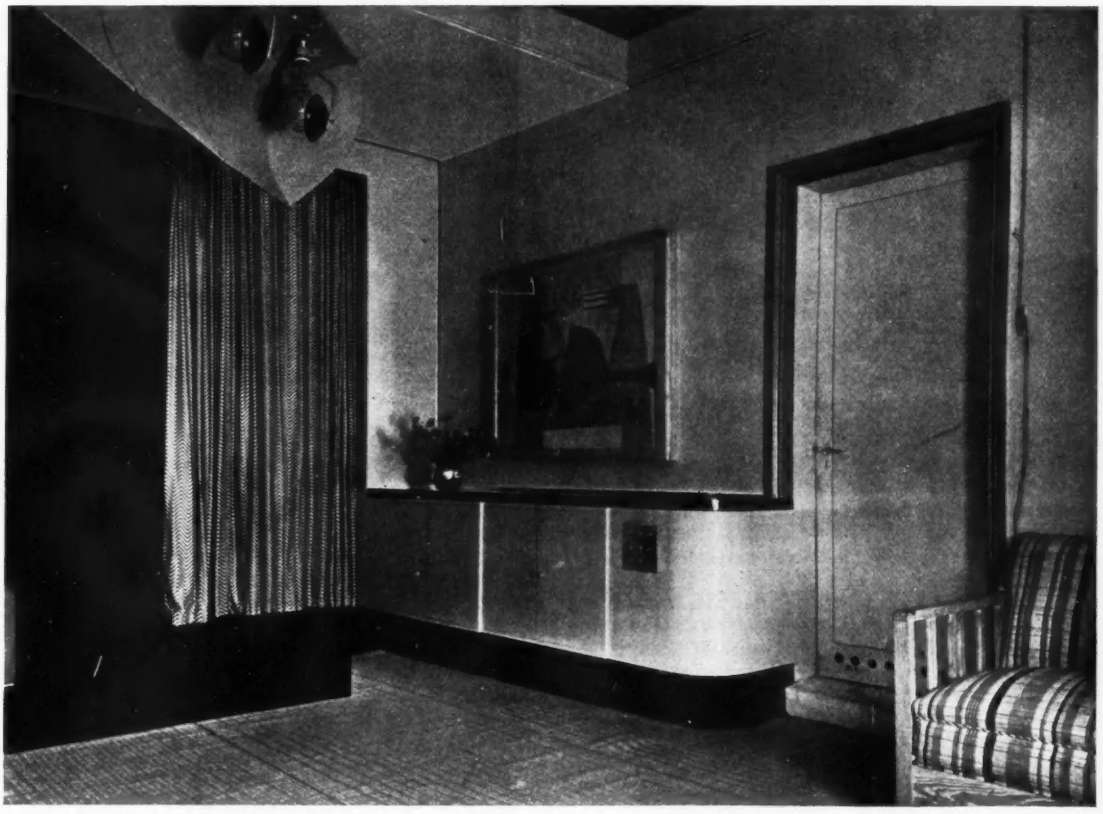
As these columns of your Journal are always of such interest, could you not print the letters in slightly smaller type and then give us more of them each week?

DELIGHTED READER

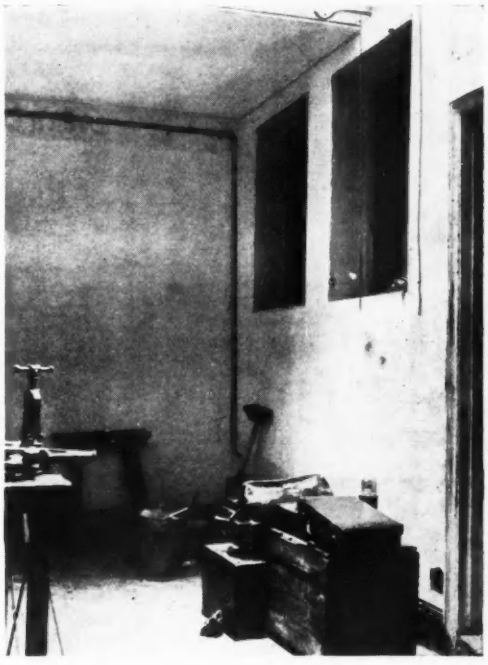
[*This suggestion will be considered.*—ED., *A.J.*]



PHOTOGRAPHER'S STUDIO, CHELSEA



This studio, at 144a, Sloane Street, S.W., is situated at basement level, and has only two daylight sources: window to workroom and skylight over studio. The problem was to transform the disused kitchen, larder, etc., into a combined photographic studio and living quarters. The photographs show a corner of the studio before and after reconstruction. The cupboard is formed in laminated board, with top and base in ebonized mahogany, and has been treated as an extension of the door-lining, developing at the further end into a vertical boxing against which the curtain stops. The cupboard is cream-coloured, the door architrave is green, while the platform, as a continuation of the cupboard base, has ebonized mahogany risers and a polished black linoleum top. The picture is by Ben Nicholson, and hangs over two window openings which have been built up. In every case where a junction is formed between wood and plaster the joint is covered by polished strips of aluminium alloy, in $\frac{1}{2}'' \times \frac{1}{2}''$ rectangular sections.



CHRISTOPHER NICHOLSON, ARCHITECT; E. Q. NICHOLSON, DECORATOR

PHOTOGRAPHER'S STUDIO, CHELSEA

The range-opening, before and after reconstruction

The studio measures approximately 20 ft. by 15 ft. 3 in. In view of the small size, emphasis was laid on the diagonal by building a range of cupboards (P) and banquette (W) in opposite corners. Curtain box (T) contains alternative backgrounds on railways running behind the valance-board, to which concealed lights are fixed.

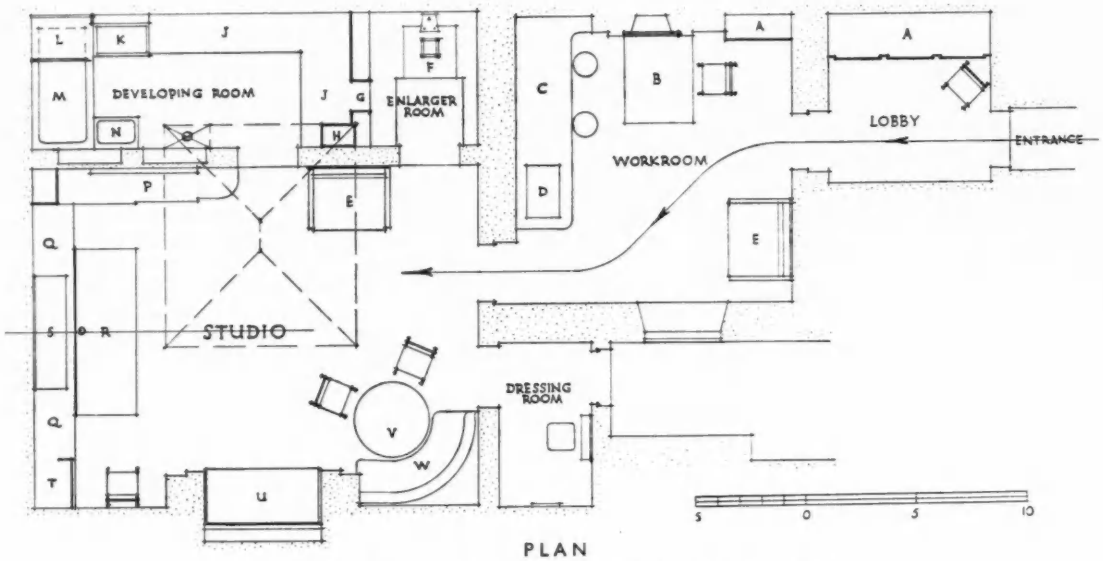
The positions of bath, lavatory-basin and sink (M, N and K), were settled by the existence of an adequate drain in the north-west corner of the developing-room. Hot water is supplied by the electric water heater (O) located in the sky-light (to give sufficient fall). The heater is screened from the studio by the return of the sky-light lining along the top of the wall over the doorway. At the opposite end of the sky-light is a dual-purpose extract fan which induces a draught through negative dryer (H) or ventilates developing-room. A light-proof ceiling has been formed between H and O.

Studio, workroom and lobby conform to the same decorative scheme; very pale sage green walls, cream ceiling, woodwork generally bright green, floor covered with white China matting.

The old range opening is shown in the photograph reproduced above. The flue has been sealed off, a curved soffit formed to match the camber of the arch, and a purpose-made divan fitted into the recess.

The banquette, illustrated on the facing page, is upholstered in a tartan-like material of green and black on fawn, and has an ebonized mahogany and polished aluminium alloy base. The fluted base to the table is painted letter-box red.

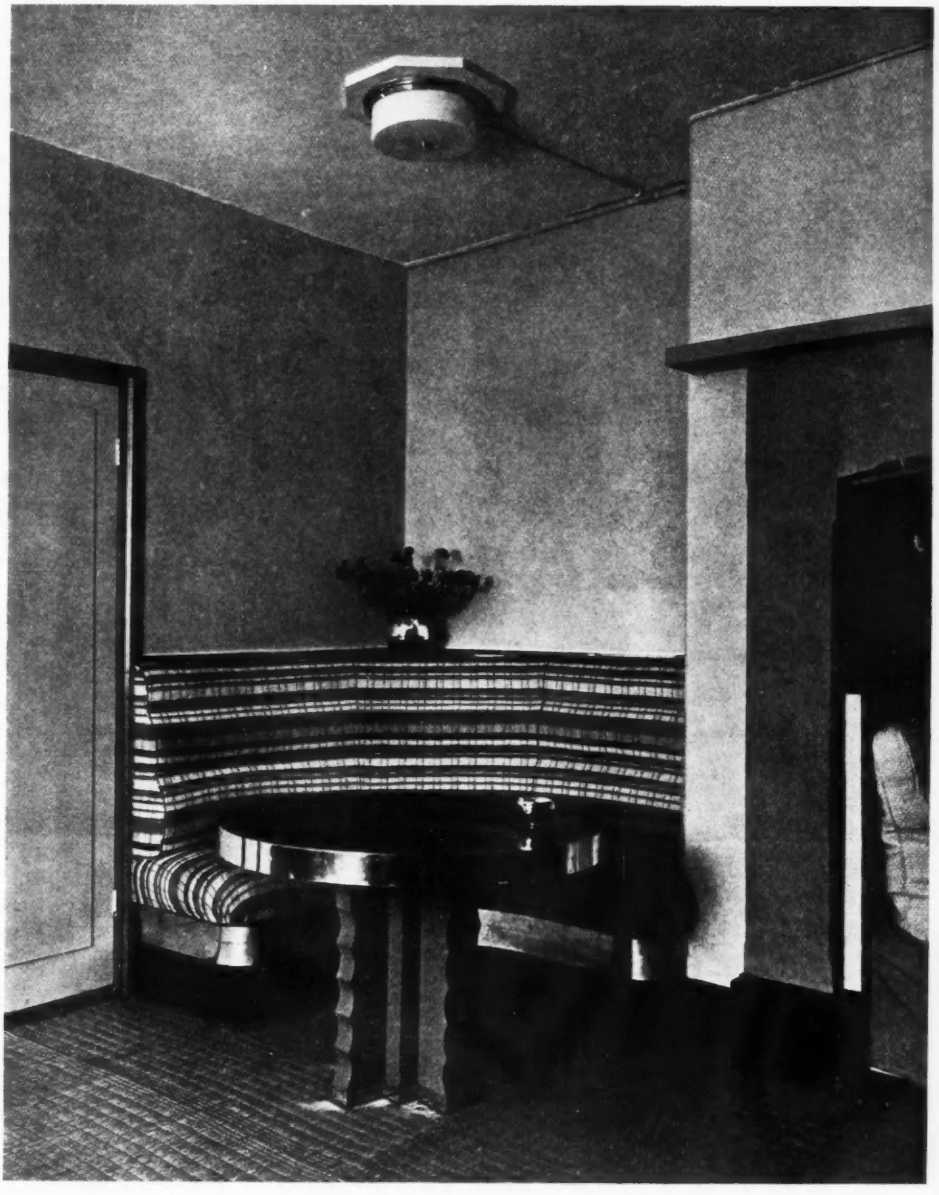
E. Q. Nicholson was responsible for the decorations.

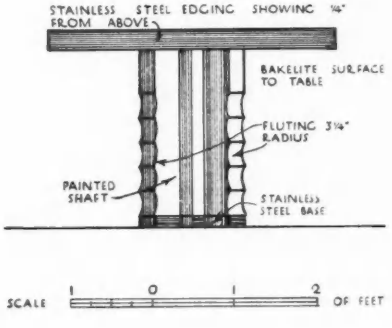


PLAN

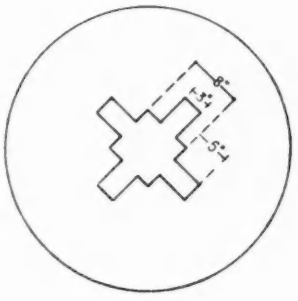
A: Fitted cupboards; B: Secretary's desk; C: Re-touching and mounting bench; D: Glazing machine (cupboard under, print drier over); E: Settee beds; F: Enlarger; G: Light-proof hatch; H: Negative-drier (dual-purpose extract-fan over); J: Developing bench (cupboards under); K: Sink; L: Print washer (mixing tank over); M: Bath; N: Lavatory basin; O: Electric water heater over; P: Cupboard (gramophone, radio, and studio lighting controls); Q: Permanent platform; R: Removable platform; S: Seat; T: Curtain box; U: Old range recess fitted with bookshelf and removable divan; V: Table; W: Banquette.

CHRISTOPHER NICHOLSON, ARCHITECT

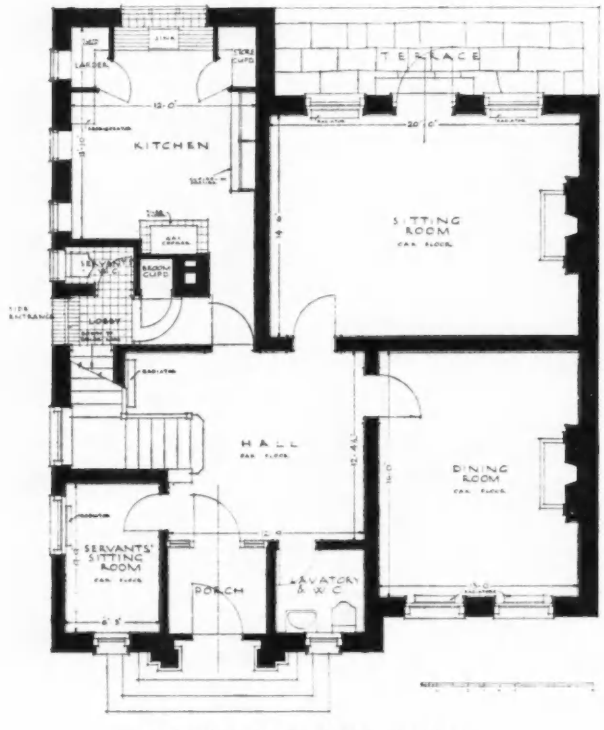




Plan and elevation of the table (v on plan) shown in the photograph reproduced above. Behind the table is the banquette.



TWO HOUSES IN PRINCE



GROUND FLOOR PLAN

The houses are built of multi-coloured sand-faced bricks from Amersham, Bucks., pointed with cream coloured flush joints rubbed with a piece of cloth to give a soft texture. The roof is covered with sand-faced tiles. The parapet on the one house and the cornice on the other were designed to give a continuity of line, despite the difference in ground levels.

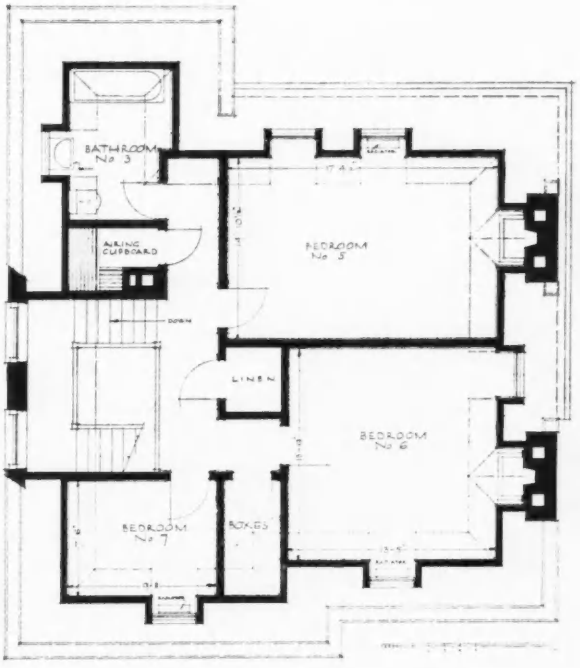
ARTHUR ROAD, HAMPSTEAD

DESIGNED

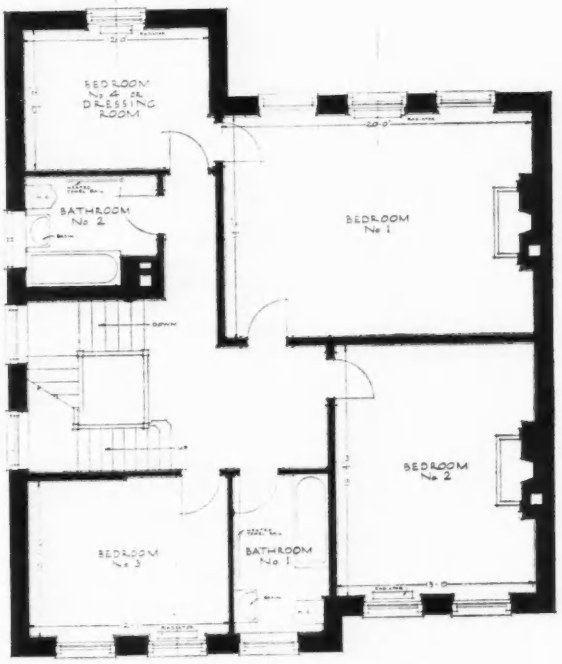
BY

HOWARD D. SUGDEN

A detail photograph of the main entrance to the house shown on the right of the photograph reproduced on the facing page.



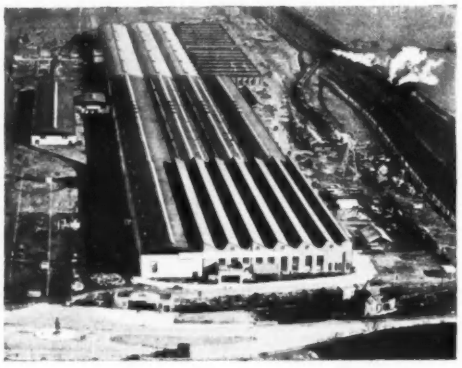
SECOND FLOOR PLAN



FIRST FLOOR PLAN

C

OPENING DAY: FEBRUARY 19



THE BRITISH INDUSTRIES FAIR BIRMINGHAM

[*By R. JACKSON*]

THE British Industries Fair at Castle Bromwich once again distinguishes itself by the doggedness with which its promoters refuse to be bullied into realizing that "something ought to be done about it."

Every architect in this country (or in the whole world if you do not trust your home product) will deny that economy can be blamed for a British Industries Fair such as it is.

For a fortnight of exhibition (February 19–March 2) exhibitors spend a great deal of money and time and thought in making their own show as interesting as they can. Surely it is their due that the Exhibition as a whole shall not be dull.

But dull it is.

The buildings, which naturally are as light and cheap as possible, having been added to at times, situated convenient to a railway station and on the main Chester Road, let us accept.

Entering from the road or railway one finds the entrance to one side approached by a 20 ft. wide roadway. The main entrance hall is *15 ft. by 28 ft.*, leading straight into the British Industries Fair, the approximate size of which is some *hundred yards wide by 600 yards deep.*

Negotiating the inner portals (there actually is a choice of four pairs of swing doors) we launch our potential foreign and colonial customers on to an 18 ft. cross-gangway from which they may take any one of nine ways, each 10 ft. in width, six of which will lead them without interruption (other than numberless cross ways of the same width, at equal intervals) along one-third of a mile of exhibits and terminated either in walls or the smallest stands in the Exhibition.

To one side at this point, however, there is a refreshment room.

The other remaining gangways do not have their perspective converging to a vanishing point at the uttermost limits of the Fair as do their brothers.

These favoured ways have, at casual places, a break at which rows of larger stands have been allowed cheekily to shoulder their way in. An element of surprise which cheers one considerably.

Half-way along the Great Hall there is a wide way (40 ft.) leading to the north to a dining-room block

There are certain outdoor exhibits ranged along the side of the main hall by the railway, while a number of other outside displays are situated at the other side of the building a quarter of a mile away as the crow flies (but, unfortunately, visitors haven't this gift). It is hard on one should one go to the wrong outdoor section in mistake.

The Building Trade exhibitors, it seems, are learning the wisdom of employing an architect to help them to display their wares to his professional brethren.

Yet there are still many who apparently do not see the virtue of so doing.

It is scarcely to be expected that architects will feel sympathetic towards these latter from whom they receive such neglect.

In exhibiting a building material it seems ideal, if possible, that the exhibition stand should be built of the materials intended to display, in such a way as to emphasize its particular qualities.

In this respect mention should be made of certain exhibits from which not only the possible customer, but other exhibitors can learn much.

Of the several brickmakers' stands, that of the Aldridge Brick Company shows their material in an excellent architectural way, displaying restrainedly certain ideas in the uses of brick and tiles, in an orderly way.

Several firms of glass producers have created noteworthy exhibits. I wonder how much the publicity of the glass trade has had to do with the evolution of modern architecture.

The exterior of the stand of Messrs. Pilkington Bros., Ltd., is designed in the form of a shop front with entrances on three sides. Except for the necessary supports, it is an all-glass stand, the pillars supporting facia plates being of black polished plate glass, and the facia itself is biscuit coloured with the firm's name in black letters.

An important feature of this stand is the flat glass tiled roof of the demonstration room.

The stands of Thomas Webb and Sons and Chance Brothers are also designed in glass for the exhibition of the same material.

Imperial Chemical Industries have a large and well designed stand which does credit to the materials used and exhibited, although its immediate neighbour—an engineering display, which one would have thought to be more suitable as an external exhibit—does its best to dominate it by sheer bulk.

Generally speaking, the majority of the stands, particularly the engineering ones, have that unmistakable touch of a works' engineer or such person "trying his hand." In contrast to this type it is only fair that one should mention the design of the stand for Messrs. Accles and Pollack, who have been shrewd enough to employ an architect on their effort, although the exhibit is mainly of an engineering character.

The group of stands by which the industries of Canada are represented have an ingenious flavour of a tenth-rate circus—a type of classic totem-pole touch which gives them that keynote of an incomprehensible taste which one comes to associate with the Dominions.

R. J.

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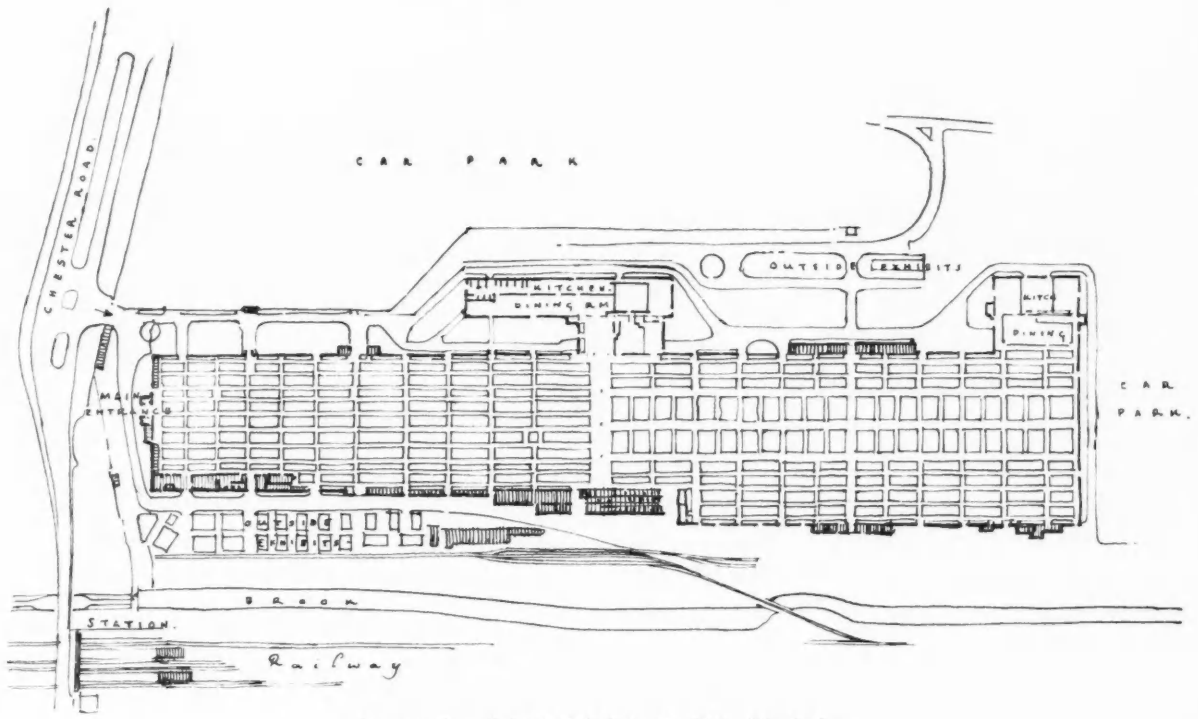
Some Notes on the Exhibits

Solidtop gas ranges, having several new technical features in their design, will be shown by BENHAM AND SONS, LTD., on Stand No. C.1023. These ranges are constructed in units of oven with hot plate



Lay-out plan of the British Industries Fair, Birmingham.

over and an alternative "open flame" type is also made. Sinks in staybrite steel will also be shown.

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The exhibits of BIRMABRIGHT, LTD. (Stand No. F.454), will comprise all cast and wrought forms of the Birmabright corrosion-resisting (aluminium) alloy, including rolled sheet and strip, extruded bars, sections and tubing of various shapes, drawn wire, etc. A number of special examples of fabricated work will be shown, such as a 10 ft. 6 in. rowing dinghy and a ship's side scuttle representing marine applications; a 4 ft. square cast spandrel, a balustrade panel and grille as utilized in architectural work; a showcase for shop and exhibition use, as well as samples of door furniture and window fittings, perforated plate, wire fastenings, pressings, stampings, forgings, rivets, bolts and nuts, metal thread and wood screws and castings produced for several purposes. Different surface finishes that can be obtained with Birmabright will also be demonstrated.

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FREDK. BRABY AND CO., LTD., will have on view (on stand No. D.411) a representative selection of their manufactures, including:—A metal office, stairs and balcony, with metal doors and windows; plywood panels covered with various metals; electric heating panels; steel barrows and bins; tanks, cylinders and cisterns; a welded copper furnace pan; a petrol tank and pump; a stainless steel milk tank; aluminium culinary utensils; perforated metals; samples of normalized and special-finish steel sheets; galvanized sheets, roof-lights and gutters; copper and galvanized ventilators; a hospital door in metal-plywood; tables and a larder in metal-plywood, etc.

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Stand No. E.423 will consist of the usual information bureau and visitors' lounge organized by the BRITISH ELECTRICAL DEVELOPMENT ASSOCIATION. Inquirers will be able to obtain information on tariffs and the general electrical facilities available in all parts of the country, and an elaborate scheme of display lighting should draw attention to the stand.

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Enlarged photographs of Mercra street lighting installations—about 12 ft. in height—will be displayed on the exterior walls of the stand (E.411) of the BRITISH THOMSON-HOUSTON CO. In front of each picture there will be a lamp standard fitted with the actual lantern used in the photographed installation. The inside of the stand will be a large lounge with a decorative central feature, with four display windows facing inwards. Two of these display windows will be devoted to Mazda Mercra lamps and equipment, the third window will contain a display of standard Mazda lamps, while in the fourth window there will be a demonstration of the Mazda Sun-lamp and B.T.-H. Sun-lamp equipment.

There will also be a demonstration of Mazda Mercra lighting in the roadway outside the Fair buildings.

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Cellactite, a corrugated steel-cored sheeting made from asbestos and asphalte consolidated under pressure, will be shown on Stand No. C.12 by CELLACTITE AND BRITISH URALITE, LTD. This material has a hard glossy surface, but several Varytone finishes are available in green, aluminium and russet. Urastone, a compound of asbestos and cement, is also put forward as particularly suitable for flues or trunking since its slightly absorbent inner surface prevents condensation.

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On Stand No. 8J/3 the CROFT GRANITE, BRICK AND CONCRETE CO., LTD., will be showing fireplace surrounds in terrazzo, reconstructed granite, Hopton Wood and Hydromant stone, and the whole of the stand itself will be constructed of the various precast and natural stones and marbles in which this firm is interested.

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Refrigerators of all sizes will be shown on Stand No. E.711 by ELECTROLUX, LTD., with capacities ranging from one to five c. ft., suitable for building-in. Other products to be shown by this firm include portable water softeners and an elaborate cleaning plant suitable for all purposes, including spraying and moth destruction.

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Sheet-metal work, perforated sheets and woven wire screens will be shown by G. A. HARVEY & CO. (LONDON), LTD., on Stand No. B.925, and this firm's new Metalose has diagonal as well as horizontal and vertical strands. Steel furniture, filing cabinets and plan chests will also be shown.

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With the reorganization of the "heavy" section Fair, the stand (F.421) of I.C.I. (METALS), LTD., has had to be removed from the site it occupied in previous years to the engineering section. As before, all

the exhibits are to be sectionalized, the available space being devoted to strip and sheet, tubes, rod and the extruded sections, plates and wire. Short cinematograph films dealing with the manufacture of strip, sheet and extruded rods will be projected on the stand.

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The principal exhibits on the stand (E.144) of the IOCO RUBBER AND WATERPROOFING CO., LTD., will include: Formapex products, Bakelite type :—boards, cloth and paper, gear blanks ; Artoco interior panelling, varnishes and treated paper ; Ioco rubber flooring ; rubber mats ; rubber nosing ; radiator tubing ; rubber tubing, etc.

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The joint stand (D.511) of NOBEL CHEMICAL FINISHES, LTD. and FREDERICK CHEMICAL CO. (both of which are associated with Imperial Chemical Industries, Ltd.), is to be completely decorated in paints and varnishes of their own manufacture. The Petrumite imitation stone paint will be used for the walls, and various qualities of Dulux, both the air drying and stoving types, are to be shown on the panels round the stand.

In addition to these paints, which are to be shown in application, there will be a comprehensive display of Belco, Necol, and Cranco cellulose finishes, including coloured enamels, wood finishes, and lacquers.

The Nobel heat-resisting chemicals for use on gas fires will be exhibited, together with the Nobel Low Bake enamels, and the Synobel electrical varnishes.

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Automatic oil burners in three sizes will be shown on Stand No. F.8110 by PARKER, WINDER AND ACHURCH, LTD. The burners are of unit construction, with the parts readily accessible for cleaning or adjustment, and control may be arranged by any of the usual methods.

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PILKINGTON BROS., LTD., have constructed Stand No. D.115 entirely in glass, a special feature being made of Armourplate and Vitrolite. Part of the roof consists of J. A. KING & Co.'s patent lights, the remainder being in Georgian wired glass.

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On Stand No. D. 221, RUBEROID CO., LTD. will exhibit various types of roofing, roofing felts and dampcourses. These will include Ruberoid roofing (claimed by the firm to be suitable for use on large commercial and industrial buildings of all kinds) ; Starex roofing (for use on garages, large sheds, farm buildings and workshops) ; Pluvex roof felt (for small buildings about the farm, factory or home) ; Ruberoid strip slates (for sports buildings) ; and bitumen dampcourses.

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Amongst their better-known products TURNERS ASBESTOS CEMENT COMPANY will show, on Stand No., C.631 a new asbestos-reinforced aluminium foil for heat-insulating purposes. This consists of two thin sheets of aluminium on an asbestos paper core. Tests (it is stated) show it to give a more effective degree of insulation than a 1-inch slab of cork. It is flexible and easy to fix. The remainder of the exhibits will consist of this firm's well-known asbestos cement products.

•

Stand No. C.631 has been designed by Mr. Oliver P. Bernard for the TUNGUM SALES CO., LTD., entirely in their alloy, which he used so extensively in the recent Cumberland Hotel. Tubes, sheets, rods and castings have been incorporated in the design, and all the furniture is in the same metal.

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The Stand (F.422) of the UNITED STEEL COMPANIES, LTD., will contain a comprehensive display of their iron, steel and allied products. SAMUEL FOX AND CO., LTD., who are associated with the United Steel Companies, Ltd., will show cold worked steels in strip and wire form. These include welding wires for electrodes in special alloy and stainless steel qualities. Messrs. Fox are marketing qualities of stainless steels known as Silver Fox, and the display will include actual products in which Silver Fox stainless steels have been employed, including dairy, brewing and food-preparing apparatus. A display of machined parts made from "Stocksbridge" alloy steels for the aircraft and general engineering industries will also be shown. This will include many parts forged by the associated firm of DANIEL DONCASTER AND SONS, LTD.

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The latest finishes, spraying, dipping and storing for industrial purposes will be demonstrated by the WALPAMUR CO., LTD., on Stand No. D.257, and a series of panels will also be shown to give some idea of the variety of decorative finishes and colours which are now available.

SOCIETIES AND INSTITUTIONS

SOUTH WALES INSTITUTE OF ARCHITECTS

Sir Giles Gilbert Scott, R.A., P.R.I.B.A., was the chief guest at the annual dinner of the South Wales Institute of Architects, held at Cardiff on February 1. Lt.-Col. E. H. Fawkner, T.D., F.R.I.B.A. (President), occupied the chair.

The Earl of Plymouth, proposing the toast of "The Royal Institute of British Architects and its Allied Societies," said : "I shudder to think what our fathers would think of the buildings which are being erected today, and equally we may not like the buildings which were put up in Victorian days. When I see some of the things which have been erected in the past few years I blink. Then there are some which I do not understand and others which are really very beautiful. This age, however, has given us some magnificent buildings. I think our glorious civic centre here in Cardiff is foremost among them."

Sir Giles Gilbert Scott responded. Dealing with the Institute, Sir Giles said it acted as a binding force for the Empire. In that way it was performing a very great work. He mentioned that the Institute was celebrating its centenary this year, and it was an interesting coincidence that the allied societies reached a hundred in number in its hundredth year.

Other speakers included Mr. Ingalton Sanders, F.R.I.B.A. ; Ald. A. E. Gough (Lord Mayor of Cardiff) ; Ald. Edward Harris (Mayor of Swansea) ; and Councillor Frank J. Humphries (Mayor of Newport).

Among those present were : Mr. G. C. Lawrence, Mr. W. T. Benslyn, Mr. Ian MacAlister, M.A., and Mrs. MacAlister, Mr. Robert J. Webber, J.P., Alderman C. F. Sanders, J.P., Mr. J. E. Emlyn-Jones, Capt. J. MacLeod Carey, O.B.E., Mr. H. L. Lang-Coath (town clerk, Swansea), Mr. O. Treharne Morgan (town clerk, Newport), Mr. Griffith Davies and Mrs. Davies, Capt. J. J. Williams, Mr. J. A. Sandbrook (editor-in-chief, Western Mail and Echo, Ltd.), Mr. T. Alwyn Lloyd and Mrs. Lloyd, Mr. E. A. Ward, Mr. T. J. Hill, Sir Percy Watkins, Mr. Godfrey Turner, Mr. J. H. Bryn Davies, Mr. D. J. Owen, Principal Charles Coles and Mrs. Coles, Mr. V. S. Robertson, Mr. A. Graham, Mr. James Turner and Mrs. Pritchard Williams, Mr. J. Ll. Morgan, Mr. G. M. Puddicombe, Mr. R. G. H. Wade, Mr. and Mrs. W. F. Gibson, Mr. and Mrs. George Walters, Mr. H. F. Gibson, Mr. H. B. Duce, Mr. and Mrs. Huxley Turner (Swansea), Mr. C. S. Thomas (Swansea), Mr. and Mrs. Percy Thomas (Cardiff), Mr. Ivor Jones, Mr. W. S. Purchon, and Alderman W. J. Davies (chairman of the Swansea Education Committee).

LIVERPOOL ARCHITECTURAL SOCIETY

Mr. Gordon Stephenson, a lecturer in the Liverpool School of Architecture, told the Liverpool Architectural Society last week that Sir Gilbert Scott's recent saying that the problems which architects must now take up were social as well as architectural expressed a growing feeling among architects.

So far, the feeling was expressed mainly in words. Action, except on the part of a few town-planners and city architects, was very limited. A call to action would leave architects in many ways inadequately equipped. But today they had all the material means at their disposal for building magnificent towns and planning the whole of our country for the benefit of the community. Such work was going on in America and Russia.

The formation of the architect in the higher stage of civilization to which he believed we were progressing, Mr. Stephenson said, must in its first part be based on a substantial general culture and on a profound understanding of biology. The architect would very soon discover the horror and ineptitude of our existing towns and the imminent dangers which such living conditions represented.

Having come into contact with the

" animal man " it would next be a question of studying the relations between man and man. Sociological study would lead to the study of economics and the sum of those would lead him to learn of the various methods of thought. And this cultural formation must constantly be related to experience.

" We cannot ask the architect to be at the same time biologist, sociologist, economist and philosopher, but it is obviously necessary that his knowledge should be large enough to allow him to consult specialists in the various sciences on all points which arise in a concrete problem ; he must be able to direct specialists and must be capable of analysing and grouping the information indispensable to the best conception of his work. On the other hand knowledge directly connected with his work, and particularly the different scientific and practical techniques, should be fully developed and understood.

" It would remain for the architect to find his own method of working, and in fathoming the question he would realize that of all the methods before him the most scientific is incontestably that which opposes thesis to antithesis, finally to find from them the synthesis, and thus, by this continuous movement, to guide the unity of thought and conception to a superior degree of development—it is the method of dialectical materialism."

HANTS. AND ISLE OF WIGHT ARCHITECTURAL ASSOCIATION

" Town and Countryside " was the title of a paper read by the Hon. Humphrey Pakington, F.R.I.B.A., at a recent meeting of the Hampshire and Isle of Wight Architectural Association. Lt.-Col. R. F. Gutteridge, F.R.I.B.A., presided.

More and more, said the lecturer, is an ordered system coming to be recognized as the natural expression of our civilization. More and more did they feel that it was when work was disorderly and out of tune with the essence of artificial things, harmony with nature could not be achieved. As the new age advanced they watched it coming perhaps with nervous apprehension, longing for the good old days ; nothing, they felt, could be as good as it used to be. That surely was a wrong attitude ; surely they ought to look forward with hope and not with despair. He hoped for a land organized for peace and happinesss and prosperity, a land where ordered beauty and power, where the work of man should enhance the beauty of nature. A land of busy townships, not toiling cities ; a land where no one was far from the beauties of nature and no one was far from the comforts of civilization. He believed they could plan with confidence for the future of this country when the hills and woods and rivers, the homes and shops and factories, should all combine as a fitting harmonious setting for the beauty of the labour of man.

Alderman J. S. Furley also spoke.

WEST YORKSHIRE SOCIETY OF ARCHITECTS

The above Society, following its policy of decentralization in holding meetings at various cities and towns in its area, instituted a social evening which was held at the Bradford Liberal Club on February 8. About sixty members and guests were present.

Mr. B. R. Gribbon, F.R.I.B.A. (President), proposed the toast of " The City of Bradford," and Mr. George R. Carter (Deputy Mayor of Bradford) responded.

ROYAL INSTITUTE OF THE ARCHITECTS OF IRELAND

The annual dinner of the Royal Institute of the Architects of Ireland was held at the Institute's headquarters, Merrion Square, Dublin, on January 25. Mr. G. F. Beckett presided.

Responding to the toast " Eire " (proposed by the Chairman), Mr. T. Derrig, T.D. (the Free State Minister for Education), discussing building schemes, said : " If we cannot build beautiful houses at a suitable price, why cannot we at least avoid building houses which have not even the merit of being uniformly ugly ? In my own Department we are keenly interested in the provision of suitable schools. There can be no doubt that within the next few years there will be an increasing demand for the abolition of old, unsuitable, and insanitary schools. The great demand of the day is for more houses, and more houses mean more schools. The very best accommodation that can be provided should, and must, be provided for the schools. They must be made bright, airy, and pleasant for the children, who have to spend a considerable portion of their early lives, by law, within their walls. Architects have ample scope for displaying originality of design in the treatment of school buildings, when they are preparing plans for schools for local authorities, and even for the larger primary schools. I hope they will take full advantage of their opportunities."

Other speakers included Dr. Purser (President, Royal College of Physicians) ; Mr. Harry Alberry ; Mr. George Atkinson (Director of the School of Art) ; and Mr. Frank Crawley (President, Royal College of Surgeons).

CHURCH LIGHTING

A paper on " Church Lighting " was read by Mr. H. C. Wheat, A.M.I.E.E., at the second of the series of conferences for architects, held at the Lighting Service Bureau on January 31. In the course of his address, the speaker said :

" Lofty churches of Gothic style usually lend themselves admirably to concealed lighting by reflector units placed on the east side of the roof principals, or in the west side of the clerestory windows in the nave. Such units should control the light in a downward and eastward direction diagonally across the building. Similar units can usually be employed in the aisles, also on the east side of the roof principals. The choir and sanctuary can also be equipped with similar units placed on the east side of the chancel arch and also at some position nearer the altar, all such units being placed not less than 20 ft. above floor level in order to ensure sufficient angle for the beam in a vertical plane. Suitable units, finished to match their surroundings, are practically unnoticeable in daytime.

" Less pretentious buildings with flat ceilings can usually be dealt with by means of diffusing units either pendant from or actually fixed to the ceiling. It is important to keep the fittings high, especially where there are galleries, and very fine results can be obtained by indirect lighting either from pendant fittings or wall consoles, but since the whole of the light is reflected from the ceiling it is imperative that the latter is light, if not actually white, in colour, otherwise the resultant illumination will be ineffective except by the use of an abnormal loading.

" In new buildings a variety of different treatments is possible, such as the employment of luminous panels, or illuminated recesses in walls and for ceilings—artificial windows, luminous beams, etc., which can be both decorative and at the same time afford effective illumination. It is desirable to utilize comparatively large areas of low brilliance rather than smaller ones which would have to be very bright in order to secure adequate illumination of the building. Effective illumination of large areas from positions adjacent thereto present considerable difficulty unless provision is made at the outset for space for the necessary equipment and suitable curvature of the surface to be illuminated."

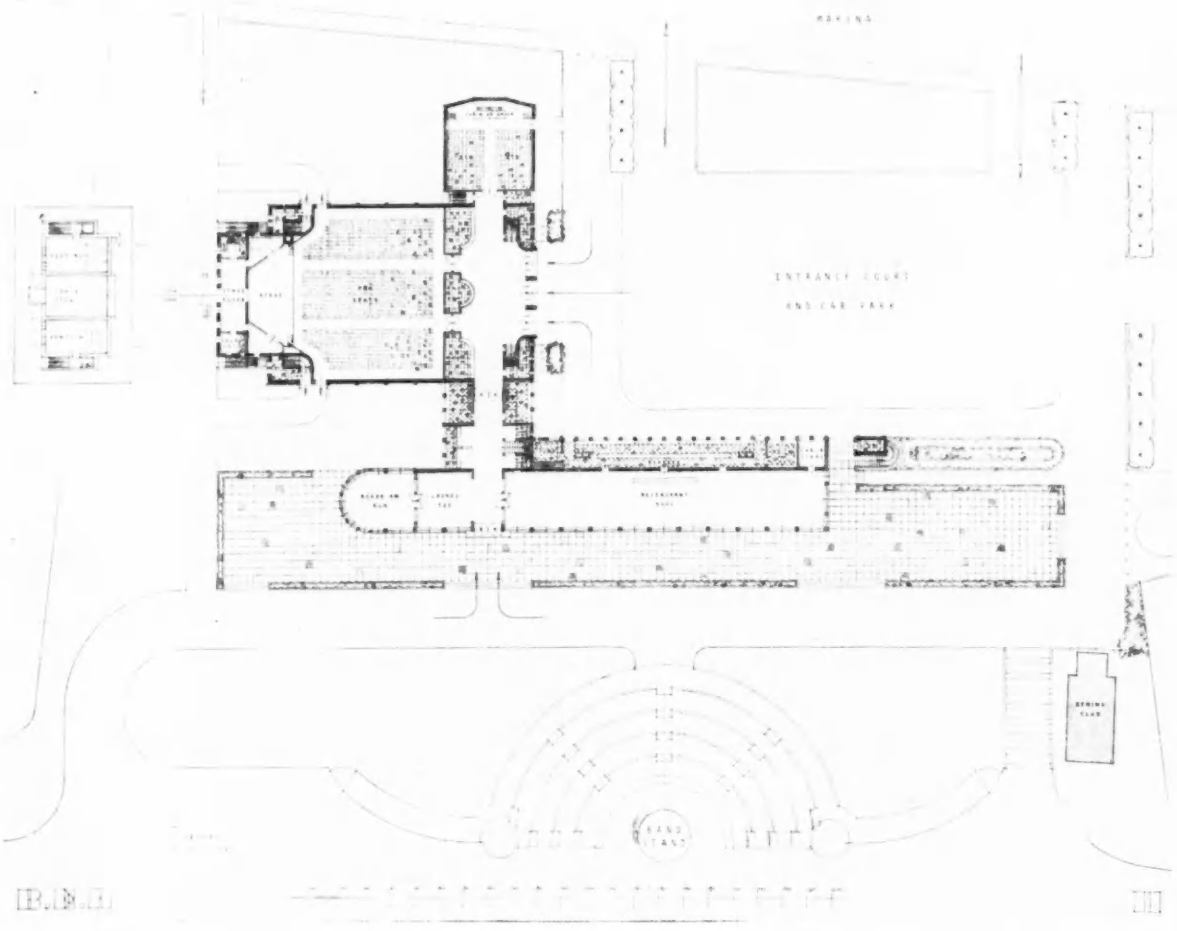
The discussion was opened by Mr. Edward Maufe, F.R.I.B.A. He said that it was obvious that there could be no cut and dried scheme with regard to church lighting, and that while he considered that some of the churches of which Mr. Wheat had shown photographs had been most sympathetically treated, he was considerably shocked by others. From the illustrations of churches which were lighted strongly he had the impression that the buildings were not so high as they really were, whereas with different lighting one might imagine that the churches were very much higher. The Classic spirit wanted everything clear and concise, but the Gothic spirit desired that the heavens should remain unexplored, and in churches one must allow for people who felt that way.

With regard to the fittings themselves, they must, of course, be efficient, but in addition to that they must either justify themselves on acount of fitness for purpose or they must be an integral part of the building. One should be proud of them and not be ashamed of them, pretending that they were not there. He said that he felt that in churches the modern tendency was to diminish the importance of the altar, but he considered lighting was of supreme importance in focusing the attention of the congregation where it was most desired.

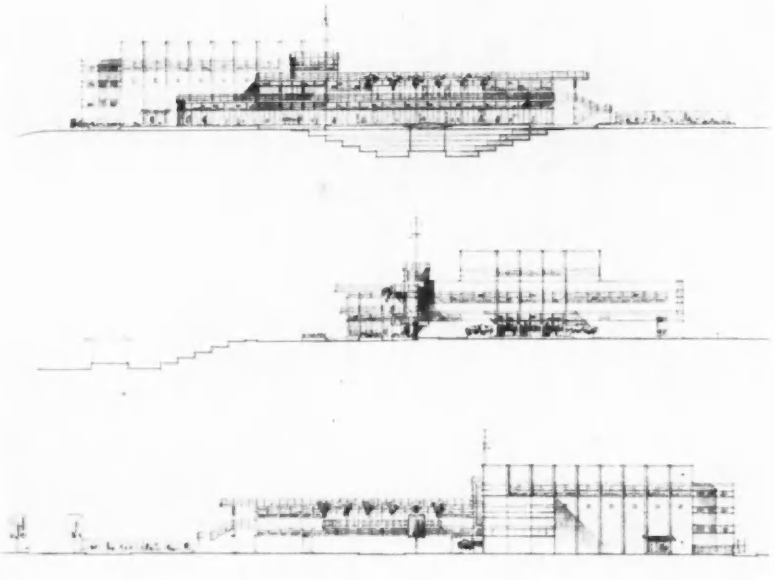
Mr. L. H. Bucknell, F.R.I.B.A., a member of the Joint Lighting Committee of the Architectural Profession and the E.L.M.A. Lighting Service Bureau, said that he saw no reason why there should not be good lighting on the altar, as a religious ceremony was a dramatic thing and light could create a religious atmosphere. He said that although he was opposed to the dim religious atmosphere, he objected to lighting which was completely unimaginative.

One could provide light to such an extent as to obliterate desirable features. On the other hand, there were features which should be very well lighted in order that their colour effect should not be lost.

THE BEXHILL COMPETITION: DESIGNS



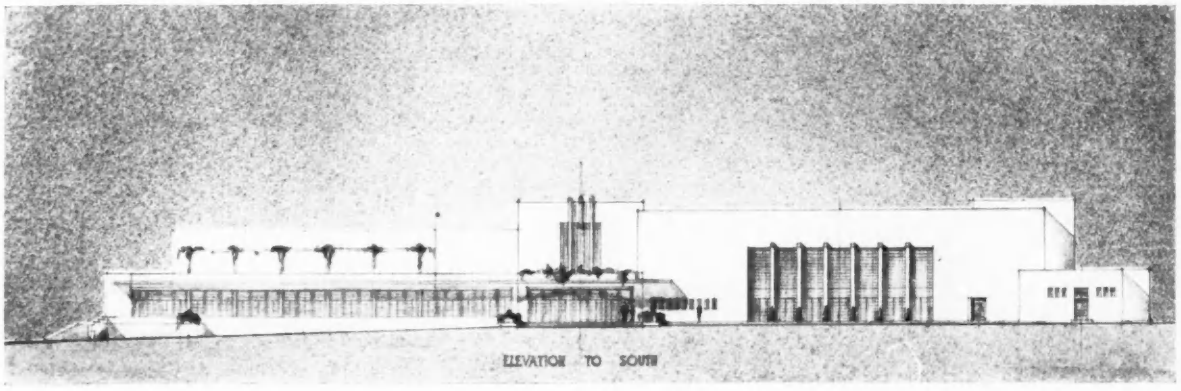
Above: Lay-out plan.

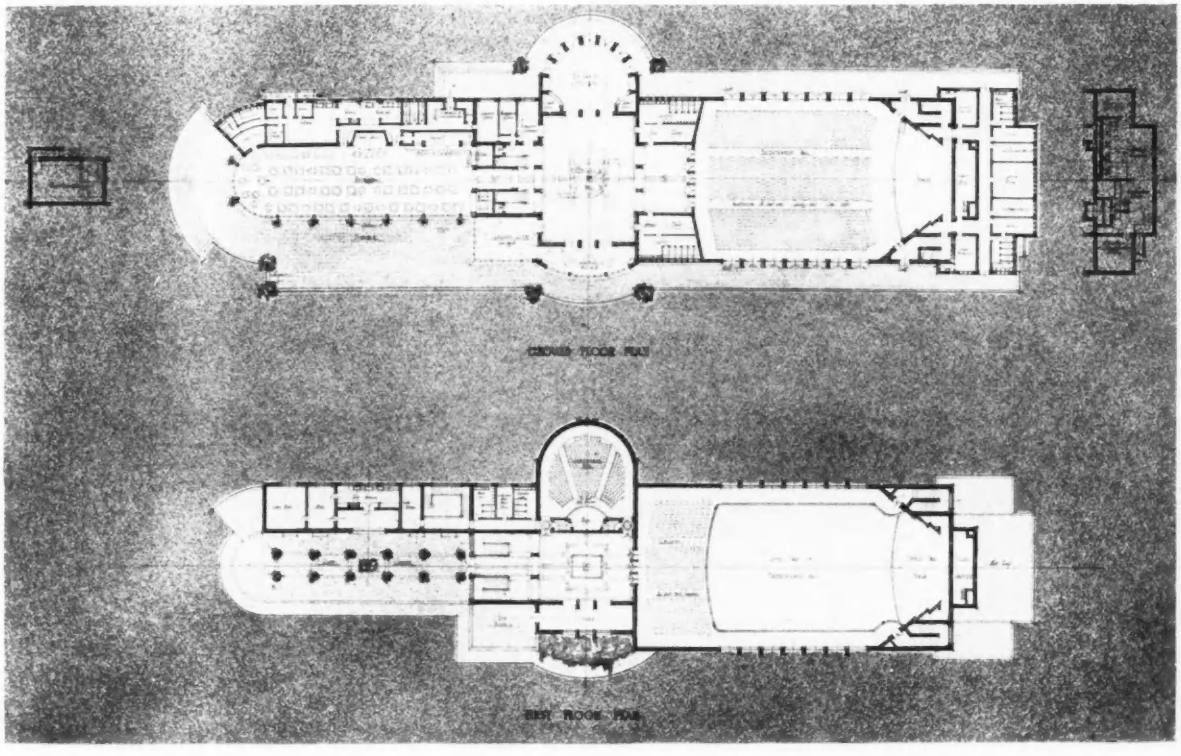


Left: South elevation (top); East elevation (centre); North elevation (below).

DESIGN SUBMITTED BY JAMES BURFORD AND MARSHALL SISSON

RECOMMENDED FOR SPECIAL MERIT





DESIGN SUBMITTED

BY

P. LINGWOOD

On this and the facing page we reproduce the plans and elevations of the two designs recommended for special merit in the Bexhill Competition. We much regret that in our last issue we inadvertently attributed Mr. Lingwood's design to Messrs. Burford and Sisson, and vice versa.

L I T E R A T U R E

SLUM—WESTMINSTER

[*By Philip H. Massey*]
B.Sc. (Econ.), F.R.Econ.S.

Basement Homes. A Report of a Survey Made in the Victoria Ward of the City of Westminster. By A. E. C. and N. Hare. London: Westminster Housing Association. Price 6d.

IN the *London Slum* Survey, published in THE ARCHITECTS' JOURNAL for October 26, the City of Westminster was not considered in detail, mainly because of the shortage of material on this borough, also because the essential features of the "mixed" type of borough had been brought out by other parts of the survey.

Westminster is, however, the most "mixed" of all boroughs—it contains the wealthiest residential districts in London and most of the great public administrative buildings and palaces. It also contains 6,000 basement dwellings. Information on housing in Westminster has now been supplied by the survey of the Victoria Ward basements by Dr. and Mrs. Hare.

Altogether 1,136 basements were visited by the authors in this ward. 195 were not used as dwellings. In 237 of the 941 cases in which basements were used as dwellings, the inhabitants had also sufficient alternative accommodation for sleeping, which they utilized. 51 cases yielded no useful information. The basements coming into the enquiry are therefore reduced to 653. In 28 cases, alternative sleeping accommodation existed, but was not used. In 92, the alternative sleeping accommodation was insufficient. In the remainder of those coming into the survey, the inhabitants had no alternative accommodation, and this also applies to all the 51 cases which yielded no further information.

Dampness was found the most general cause of unsatisfactory repair. 222 basements (34 per cent.) had "definite indications of unusual dampness, showing itself in falling plaster, peeling wallpaper, rotting boards, or extreme general moisture." In some cases, "walls run with water, clothes become mildewed in cupboards and the springs of beds or other iron articles become eaten with rust." Defective flooring and the fact that land is low-lying—"according to a local builder, river debris is reached only three or four feet below the floors of the basements"—are the chief causes of this predominant dampness.

The Report contains an analysis of the main occupations of workers who live in Westminster, an analysis, made by the L.C.C., of health in basements and other dwellings, a summary of the "Regulations Governing Basements in Westminster" and many other interesting and useful facts, briefly and effectively presented.

THE TOWN AND COUNTRY PLANNING ACT

Town and Regional Development (A Guide to the Town and Country Planning Act, 1932). By H. Chapman, Organizing Secretary of the International Federation for Housing and Town Planning. London: Dent. Price 10s. 6d. net.

THE Town and Country Planning Act suffered a rough journey in its passage through parliamentary committee, and the chippings off and tackings on which it received, while not seriously reducing the sea-worthiness of the vessel, left it in rather a confused state.

Consequently, many men learned in the Law have written books about it—in some cases almost making confusion worse confounded except to the trained legal mind.

Mr. Chapman has tackled the Act and the subsequent regulations with a view to enabling the layman to understand what are its powers and purpose, and what kind of planning can be undertaken under it. The Act, regulations, orders, etc., are published verbatim in appendices, but the main part of the book is devoted to a clear exposition (with marginal references to relevant sections) of the various items which the practical planner or person interested in the subject wants to know about.

The first chapter comprises a general disquisition on the subject of planning and development, and the author rightly points out that, since 1909, we have not lacked either the machine or the planners—there have been a number of admirable individual and regional efforts—but what has been largely absent has been any well-thought out planning policy. The new Act in several ways improves the machine, the planners are keen enough, but where is the policy? Have we in the least given any serious thought, as a nation, as to how the land of this country ought to be used? What should be the form of our countryside and of our cities, towns and villages? Land is the platform of almost all human activity and there is only a limited amount of it; surely its proper use is of paramount importance to the nation. Until we wake up to this necessity, each region or district must plan as best it may in its own interest, unfortified in its battle with local vested interests by any national standards, without reference to the needs of the nation as a whole, and without knowledge as to what part it is especially fitted to play in national well-being. Far better so to plan locally than not to plan at all, but Mr. Chapman calls for a permanent national planning and development commission whose first duty would be the preparation of a national survey to be followed by a national plan, the chief function of which would be the distribution of population and industry in the interest of national economy and public welfare.

The second chapter is devoted to an outline of the new Act, and this is followed by clear expositions of how the following matters are deal with in the Act:—Areas that may be planned, procedure in preparing a scheme, interim development, contents of a scheme, procedure for supplementary schemes and varying schemes, procedure for supplementary orders, enforcing a scheme, acquisition of land, preservation of buildings of special architectural or historic interest, compensation, betterment, transitional procedure, powers of the Minister of Health and various miscellaneous provisions.

Publications Received

A Manual of Historic Ornament (new edition). By RICHARD GLAZIER. London: B. T. Batsford, Ltd. Price 12s. 6d. net.

A Short Account of British Painting. By CHARLES JOHNSON. London: G. Bell and Sons, Ltd. Price 3s. 6d. net.

House of Faith. By JAMES O'HANLON HUGHES. London: Burns, Oates and Washbourne, Ltd. Price 1s. net.

Easements of Light (Vol. II, Optical and Photographic Methods of Assessing Depreciation). By JOHN SWARBRICK. London: B. T. Batsford, Ltd.

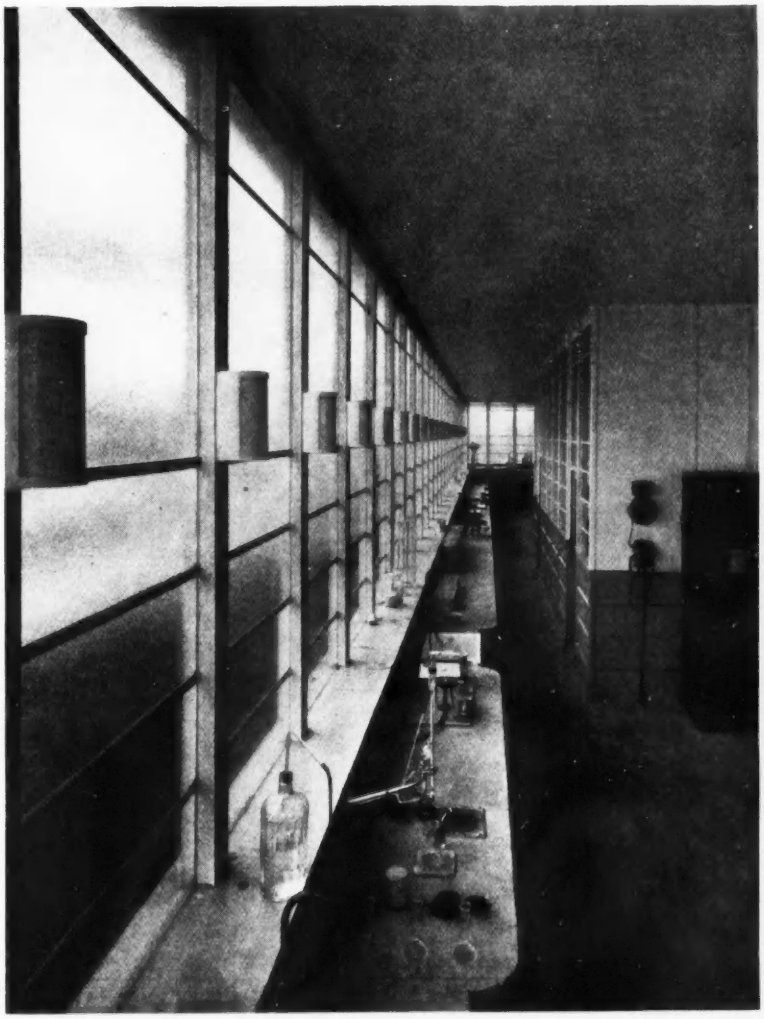
Report of the Town and Country Planning Summer School, 1933. Edited by W. LOFTUS HARE. London: The Garden Cities and Town Planning Association. Price 1s. net.

Library Buildings (Papers read at the 55th Annual Conference of the Library Association, 1932). Edited by R. D. HILTON SMITH. London: The Library Association.

Landscape Gardening. By RICHARD SUDELL. London: Ward, Lock & Co., Ltd. Price 21s. net.

WORKING DETAILS : I

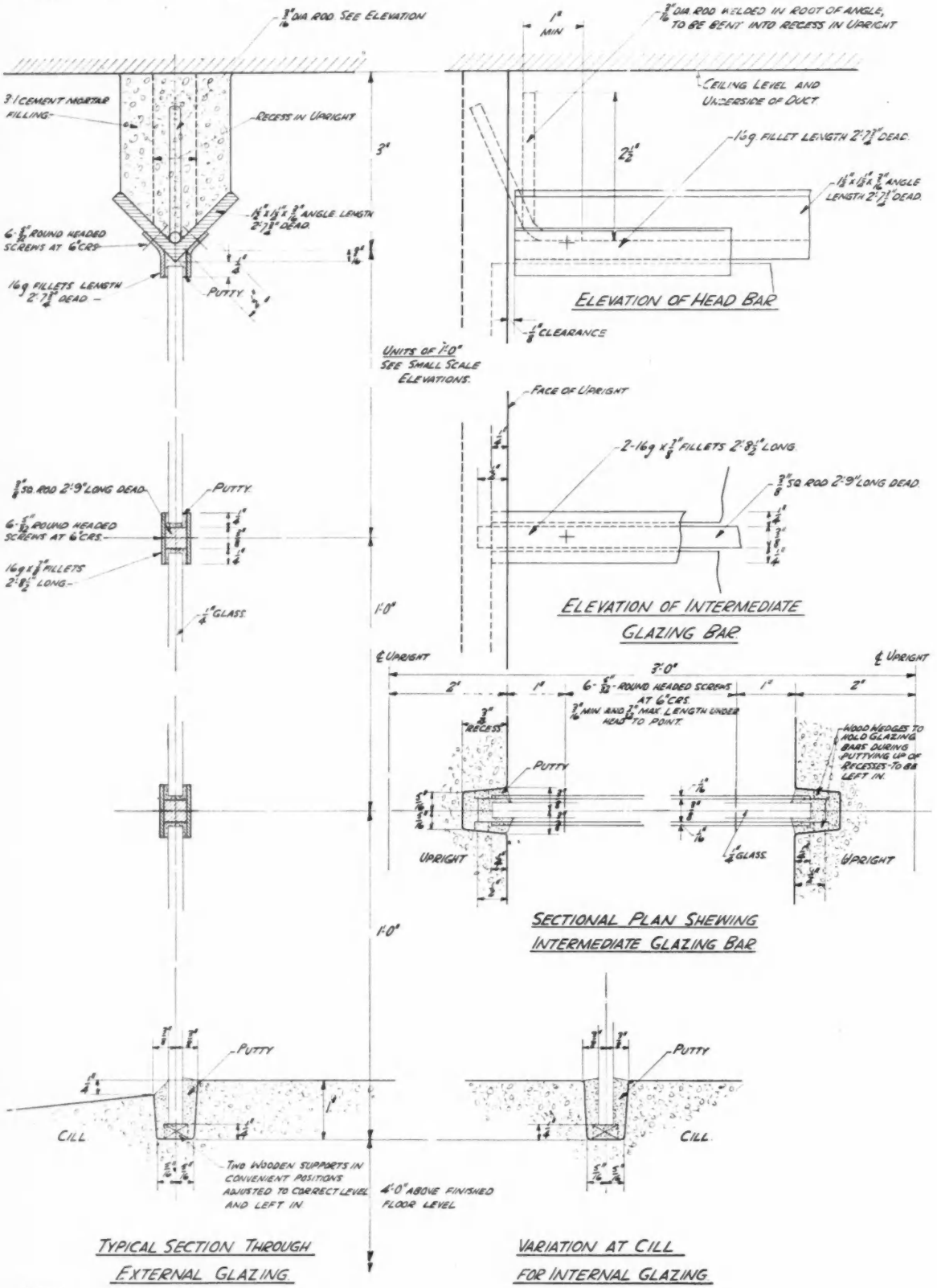
GLAZING AND MULLIONS • LABORATORY AT THURROCK • SIR E. OWEN WILLIAMS



A view from the Slurry Testing Room looking towards the Physical Test Room, showing the grooved reinforced concrete mullions into which the windows are fixed. On each mullion there is fixed an electric lamp designed to equal in light value the amount of light passing through the windows during the day, thus enabling work to be carried on at any hour of the day. Details of the glazing and mullions will be found on pages 2 and 3.

WORKING DETAILS : 2

GLAZING • LABORATORY AT THURROCK • SIR E. OWEN WILLIAMS

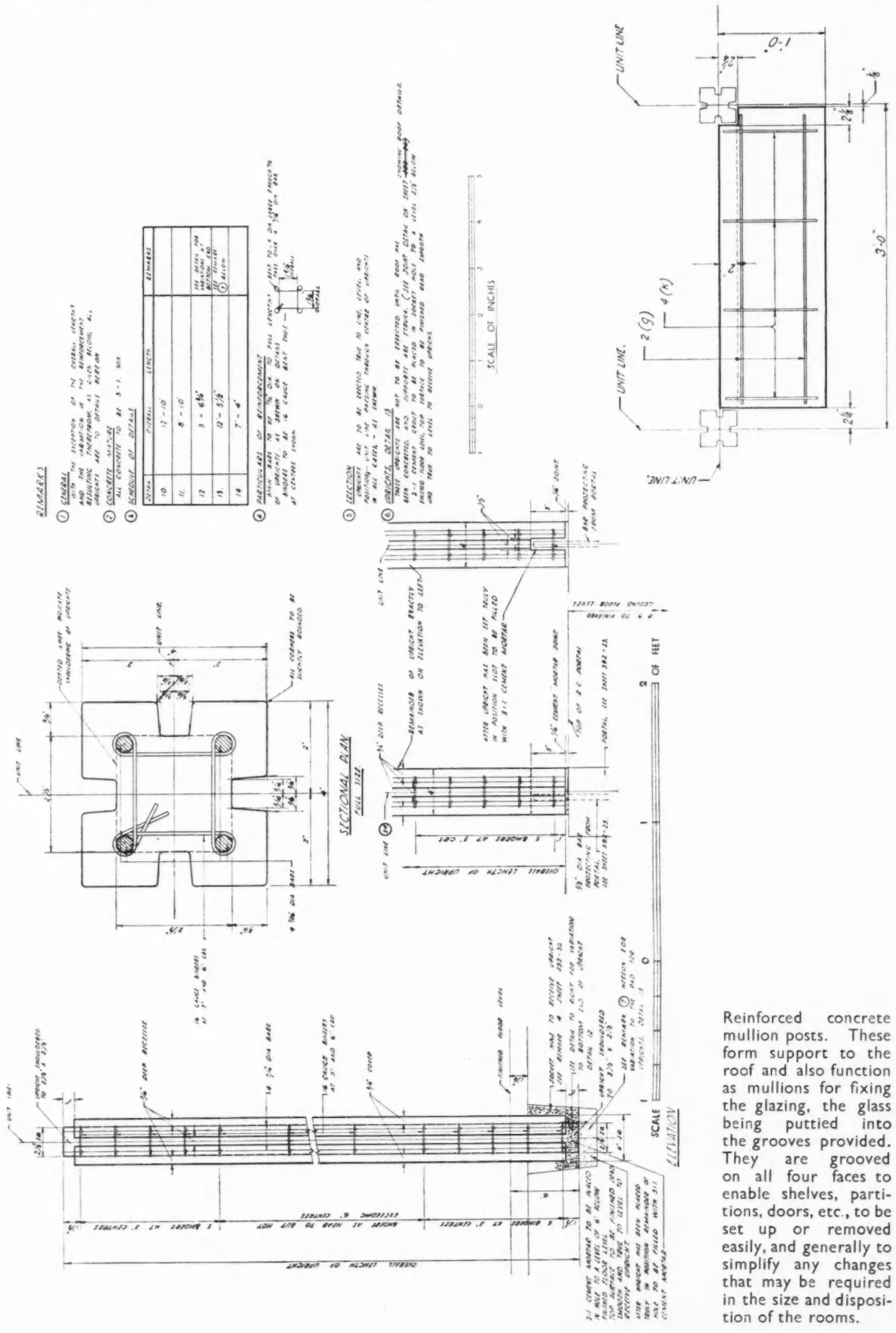


NOTES—

ALL METAL WORK TO BE STEEL, RENDERED RUST RESISTING BY ZINC SPRAYING OR OTHER APPROVED METHOD, AND PRIMED ONE COAT OF APPROVED PAINT BEFORE LEAVING WORKS.
ALL SCREWS TO BE 3/16" DIA AND 3/8" MIN TO 1/2" MAX LENGTH MEASURED UNDER HEAD TO POINT. SCREWS EXPOSED TO OPEN AIR TO BE IN GUNMETAL, OTHER SCREWS IN STEEL.

WORKING DETAILS : 3

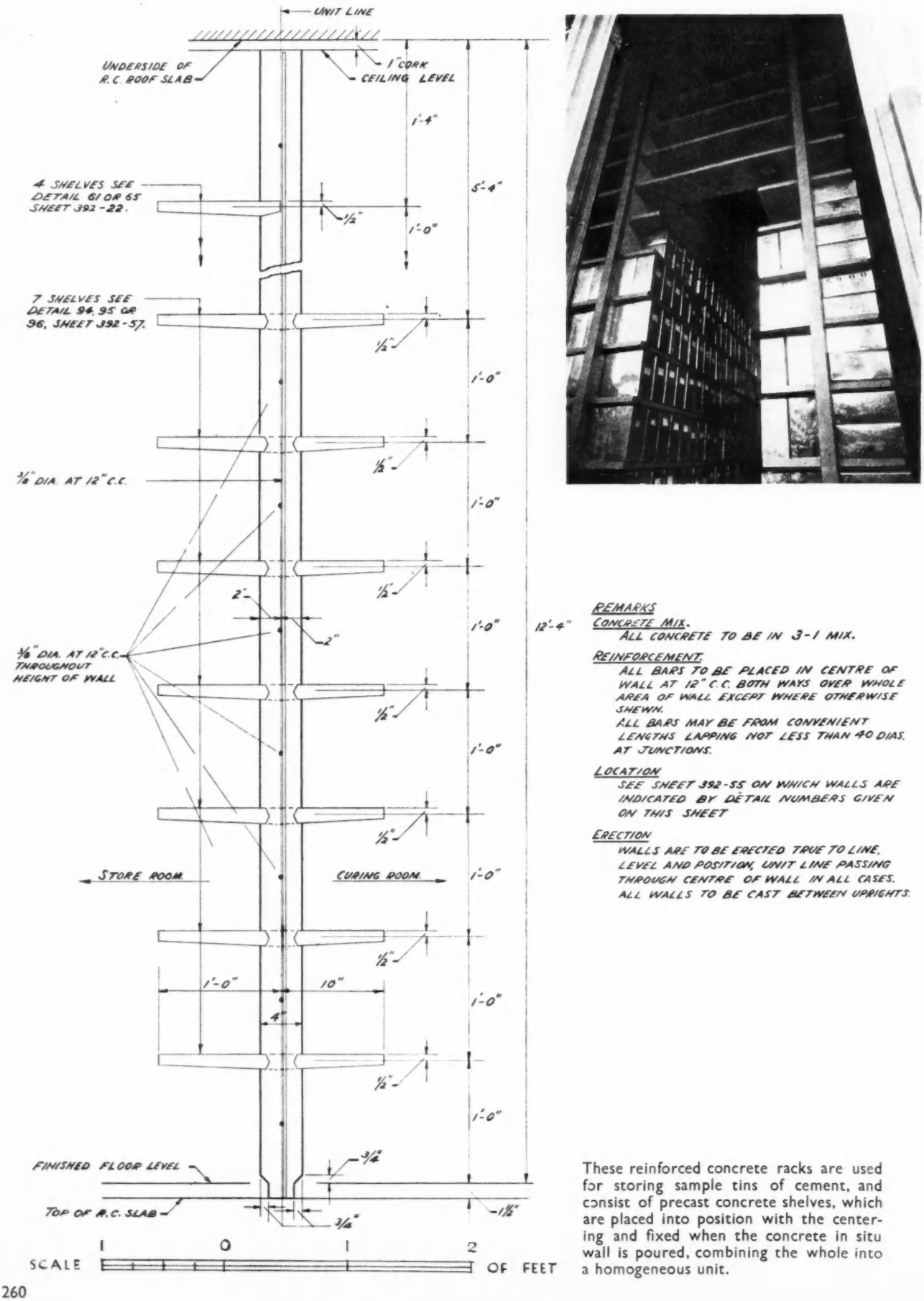
REINFORCED CONCRETE MULLIONS • LABORATORY AT THURROCK • SIR E. OWEN WILLIAMS



Reinforced concrete mullion posts. These form support to the roof and also function as mullions for fixing the glazing, the glass being puttied into the grooves provided. They are grooved on all four faces to enable shelves, partitions, doors, etc., to be set up or removed easily, and generally to simplify any changes that may be required in the size and disposition of the rooms.

WORKING DETAILS : 4

REINFORCED CONCRETE RACKS • LABORATORY AT THURROCK • SIR E. OWEN WILLIAMS



REMARKS

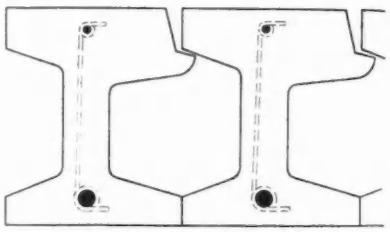
CONCRETE MIX.
ALL CONCRETE TO BE IN 3-1 MIX.

REINFORCEMENT.
ALL BARS TO BE PLACED IN CENTRE OF WALL AT 12" C.C. BOTH WAYS OVER WHOLE AREA OF WALL EXCEPT WHERE OTHERWISE SHEWN.
ALL BARS MAY BE FROM CONVENIENT LENGTHS LAPPING NOT LESS THAN 40 DIAS. AT JUNCTIONS.

LOCATION
SEE SHEET 392-55 ON WHICH WALLS ARE INDICATED BY DETAIL NUMBERS GIVEN ON THIS SHEET

ERECTION
WALLS ARE TO BE ERECTED TRUE TO LINE, LEVEL AND POSITION, UNIT LINE PASSING THROUGH CENTRE OF WALL IN ALL CASES. ALL WALLS TO BE CAST BETWEEN UPRIGHTS.

These reinforced concrete racks are used for storing sample tins of cement, and consist of precast concrete shelves, which are placed into position with the centering and fixed when the concrete in situ wall is poured, combining the whole into a homogeneous unit.



TRADE NOTES

[BY F. R. S. YORKE, A.R.I.B.A.]

Pre-cast Concrete Floor Beams

MANY new types of floor have been produced in recent years, mainly of the hollow tile or pre-cast beam variety, and usually with the aim of reducing cost, increasing fire resistance, and combining strength with lightness and ease and speed of erection. Some make provision for panel heating, but little has been done up to the present time to provide accommodation for pipes and wires generally.

•

A new floor that fulfils the principal requirements is marketed by the Rapid Floor Co. It is similar, I believe, to a type used quite extensively on the Continent.

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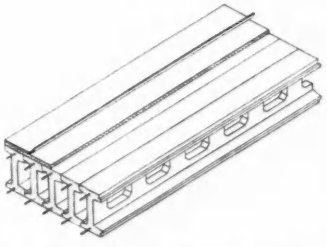
It is composed of a series of pre-cast concrete beams (see illustration at top of



article), reinforced in accordance with the load to be carried and the distance to be spanned. The reinforcement consists of one rod in each flange, and wire stirrups connecting the rods. The beams are laid side by side to form a cavity floor, the top flanges interlocking and forming a V-joint for grouting.

•

The beams are cured, under factory conditions, before being transported to the building, and may, therefore, be used immediately they are in position. Shuttering is eliminated and there is no delay due to waiting for cement to harden. An even floor thickness is maintained over a large range of spans and loads, since the amount of reinforcement is varied to suit conditions without a consequent increase in the depth of the beam. The overlapping edges of the top flanges assist in the distribution of unequal floor loads.

•

Any normal type of floor covering may be used and, if required, the joints may be filled with soft concrete to take nails for floor boards, or floor clips may be embedded in the concrete when the joint is filled.

•

The standard types of beam are 5½ in., 6½ in., and 8 in. deep. The ends are shaped to suit the bearing, or the reinforcement may be projected from the ends for fixing to other beams or to the bearing.

•

The standard mix of concrete has been determined by analysis of the aggregate—washed shingle and sand—and rapid hardening Portland cement. Since the beams are pre-fabricated, under factory conditions, a much closer check may be kept on the amount of water admixed than is usual, or even possible, when concrete is mixed on the site. The process of manufacture calls for a stiff mix of concrete, and since it also provides for adequate ramming, the weakening of the concrete either by an excess of water or by voids, due to the difficulty of placing a stiff concrete under site conditions, is avoided.

Duralumin

In a new publication entitled *Aluminium Sheet Metal Work*, issued by the British Aluminium Company (containing detailed information concerning the physical properties, methods of working and standard sizes of aluminium sheet, strip and wire) there is a description of the new metal duralumin.*

•

This metal is an alloy of aluminium which, whilst having a specific gravity very little higher than that of pure aluminium, has a considerably higher tensile strength. From the physical properties of duralumin, summarized below, it can be shown that for test specimens of *equal weight* duralumin would have a breaking strength about three times as great as mild steel. This high strength for a given weight accounts for the use of the material in the construction of aircraft, railway rolling-stock, automobiles, and in all applications where maximum strength with minimum weight is desirable.

•

Duralumin attains its high strength by virtue of a special process of heat treatment and ageing. It is manufactured in the form of sheet, bar, tube, wire, and various rolled, drawn and extruded sections, such as channels, angles and tees; as well as in the form of finished forgings, rivets, etc. These forms of the metal are usually supplied in the fully heat-treated or "normalized" condition, but if a considerable amount of bending, pressing or drawing work is to be done, it is necessary to soften the metal beforehand. This may be done either by annealing, which produces a stable soft condition, or by a special heat treatment which produces a temporary softening. The methods of carrying out these processes are described in the book.

•

Duralumin can be turned and machined at the same speeds as brass, and is capable of taking a screw thread. It is claimed the metal takes a polish equal to nickel plating.

Physical Properties.

Chemical Composition ..	Copper between 3·5 and 4·5% Manganese between 0·4 and 0·7% Magnesium between 0·4 and 0·7% Iron not more than 0·75% Aluminium about 94·5%
Specific Gravity	2·79
Specific Heat	0·214 (Water = 1)
Thermal Conductivity ..	31 (Silver = 100)
Electrical ,, ..	Normalized 33 to 35% Annealed 39 to 41%
Coefficient of Linear Expansion (20° to 100° C.)	·000023 per ° C.
Young's Modulus (E) ..	4,500 tons per square inch
Melting Range	560° to 650° C.
Annealing Range ..	360° to 400° C.
Heat Treating or Normalizing Temperature ..	490° ± 5° C.
Forging or Hot Stamping Temperature	400° to 470° C.
Time for Ageing ..	Not less than three days at room temperature.
Weight	175·3 lb. per cubic foot 0·101 lb. per cubic inch
Brinell Hardness	Anneal Material, 60 Normalized Material, 90 to 110

Stainless Steel Sinks

I have received a pamphlet giving brief particulars of Nevastane sinks and draining boards. These sinks are a new product. Each is pressed from one sheet of stainless steel plate, with rounded corners, and without crevices or inaccessible ledges in which grease or liquid matter may collect.

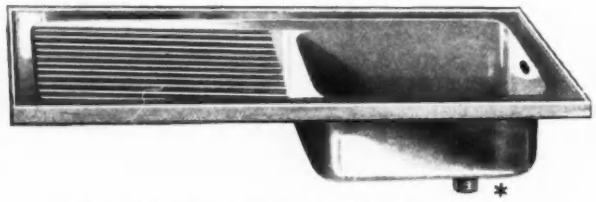
•

The sink-units are mass-produced in a range of standard sizes and patterns, and are the refore relatively inexpensive, costing little more than sinks in earthenware or teak.

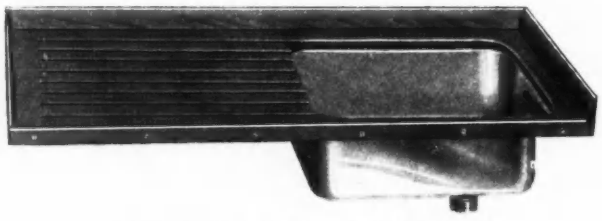
•

They are obtainable as (1) separate units, polished inside and outside, with rounded corners and flanged top 1 in. wide (for

* The metal here described is Vickers Duralumin B, manufactured by Messrs. James Booth and Co.



Stainless steel sink and draining board in one piece.



Stainless steel sink with teak draining board.

fixing to wood draining board), 1½ in. waste outlet with plug and chain ; (2) sink and draining board, composite unit with stainless steel draining board welded to stainless steel sink ; (3) stainless steel sink combined with teak draining board, fitting around sink with rim at back and one end. The prices for units in group 3 are :—

No.	Size of Draining Board		Size of Sink			Price
	Long ft. ins.	Wide ft. ins.	Long ins.	Wide ins.	Deep ins.	£ s. d.
5121	2 6	1 6	15⅜	13½	6¼	5 12 6
5122	4 0	1 6	15⅜	13½	6¼	5 15 0
5123	3 6	1 6	19	13½	7	6 7 6
5124	4 0	1 6	19	13½	7	6 10 0
5125	3 6	1 8¼	19⅜	15⅜	8	8 10 0
5126	4 0	1 8¼	19⅜	15⅜	8	8 12 6
5127	4 0	2 0¼	21⅜	19⅜	9½	10 12 6
5128	4 6	2 0¼	21⅜	19⅜	9½	10 15 0

Prices for steel sinks with steel draining boards are rather higher, the model nearest in size to No. 5121 costing £8 14s.

IN PARLIAMENT

[BY OUR SPECIAL REPRESENTATIVE]

Housing

Sir F. Fremantle asked the Minister of Health if he would state the latest average price of an unsubsidized, three-bedroomed, non-parlour house, respectively, in London, in the provinces, and in rural areas, and the economical rental in each case.

Sir Hilton Young said that there was no information that would enable him to give any average figure, but the total cost of such a house should not exceed £400 near London or £360 in provincial districts, whether urban or rural. The economic rental, excluding rates, of such houses, depended upon the actual cost, including cost of borrowing, but, on the basis of a loan at 3½ per cent. for 60 years, should be approximately 8s. 3d. and 7s. 9d. per week respectively.

Sir F. Fremantle asked if the figure given was not very excessive, seeing that houses were built in his own village for £280, and was not the price very often down to that figure ?

Sir Hilton Young said that undoubtedly in many cases that was perfectly right. Houses of that sort referred to could be constructed at less ; but, since an average figure could not be given, in caution, the only figure he could give was the figure which was the upward limit.

Miss Cazalet asked how many houses to be let at a rent of 10s. a week or less had been built by private enterprise and by local authorities, respectively, since the passing of the Housing Act, 1933.

Sir Hilton Young said that, as he did not obtain returns as to rents, he could not give precise statistical information, but between May 1 and December 31, 1933, local authorities and private enterprise erected 35,561 houses with the aid of subsidy, the great majority of which would fall within the rental limit mentioned. During the half-year ended September 30, 1933, local authorities and private enterprise erected 76,185 small houses without subsidy, of which it was estimated that about 17½ per cent. or 13,300 were let, and about 40 per cent. or 31,000 were houses with a rateable value below £13, (£20 in London).

Miss Cazalet asked if the right honourable gentleman was satisfied that at the present time a sufficient number of these lower-rented houses were being built to meet necessary requirements.

Sir Hilton Young said at present there was no doubt that the demand for small houses to let at the rents under consideration was being adequately met.

Mr. Hicks asked which local authorities had submitted schemes, respectively, for building unsubsidized houses and houses subsidized from the rates only under the 1924 and 1925 Housing Acts ; in which instances the approval of the Minister had been granted or withheld or is under consideration ; and the number and size of houses in each scheme.

Sir Hilton Young said that the number of local authorities whose proposals for building without subsidy had been approved since May last was 53. He was sending the honourable Member a list of these authorities with the number and size of the houses included in their proposals. Local authorities did not normally inform him to what extent, if any, they proposed to subsidize their houses from the rates. He was afraid it would be impracticable to supply the particulars asked for in respect of proposals of this kind which had been under consideration but had not received approval.

Sir Hilton Young informed Mr. Graham White that local authorities had submitted to him proposals for giving guarantees under the Housing (Financial Provisions) Act 1933 in respect of 17,300 houses.

The Moyne Report

Mr. Graham White asked the Minister of Health if he could now state if it was his intention to propose legislation to implement any of the recommendations of the Moyne Report.

Sir Hilton Young.—" Yes, sir."

Building Materials

Mr. Shakespeare informed Mr. Stourton that for the present the Minister saw no reason to anticipate any general rise in the prices of building materials.

Greater London Regional Planning Committee

Major Nathan asked the Minister of Health whether he had considered the desirability of using his powers under Section 4 of the Town and Country Planning Act, 1932, to constitute, by order, an executive regional committee for Greater London, in order that an operative master plan for the region might be prepared as soon as possible.

Sir Hilton Young said that the Greater London Regional Planning Committee had been recently reconstituted. Its functions were primarily advisory, but in certain circumstances executive, in connection with the preparation of planning schemes under powers which might be conferred upon it by any of its constituent authorities. The powers referred to could be exercised by him only on request. No request for their exercise had been made. A regional committee with full executive powers could not be successfully established, except in response to a substantially unanimous demand from the local authorities.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILE RADIUS)

BARKING. *Flats.* The Corporation is to prepare a scheme for the erection of three-storey flats in the North Street area.

CROYDON. *Houses.* Messrs. S. and L. Berg are to build 120 houses on the Gladeside estate, Ham Farm.

ILFORD. *Houses.* The Clayhall Estate Co. is to erect about 2,000 houses in the vicinity of Woodford Avenue, Redbridge.

ILFORD. *Houses, Shops, Factories, etc.* Plans passed by the Corporation: Eight houses, Grange Gardens, and factory extension, High Road, for Mr. J. T. Perrin; 14 houses and 10 lock-up shops, Green Lane, for Messrs. J. Hartshorne and Sons, Ltd.; two bungalows, Roding Lane, for Mr. S. H. Little; 107 houses, Saltash Road, 14 elsewhere, and factory, Forest Road, for Mr. G. F. Seigerts; 17 houses, Roxy Avenue, for Messrs. P. Triplete, Ltd.; 17 bungalows, Beattyville Gardens, for Mr. J. Aldridge; two houses, Abury Gardens, for Mr. T. Colgate; extensions, Green's Stores, Grove Road, for Mr. E. Meredith; six houses, Avondale Crescent, for Mr. P. G. Ashton; 177 houses, Baron Gardens, etc., for Mr. J. Winkle; 10 shops and houses, Somerville Road, for Padnall Estates, Ltd.; 3 shops, Brook Road, for Mr. W. J. Lewis; factory extension, Bogies Alley, for Mr. T. Anders.

LEWISHAM. *Houses and Flats.* Plans passed by the B.C.: Two houses, Duncombe Hill, for Mr. F. Baker; seven houses, Ravensbourne Park, for Derrick Construction Co., Ltd.; three houses, Hazelbank Road, for Mr. G. T. Harman; two houses, Peak Hill Gardens estate, Sydenham, for Messrs. Brett and Son: flats, High Road, Lee, for Messrs. Hoad and Harrison, Ltd.

MARYLEBONE. *Tenements.* The L.C.C. has made arrangements with the Marylebone Housing Association, Ltd., for the erection of blocks of tenements on the Wilcove Place area.

MILL HILL. *Shops.* Messrs. Hillier, Parker, May and Rowden are constructing a parade of shops, having a frontage of approximately 240 ft. to the western side of Watford by-pass, north of Goodwin Avenue.

POPLAR. *Repairs to Defective Floors.* The B.C. is to undertake remedial measures to deal with flooring defects at East India Buildings, at a cost of £3,400, at Electric House, £3,000, and Judkin Street flats, £3,843.

SOUTHALL-NORWOOD. *Houses.* Plans passed by the U.D.C.: Four houses, Longford estate, for Messrs. G. Wimpey & Co., Ltd.; nine houses, Southall Park estate, for Messrs. R Fielding and Son; two houses, Dolamore Road, for Hayes Bridge Estate Co., Ltd.

SOUTHGATE. *Houses and Flats.* Plans passed by the Corporation: 40 houses, Brycedale Crescent, for Messrs. Bolton and Fifield; 16 houses and 18 flats, Uplands estate, for Ideal Housing Co.; 60 houses, Chase Road, for Mr. J. Neilson; 60 houses, Powys Lane, for Messrs. H. Seymour Couchman and Sons.

STAINES. *Shops.* Messrs. North, Robin and Wilsdon are erecting a terrace of shops in Kingston Road, on the Knowle Estate.

SOUTHERN COUNTIES

EASTBOURNE. *Bandstand and Shelters.* The Corporation has approved plans for an improved bandstand and shelter accommodation, opposite Devonshire Place, at an approximate cost of £29,000, and also for the erection of eight additional shelters between the pier and the Wish Tower, at a cost of £5,000.

WORTHING. *Assembly Hall.* The Corporation has approved the revised scheme for the erection of an assembly hall at an estimated cost of £40,000.

WORTHING. *Houses and Shops.* Plans passed by the Corporation: 40 houses, Goldsmith Road, for Mr. S. C. Phillips; six houses, West Avenue, for Mr. A. T. W. Goldsmith; three houses, Woodside Road, etc., for Mr. E. J. Love; two houses, Angus Road, for Mr. Colin Clare; conversion of premises into six shops, Church Road, Tarring, for Mr. H. M. Potter; two houses, Lime Tree Avenue, for Mr. H. W. Adams; 12 houses, Goring Road, for Messrs. Maddison and Brookes; 33 houses, Lavington Road, for Mr. R. Hasler; 34 houses, Littlehampton Road, for Jeffery Houses, Ltd.; new streets, adjoining Elm Grove, for Mr. W. R. Welling.

SOUTH-WESTERN COUNTIES

CHELTENHAM. *Swimming Pool.* The Corporation has approved plans for the construction of a swimming pool on a site adjoining Sandford Park, at a cost of £14,460.

PLYMOUTH. *Development of the Foreshore.* The Corporation recommends the following scheme for the development of the foreshore:—

Road widening at the Hoe to the site of the suggested new pavilion—£7,700.

New shelter at west end of Hoe; concrete foreshore at Pebbleside; improvement to boatmen's jetty or slip, Pebbleside; new bathing houses, Pebbleside; rose garden under the Belvedere—£7,825.

Colonnade and sun walks opposite pier; extension to bathing house east of pier; bathing and sun flat, Reform Beach; colonnade and sun walk under road above Reform Beach; extension to bathing houses, sun flats and terraces above Shackey Pool; improvement to Shackey Pool and the ladies' pool; sun terraces and steps above Reform Beach—£17,402.

New steps at Tinside; new bathing houses, Tinside; bathing flats, paving and feature to east beach; solarium east of east beach, Tinside; lay-out of gardens around Royal Marine Memorial—£25,982.

Forming promenade and cantilevering footway in Maderia Road; new bathing houses, Lions' Den; sun terraces and steps on slopes from below Aquarium to Corinthian Yacht Club—£7,149.

The total is £66,058, and the remainder of the sections of the scheme, involving an estimated cost of £143,869, are to be considered at a later date.

MIDLAND COUNTIES

BIRMINGHAM. *Bridges.* The Corporation recommends proceeding with the reconstruction of three railway bridges and a canal bridge at a cost of £45,810.

BIRMINGHAM. *Sewerage Scheme.* The Corporation is to provide a sewerage scheme at a cost of £61,500 on the Hamstead Hall Estate, Handsworth Wood, which is being developed for the erection of 800 houses.

DUDLEY. *Houses.* Plans passed by the Corporation: 24 houses, Hall Street, Woodside, for Alpha Building Corporation, Ltd.; 12 houses, Cradley Road, for Mr. Wm. Roberts.

NORTHAMPTON. *Houses.* Plans passed by the Corporation: 30 houses, The Headlands and Birchfield Road, for Messrs. A. Glen and Sons, Ltd.; two houses, Vicarage Lane, for Mr. J. Dunkley; lay-out of streets, Boothville estate, Weston Favell, for Messrs. Jordans; lay-out of Kingsthorpe estate, Welford Road, for Midland Dwellings, Ltd.; 18 houses, Ennerdale Road, for Messrs. Chowns, Ltd.; two houses, Abington Avenue, for Mr. E. Wright; 16 houses, Wellingborough Road, for Messrs. T. Wilson and Son, Ltd.; two houses, Ridgway, for Messrs. Underwood and Weston; nine houses, Freehold Street, for Messrs. Rainbow and Frost; two houses, Welford Road, for Mr. P. S. Joce; five houses, Monks Hall Road, for Mr. W. B. Chattell; two houses, Hillcrest Avenue, for Mr. A. Atkins.

STOKE-ON-TRENT. *Houses and Bungalows.* Plans passed by Corporation: Two houses, Stuart Avenue, for Mr. A. Perry; eight houses, off Rookery Lane, for Messrs. Ball and Robinson; two houses, Vivian Road, Fenton, for Messrs. Bailey and Berrisford; two houses, Eversley Road, for Mr. C. Underhill; two houses, The Avenue, Harpfield, for Modern Architectural Estates Ltd.; five houses, Water Street, Boothen, for Messrs. Horwill and Brammar; four houses, High Street, Milton, for Mr. C. W. Mollart; two houses, Mynors Street, Northwood, for Messrs. Tideswell Bros.; 20 houses, Longton Road, Bucknall, for Mr. A. Lilley; 12 bungalows, Heathcote Street, Sandford Hill, for Mr. S. Mason.

TIPTON. *Houses.* The U.D.C. has obtained sanction to borrow £63,350 for the erection of 228 houses at the Ocker Hill estate, and £6,000 for the erection by direct labour of 21 houses at Bloomfield Terrace and Horseley Road.

NORTHERN COUNTIES

BLYTH. Plans passed by the Corporation: Two houses, Shotton Avenue, for Mr. L. A. Lambert; 10 flats and two houses, Salisbury Street, for Mr. J. Simpson.

BOLTON. *Church and School.* The Corporation has sold a site in Hall Wood Lane to the Rev. Canon H. J. Elsee, Rural Dean, for the erection of a church and school.

CHESTER. *Houses.* The Corporation is to consider plans for the erection of a further instalment of approximately 150 houses on the Lache estate.

DEWSBURY. *Houses.* The Corporation is to erect 56 houses on the Dawgreen site and 28 at Lees Moor.

ECCLES. Plans passed by the Corporation: Market hall, Church Street and Corporation Road, for Messrs. Fearnley and Sons, Ltd.; three houses, Westminster Road, for Messrs. T. H. Mitchell Ltd.; 12 houses, off Liverpool Road, for Messrs. Jos. Chapman and Sons, (Patricroft) Ltd.

THE BUILDINGS ILLUSTRATED

Sub-Contractors' List

Following are the names of the general contractors and some of the sub-contractors for the buildings illustrated in this issue:—

Laboratory for Tunnel Portland Cement Co. (pages 239-242, 257-260). General contractors: Tileman & Co., Ltd. Sub-contractors: H. A. Booth, plumbing, heating and ventilating; Crittall Mfg. Co., doors; British Magnesite Flooring Co., composite flooring; North British Rubber Co., rubber table tops, etc.; Tunnel Portland Cement Co., tunnel cement; I. Knight and Sons, sand; W. Cory, aggregate; Whitehead Iron and Steel Co., Ltd., steel reinforcement; Cork Growers Trading Co., Ltd. cork.

Houses at Hampstead (pages 248-249). Sub-contractors: W. Benfield and Son, portland stone; Duncan Tucker (Tottenham), Ltd., joinery; F. McNeill & Co., Ltd., asphalte gutter; Kingsmill Metal Co., wrought iron work; Comyn Ching & Co., Ltd., ironmongery; Hobbs Hart & Co., locks; Hollis Bros., hardwood floors; Anselm Odling, marble work; Bratt Colbran, fire grates; Crane, Ltd., radiators and boilers; Henry Hope and Sons, Ltd., steel windows; Frigidaire, Ltd., refrigerators; Eric Rivers-Smith, Ltd., electric light and power.

Photographer's Studio, Chelsea (pages 245-247). General contractors: D. Burkle and Son, Ltd., who were also responsible for the joinery and paintwork. Sub-contractors: John Mellanby, electrical installation and plumbing; Gordon Gray, matting and linoleum; Richard Hansen, upholstery and curtains.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I s. d.	II s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A_1	Abergavenny ..	S Wales & M.	1 5	1 0½
A_2	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1½
A_2	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1½
A	Airdrie ..	Scotland	*1 5½	1 1½
C	Aldeburgh ..	E. Counties	1 1½	10½
A	Altrincham ..	N.W. Counties	1 5½	1 1½
B_2	Appleby ..	N.W. Counties	1 2	10½
A	Ashton-under-Lyne	N.W. Counties	1 5½	1 1½
A_2	Atherstone ..	Mid. Counties	1 4	1 0
B_2	Aylesbury ..	S. Counties	1 2½	11
B_2	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_2	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1½
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow ..	N.W. Counties	1 5½	1 1½
A	Barry ..	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke ..	S.W. Counties	1 3	11½
A_2	Bath ..	S.W. Counties	1 4½	1 0½
A	Batley ..	Yorkshire	1 5½	1 1½
A_2	Bedford ..	E. Counties	1 4½	1 0½
A_2	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_2	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	*1 7	1 2½
A	Birmingham	Mid. Counties	1 5½	1 1½
A_1	Bishop Auckland	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1½
A	Blackpool ..	N.W. Counties	1 6½	1 1½
A	Blyth ..	N.E. Coast	1 6½	1 1½
B_1	Bognor ..	S. Counties	1 3	11½
A	Bolton ..	N.W. Counties	1 5½	1 1½
A_2	Boston ..	Mid. Counties	1 4	1 0
A_2	Bournemouth ..	S. Counties	1 4	1 0
B_2	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1½
A_1	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M.	1 5½	1 1½
B_1	Bridgwater ..	S.W. Counties	1 3	11½
A_1	Bridlington ..	Yorkshire	1 5	1 0½
A	Brighouse ..	Yorkshire	1 5½	1 1½
A_2	Brighton ..	S. Counties	1 4	1 0
A	Bristol ..	S.W. Counties	1 5½	1 1½
B_2	Brixham ..	S.W. Counties	1 2½	11
A_2	Bromsgrove ..	Mid. Counties	1 4½	1 0½
B_2	Bromyard ..	Mid. Counties	1 2	10½
A	Burnley ..	N.W. Counties	1 5½	1 1½
A	Burslem ..	Mid. Counties	1 5½	1 1½
A	Burton-on-Trent	Mid. Counties	1 5½	1 1½
A	Bury ..	N.W. Counties	1 5½	1 1½
A_1	Buxton ..	N.W. Counties	1 5	1 0½
A_1	CAMBRIDGE	E. Counties	1 5	1 0½
B_1	Canterbury ..	S. Counties	1 3	11½
A	Cardiff ..	S. Wales & M.	1 5½	1 1½
A	Carlisle ..	N.W. Counties	1 5½	1 1½
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Carnforth ..	N.W. Counties	1 5½	1 1½
A	Castleford ..	Yorkshire	1 5½	1 1½
B	Chatham ..	S. Counties	1 3½	11½
A_2	Chelmsford ..	E. Counties	1 4	1 0
A_2	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester ..	N.W. Counties	1 5½	1 1½
A	Chesterfield ..	Mid. Counties	1 5½	1 1½
B_1	Chichester ..	S. Counties	1 3	11½
A	Chorley ..	N.W. Counties	1 5½	1 1½
B_1	Cirencester ..	S. Counties	1 3	11½
A	Clitheroe ..	N.W. Counties	1 5½	1 1½
A	Clydebank ..	Scotland	1 5½	1 1½
A	Coalville ..	Mid. Counties	1 5½	1 1½
A_2	Colchester ..	E. Counties	1 4	1 0
A	Colne ..	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_1	Consett ..	N.E. Coast	1 5	1 0½
A_2	Conway ..	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1½
A_2	Crewe ..	N.W. Counties	1 4½	1 0½
A_2	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1½
A	Darwen ..	N.W. Counties	1 5½	1 1½
B_1	Deal ..	S. Counties	1 3	11½
A_2	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby ..	Mid. Counties	1 5½	1 1½
A	Dewsbury ..	Yorkshire	1 5½	1 1½
B	Didcot ..	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1½
B_2	Dorchester ..	S.W. Counties	1 2½	11
A_2	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley ..	Mid. Counties	1 5½	1 1½
A	Dundee ..	Scotland	1 5½	1 1½
A	Durham ..	N.E. Coast	1 5½	1 1½
A_2	FASTBOURNE	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1½
A_1	E. Glamorganshire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter ..	S.W. Counties	*1 4½	1 0½
B	Exmouth ..	S.W. Counties	1 3½	11½
A_2	FELIXSTOWE	E. Counties	1 4	1 0
A_2	Filey	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1½
B_1	Folkestone ..	S. Counties	1 3	11½
A	Frodsham ..	N.W. Counties	1 5½	1 1½
B_2	Frome	S.W. Counties	1 2½	11
A	GATESHEAD	N.E. Coast	1 5½	1 1½
B	Gillingham ..	S. Counties	1 3½	11½
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole	Yorkshire	1 4½	1 0½
A_2	Gosport	S. Counties	1 4½	1 0½
A_2	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0½
A	Greenock ..	Scotland	*1 5½	1 1½
A	Grimsby ..	Yorkshire	1 5½	1 1½
B	Guildford ..	S. Counties	1 3½	11½
A	HALIFAX ..	Yorkshire	1 5½	1 1½
A	Hanley ..	Mid. Counties	1 5½	1 1½
A	Harrogate ..	Yorkshire	1 5½	1 1½
A	Hartlepools ..	N.E. Coast	1 5½	1 1½
B	Harwich ..	E. Counties	1 3½	11½
B_1	Hastings ..	S. Counties	1 3	11½
A_2	Hatfield ..	S. Counties	1 4½	1 0½
B	Hereford ..	S.W. Counties	1 3½	11½
A_2	Hertford ..	E. Counties	1 4½	1 0½
A	Heysham ..	N.W. Counties	1 5½	1 1½
A	Howden ..	N.E. Coast	1 5½	1 1½
A	Huddersfield ..	Yorkshire	1 5½	1 1½
A	Hull	Yorkshire	1 5½	1 1½
A	ILKLEY ..	Yorkshire	1 5½	1 1½
A	Immingham ..	Mid. Counties	1 5½	1 1½
A_2	Ipswich ..	E. Counties	1 4½	1 0½
B_2	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1½
A	KEIGHLEY ..	Yorkshire	1 5½	1 1½
B	Kendal ..	N.W. Counties	1 3½	11½
B	Keswick ..	N.W. Counties	1 3½	11½
A_2	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster	Mid. Counties	1 4½	1 0½
B_1	King's Lynn ..	E. Counties	1 3	11½
A	LANCASTER ..	N.W. Counties	1 5½	1 1½
A_1	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester ..	Mid. Counties	1 5½	1 1½
A	Leigh	N.W. Counties	1 5½	1 1½
B_2	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln	Mid. Counties	1 5½	1 1½
	Liverpool ..	N.W. Counties	*1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12-15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1½
A	Loughborough	Mid. Counties	1 5½	1 1½
A_2	Luton	E. Counties	1 4	1 0
A	Lytham ..	N.W. Counties	1 5½	1 1½
A_1	MACCLESFIELD	N.W. Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11½
A_2	Malvern ..	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1½
A	Mansfield ..	Mid. Counties	1 5½	1 1½
B_1	Margate ..	S. Counties	1 3	11½
A	Matlock ..	Mid. Counties	1 4	1 0
A_1	Merthyr ..	S. Wales & M.	1 5	1 0½
A	Middesbrough	N.E. Coast	1 5½	1 1½
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1 2½	11
A	Morecambe ..	N.W. Counties	1 5½	1 1½
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson	N.W. Counties	1 5½	1 1½
A	Newcastle ..	N.E. Coast	1 5½	1 1½
A	Newport	S. Wales & M.	1 5½	1 1½
A	Normanton ..	Yorkshire	1 5½	1 1½
A	Northampton	Mid. Counties	1 5½	1 1½
A	North Staffs ..	Mid. Counties	1 5½	1 1½
A	North Shields ..	N.E. Coast	1 5½	1 1½
A_1	Norwich ..	E. Counties	1 5	1 0½
A	Nottingham ..	Mid. Counties	1 5½	1 1½
A	Nuneaton ..	Mid. Counties	1 5½	1 1½
A_2	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham	N.W. Counties	1 5½	1 1½
A_2	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	*1 5½	1 1½
B_2	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth	Scotland	*1 5½	1 1½
A_2	Peterborough ..	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	*1 5½	1 1½
A	Pontefract ..	Yorkshire	1 5½	1 1½
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_2	Portsmouth ..	S. Counties	1 4½	1 0½
A	Preston	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate	S. Counties	1 3½	11½
A_2	Retford ..	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A_2	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1½
B	Rochester ..	S. Counties	1 3½	11½
A_1	Ruabon	N.W. Counties	1 5	1 0½
A	Rugby	Mid. Counties	1 5½	1 1½
A_2	Rugeley	Mid. Counties	1 4½	1 0½
A	Runcorn	N.W. Counties	1 5½	1 1½
A_1	ST. ALBANS ..	E. Counties	1 5	1 0½
A	St. Helens ..	N.W. Counties	1 5½	1 1½
B_2	Salisbury ..	S.W. Counties	1 2½	11
A	Scarborough ..	Yorkshire	1 5	1 0½
A	Scunthorpe ..	Mid. Counties	1 5½	1 1½
A	Sheffield ..	Yorkshire	1 5½	1 1½
A	Shipley	Yorkshire	1 5½	1 1½
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton	Yorkshire	1 4½	1 0½
A_2	Slough	S. Counties	1 4½	1 0½
A_1	Solihull	Mid. Counties	1 5	1 0½
A_2	Southampton ..	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport	N.W. Counties	1 5½	1 1½
A	S. Shields	N.E. Coast	1 5½	1 1½
A_1	Stafford	Mid. Counties	1 5	1 0½
A	Stockport	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud	S.W. Counties	1 3½	11½
A	Sunderland ..	N.E. Coast	1 5½	1 1½
A	Swadlincote ..	Mid. Counties	1 5½	1 1½
A	Swansea	S. Wales & M.	1 5½	1 1½
A_3	Swindon	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton	S.W. Counties	1 3½	11½
A	Teesside Dist. ..	N.E. Counties	1 5½	1 1½
A_3	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1½
A_1	Torquay	S.W. Counties	1 5	1 0½
B_2	Truro	S.W. Counties	1 2½	11
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall	Mid. Counties	1 5½	1 1½
A	Tyne District ..	N.E. Coast	1 5½	1 1½
A	WAKEFIELD ..	Yorkshire	1 5½	1 1½
A	Walsall	Mid. Counties	1 5½	1 1½
A	Warrington ..	N.W. Counties	1 5½	1 1½
A_1	Warwick	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid. Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby	Yorkshire	1 4½	1 0½
A	Widnes	N.W. Counties	1 5½	1 1½
A	Wigan	N.W. Counties	1 5½	1 1½
B	Winchester ..	S. Counties	1 3½	11½
A_2	Windsor	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_2	Worksop	Yorkshire	1 4	1 0
A_1	Wrexham ..	N.W. Counties	1 5	1 0½
A_2	Wycombe ..	S. Counties	1 4	1 0
B_2	YARMOUTH ..	E. Counties	1 3	11½
B_1	Yeovil	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	1 1½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	£ s. d.
Bricklayer . . . . per hour	1 7
Carpenter . . . . . ,,	1 7
Joiner . . . . . ,,	1 7
Machinist . . . . . ,,	1 8
Mason (Banker) . . . . ,,	1 7
,, (Fixer) . . . . ,,	1 8
Plumber . . . . . ,,	1 7
Painter . . . . . ,,	1 6
Paperhanger . . . . . ,,	1 6
Glazier . . . . . ,,	1 7
Slater . . . . . ,,	1 7
Scaffolder . . . . . ,,	1 3
Timberman . . . . . ,,	1 3
Navvy . . . . . ,,	1 2½
General Labourer . . . . ,,	1 2½
Lorryman . . . . . ,,	1 5
Crane Driver . . . . . ,,	1 6
Watchman . . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£ s. d.
Grey Stone Lime . . . . per ton	2 2 0
Blue Lias Lime . . . . ,,	1 16 6
Hydrated Lime . . . . ,,	3 0 9
Portland Cement . . . . ,,	2 6 0
Rapid Hardening Cement . . ,,	2 13 6
White Portland Cement . . ,,	8 15 0
Thames Ballast . . . . per Y.C.	6 3
¾" Crushed Ballast . . . ,,	6 9
Building Sand . . . . ,,	7 3
Washed Sand . . . . ,,	8 3
2" Broken Brick . . . ,,	8 0
½" ,, ,, . . . ,,	10 3
Pan Breeze . . . . . ,,	6 6
Coke Breeze . . . . . ,,	8 9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

	4" s. d.	6" s. d.
Straight Pipes . .per F.R	0 9	1 1
Bends . . . . each	1 9	2 6
Taper Bends . . . ,,	3 6	5 3
Rest Bends . . . ,,	4 3	6 3
Single junctions . . ,,	3 6	5 3
Double . . . . ,,	4 9	6 6
Straight channels . .per F.R.	1 6	2 6
⅛" Channel bends . . each	2 9	4 0
Channel junctions . . ,,	4 6	6 6
Channel tapers . . ,,	2 9	4 0
Yard gullies . . . ,,	6 9	8 9
Interceptors . . . ,,	16 0	19 6

IRON DRAINS:

Iron drain pipe . . per F.R.	1 6	2 6
Bends . . . . each	5 0	10 6
Inspection bends . . ,,	9 0	15 0
Single junctions . . ,,	8 9	18 0
Double junctions . . ,,	13 6	30 0
Lead wool . . . lb.	6	—
Gaskin . . . ,,	5	—

BRICKLAYER

	£ s. d.
Flettons . . . . . per M.	2 18 0
Grooved do. . . . . ,,	3 0 0
Phorpres bricks . . . . ,,	2 18 0
Stocks, 1st quality . . . ,,	4 11 0
,, 2nd ,, . . . ,,	4 2 6
Blue Bricks, Pressed . . . ,,	8 17 6
,, Wirecuts . . . ,,	7 17 6
,, Brindles . . . ,,	7 0 0
,, Bullnose . . . ,,	9 0 0
Red Sand-faced Facings . . ,,	6 18 6
Red Rubbers for Arches . . ,,	12 0 0
Multicoloured Facings . . ,,	7 10 0
Luton Facings . . . ,,	7 10 0
Phorpres White Facings . . ,,	3 17 3
Phorpres Rustic Facings . . ,,	3 12 3
Midhurst White Facings . . ,,	5 0 0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:	
Stretchers . . . . . ,,	21 0 0
Headers . . . . . ,,	20 10 0
Bullnose . . . . . ,,	27 10 0
Double Stretchers . . . ,,	29 10 0
Double Headers . . . ,,	26 10 0
Glazed Second Quality, *Less* . ,,	1 0 0
,, Buffs and Creams, *Add* . ,,	2 0 0
,, Other Colours . . ,,	5 10 0
2" Breeze Partition Blocks . per Y.S.	1 7
2½" ,, ,, ,, . . ,,	1 10
3" ,, ,, ,, . . ,,	2 1
4" ,, ,, ,, . . ,,	2 6

MASON

The following d/d F.O.R. at Nine Elms:	s. d.
Portland stone, Whitbed . . F.C.	4 4½
,, ,, Basebed . . ,,	4 9
Bath stone . . . . ,,	2 11
York stone . . . . ,,	6 6
,, ,, Sawn templates . . ,,	7 6
,, ,, Paving, 2" . . F.S.	1 8
,, ,, ,, 3" . . ,,	2 6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£ s. d.
24" × 12" Duchesses . . per M.	28 17 6
22" × 12" Marchionesses . ,,	24 10 0
20" × 10" Countesses . . ,,	19 5 0
18" × 10" Viscountesses . ,,	15 10 0
18" × 9" Ladies . . . ,,	13 17 6
Westmorland green (random sizes) . per ton	8 10 0
Old Delabole slates d/d in full truck loads to Nine Elms Station:	
20" × 10" medium grey per 1,000 (actual)	21 11 6
,, green ,, ,,	24 7 4
Best machine roofing tiles . . ,,	4 10 0
Best hand-made do. . . . ,,	5 0 0
Hips and valleys . . . each	9½
,, hand-made . . . ,,	10
Nails, compo . . . lb.	1 4
,, copper . . . ,,	1 6

CARPENTER AND JOINER

	s. d.
Good carcassing timber . . F.C.	2 2
Birch . . . . as 1" F.S.	9
Deal, Joiner's . . . ,, ,,	5
,, ,, 2nds . . ,, ,,	4
Mahogany, Honduras . . ,, ,,	1 3
,, African . . ,, ,,	1 1
,, Cuban . . ,, ,,	2 6
Oak, plain American . . ,, ,,	1 0
,, Figured ,, . . ,, ,,	1 3
,, Plain Japanese . . ,, ,,	1 2
,, Figured ,, . . ,, ,,	1 5
,, Austrian wainscot . . ,, ,,	1 6
,, English . . . ,, ,,	1 11
Pine, Yellow . . . ,, ,,	1 0
,, Oregon . . . ,, ,,	4
,, British Columbian . . ,, ,,	4
Teak, Moulmein . . . ,, ,,	1 3
,, Burma . . . ,, ,,	1 2
Walnut, American . . . ,, ,,	2 3
,, French . . . ,, ,,	2 3
Whitewood, American . . ,, ,,	1 1
Deal floorings, ½" . . . Sq.	18 6
,, ¾" . . . ,,	1 1 6
,, 1" . . . ,,	1 2 0
,, 1¼" . . . ,,	1 5 0
,, 1½" . . . ,,	1 10 0
Deal matchings ½" . . . ,,	14 0
,, ¾" . . . ,,	15 6
Rough boarding ¾" . . . ,,	1 4 0
,, 1" . . . ,,	16 0
,, 1¼" . . . ,,	18 0
Plywood, per ft. sup. . . ,,	1 6 0

Thickness	⅛"	¼"	⅜"	½"
Qualities	AA. A. B.	AA. A. B.	AA. A. B.	AA. A. B.
	d. d. d.	d. d. d.	d. d. d.	d. d. d.
Birch	4 3 2	5 4 3	7½ 6 4½	8½ 7 6
Alder	3½ 3 2	5 4 3	6½ 5½ 4½	8 7 6
Gaboon Mahogany	4 3 3	6½ 5½ 4½	9½ 7½ –	1/0½ 10 –
Figured Oak 1 side	8½ 7 –	10 8 –	11½ – –	1/6 – –
Plain Oak 1 side	6½ 6 –	7½ 7 –	9½ – –	1/– – –
Oregon Pine	5 4 –	5½ 5 –	6 – –	– – –

	d.
Scotch glue . . . . lb.	8

SMITH AND FOUNDER

Tubes and Fittings:

(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	¼"	½"	1"	1¼"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9
,, 3"-11½" long ,,	7	9	1/3	1/8	3/–
Long screws, 12"-23½" long ,,	11	1/3	2/2	2/10	5/3
,, ,, 3"M-½" long ,,	8	10	1/5	1/11	3/6
Bends . . . . ,,	8	11	1/7½	2/7½	5/2
Springs not socketed . ,,	5	7	1/1½	1/11½	3/11
Socket unions . . ,,	2/–	3/–	5/6	6/9	10/–
Elbows, square . . ,,	10	1/1	1/6	2/2	4/3
Tees . . . . ,,	1/–	1/3	1/10	2/6	5/1
Crosses . . . ,,	2/2	2/9	4/1	5/6	10/6
Plain Sockets and nipples ,,	3	4	6	8	1/3
Diminished sockets . ,,	4	6	9	1/–	2/–
Flanges . . . ,,	9	1/–	1/4	1/9	2/9
Caps . . . . ,,	3½	5	8	1/–	2/–
Backnuts . . . ,,	2	3	5	6	1/1
Iron main cocks . ,,	1/6	2/3	4/2	5/4	11/6
,, ,, with brass plugs ,,	—	4/–	7/6	10/–	21/–

Discounts: TUBES.

	Per cent.		Per cent.
Gas . . .	65	Galvanized gas .	52½
Water . . .	61½	,, water	47½
Steam . . .	57½	,, steam	42½
	FITTINGS.		
Gas . . .	57½	Galvanized gas .	47½
Water . . .	52½	,, water	42½
Steam . . .	47½	,, steam	37½

SMITH AND FOUNDER—*continued*

	s. d.
Rolled steel joists cut to length . . cwt.	10 9
Mild steel reinforcing rods, ⅜" . . ,,	8 6
,, ,, ½" . . ,,	8 3
,, ,, ⅝" . . ,,	8 0
,, ,, ¾" . . ,,	7 6
,, ,, ⅞" . . ,,	7 6
,, ,, 1" . . ,,	7 6
,, ,, 1¼" . . ,,	7 6
,, ,, 1½" . . ,,	7 6

Cast-iron rain-water pipes of ordinary thickness metal	3" s. d.	4" s. d.
	. F.R	8	10
Shoes . . .	. each	2 0	3 0
Anti-splash shoes . .	,,	4 6	8 0
Boots . . .	,,	3 0	4 0
Bends . . .	,,	2 7	3 9
,, with access door .	,,	—	6 3
Heads . . .	,,	4 0	5 0
Swan-necks up to 9" offsets .	,,	3 9	6 0
Plinth bends, 4½" to 6" .	,,	3 9	5 3
Half-round rain-water gutters of ordinary thickness metal	. F.R.	5	6
Stop ends . . .	. each	6	6
Angles . . .	,,	1 7	1 11
Obtuse angles . .	,,	2 0	2 6
Outlets . . .	,,	1 9	2 3

PLUMBER

	£ s. d.
Lead, milled sheets . . . cwt.	1 0 0
,, drawn pipes . . . ,,	17 0
,, soil pipe . . . ,,	1 0 0
,, scrap . . . ,,	10 6
Solder, plumbers' . . . lb.	0½
,, fine do. . . . ,,	1 0
Copper, sheet . . . ,,	8½
,, tubes . . . ,,	11

L.C.C soil and waste pipes:	3"	4"	6"
	. F.R.	1 0	1 2	2 6
Plain cast		1 1	1 3	2 8
Coated . .	,,	2 0	2 6	4 6
Galvanized .	,,	3 10	4 0	4 9
Holderbats .	each	3 9	5 3	10 3
Bends . .	,,	4 4	5 5	9 6
Shoes . .	,,	4 8	8 5	12 9
Heads . .	,,			

PLASTERER

	£ s. d.
Lime, chalk . . . . per ton	2 5 0
Plaster, coarse . . . ,,	2 10 0
,, fine . . . ,,	4 15 0
Hydrated lime . . . ,,	3 0 9
Sirapite . . . . ,,	3 6 0
Keene's cement . . . ,,	5 0 0
Sand, washed . . . Y.C.	11 6
Hair . . . . lb.	6
Laths, sawn . . . bundle	2 4
,, rent . . . ,,	3 9
Lath nails . . . lb.	3½

GLAZIER

	s. d.	s. d.
Sheet glass, 21 oz., squares n/e 2 ft.	s. F.S.	2½
,, ,, 26 oz. ,, ,, ,, ,,		3¼
Arctic glass, white . . . ,,		7
Cathedral glass, white, dbl.-rolled, plain, hammered, rimpled, waterwite, ,,		6½
¼" Hartley's rough rolled . . ,,		7
¼" ,, wired cast . . ,,		10
¼" Georgian wired cast . . ,,		11
¼" Polished plate, n/e 1 ft. . . ,,	†10 to‡1	1
,, ,, 2 . . ,,	†1 2 ,, ‡1	4
,, ,, 3 . . ,,	†1 8 ,, ‡1	11
,, ,, 4 . . ,,	†2 3 ,, ‡2	6
,, ,, 6 . . ,,	†2 7 ,, ‡2	9
,, ,, 8 . . ,,	†2 9 ,, ‡3	2
,, ,, 12 . . ,,	†3 1 ,, ‡3	7
,, ,, 20 . . ,,	†3 7 ,, ‡4	2
,, ,, 45 . . ,,	†3 11 ,, ‡4	7
,, ,, 65 . . ,,	†4 4 ,, ‡4	11
,, ,, 90 . . ,,	†4 9 ,, ‡5	5
,, ,, 100 . . ,,	†5 0 ,, ‡5	7
Vita glass, sheet, n/e 1 ft. . . ,,		1 0
,, ,, ,, 2 . . ,,		1 3
,, ,, ,, over 2 . . ,,		1 9
,, ,, plate, n/e 1 ft. . . ,,		1 6
,, ,, ,, 2 . . ,,		3 0
,, ,, ,, 5 . . ,,		4 0
,, ,, ,, 7 . . ,,		5 0
,, ,, ,, 15 . . ,,		6 0
,, ,, ,, over 15 . . ,,		7 6
Putty, linseed oil . . . lb.		3

†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

	£ s. d.
White lead in 1 cwt. casks .	cwt. 2 6 0
Linseed oil	. gall. 2 2½
Boiled oil	,, 2 4½
Turpentine	,, 4 1½
Patent knotting	,, 14 0
Distemper, washable . . .	. cwt. 2 6 0
,, ordinary . . .	,, 2 0 0
Whitening	. ,, 4 0
Size, double	. firkin 3 0
Copal varnish	. gall. 13 0
Flat varnish	,, 14 0
Outside varnish . . .	,, 16 0
White enamel . . .	,, 1 15 0
Ready-mixed paint . . .	,, 13 6
Brunswick black . . .	,, 7 6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR

		£ s. d
Digging over surface n/e 12″ deep and cart away	Y.S.	2 9
,, to reduce levels n/e 5′ 0″ deep and cart away	Y.C.	8 6
,, to form basement n/e 5′ 0″ deep and cart away	,,	9 0
,, ,, 10′ 0″ deep and cart away	,,	9 6
,, ,, 15′ 0″ deep and cart away	,,	10 0
If in stiff clay	add ,,	2 6
If in underpinning	,,	4 0
Planking and strutting to sides of excavation	F.S.	1 0
,, ,, to pier holes	,,	5
,, ,, to trenches	,,	5
,, ,, extra, only if left in	,,	3
Hardcore, filled in and rammed	Y.C.	10 0
Portland cement concrete in foundations (6-1)	,,	1 6 0
,, ,, (4-2-1)	,,	1 12 6
,, ,, underpinning	,,	1 16 0
Finishing surface of concrete, spade face	Y.S.	7

DRAINLAYER

		4″ s. d.	6″ s. d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1 6	2 3
Extra, only for bends	Each	2 8	3 9
,, ,, junctions		3 9	4 6
Gullies and gratings	,,	16 6	18 0
Cast iron drains, and laying and jointing	F.R.	4 9	6 9
Extra, only for bends	Each	10 6	15 6

BRICKLAYER

		£ s. d.
Brickwork, Flettons in lime mortar	Per Rod	27 10 0
,, ,, ,, in cement	,,	28 15 0
,, Stocks in cement	,,	35 0 0
,, Blues in cement	,,	52 0 0
Extra only for circular on plan	,,	2 0 0
,, backing to masonry	,,	1 10 0
,, raising on old walls	,,	2 0 0
,, underpinning	,,	5 10 0
Fair Face and pointing internally	F.S.	1½
Extra over fletton brickwork for picked stock facings and pointing	,,	8¼
,, ,, ,, red brick facings and pointing	,,	11
,, ,, ,, blue brick facings and pointing	,,	1 4
,, ,, ,, glazed brick facings and pointing	,,	3 6
Tuck pointing	,,	7
Weather pointing in cement	,,	3½
Slate dampcourse	,,	10
Vertical dampcourse	,,	1 1

ASPHALTER

		s. d.
½″ Horizontal dampcourse	Y.S.	4 6
½″ Vertical dampcourse	,,	6 9
½″ paving or flat	,,	4 0
1″ paving or flat	,,	5 6
1″ × 6″ skirting	F.R.	1 0
Angle fillet	,,	2
Rounded angle	,,	2
Cesspools	Each	5 0

MASON

		s. d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C.	17 9
Bath stone and do., all as last	,,	13 6
Artificial stone and do.	,,	13 0
York stone templates, fixed complete	,,	10 6
,, thresholds	,,	13 6
,, sills	,,	1 0 6

SLATER AND TILER

		£ s. d.
Slating, Bangor or equal, laid to a 3″ lap, and fixing with compo nails, 20″ × 10″	Sqr.	3 10 0
Do., 18″ × 9″	,,	3 7 0
Do., 24″ × 12″	,,	3 17 0
Westmorland slating, laid with diminished courses	,,	6 0 0
Tiling, best hand-made sand-faced, laid to a 4″ gauge, nailed every fourth course	,,	3 0 0
Do., all as last, but of machine-made tiles	,,	2 16 0
20″ × 10″ medium Old Delabole slating, laid to a 3″ lap (grey)	,,	4 6 0
,, ,, ,, ,, ,, (green)	,,	4 15 0

CARPENTER AND JOINER

		£ s. d.
Flat boarded centering to concrete floors, including all strutting	Sqr.	2 5 0
Shuttering to sides and soffits of beams	F.S.	8
,, to stanchions	,,	8
,, to staircases	,,	1 8
Fir and fixing in wall plates, lintols, etc.	F.C.	3 9
Fir framed in floors	,,	4 6
,, ,, roofs	,,	6 6
,, ,, trusses	,,	7 6
,, ,, partitions	,,	8 6
⅝″ deal sawn boarding and fixing to joists	Sqr.	1 14 6
1″ ,, ,, ,, ,,	,,	1 17 6
1¼″ ,, ,, ,, ,,	,,	2 3 0
1″ × 2″ fir battening for Countess slating	,,	9 6
Do. for 4″ gauge tiling	,,	12 0
Stout feather-edged tilting fillet	F.R.	4½
Patent inodorous felt, 1 ply	Y.S.	2 3
,, ,, ,, 2 ,,	,,	2 9
,, ,, ,, 3 ,,	,,	3 3
Stout herringbone strutting to 9″ joists	F.R.	10½
1″ deal gutter boards and bearers	F.S.	1 2
1½″ ,, ,, ,, ,,	,,	1 6
2″ deal wrought rounded roll	F.R.	8
1″ deal grooved and tongued flooring, laid complete, including cleaning off	Sqr.	2 1 0
1¼″ do.	,,	2 10 0
1½″ do.	,,	2 17 0
1″ deal moulded skirting, fixed on, and including grounds plugged to wall	F.S.	1 6
1¼″ do.	,,	1 9

CARPENTER AND JOINER—*continued*

		s. d.
1¼″ deal moulded sashes of average size	F.S.	1 9½
2″ ,, ,, ,, ,,	,,	1 11½
1½″ deal cased frames double hung, of 6″ × 3″ oak sills, 1¼″ pulley stiles, 1¼″ heads, 1″ inside and outside linings, ⅝″ parting beads, and with brass faced axle pulleys, etc., fixed complete	,,	3 7
2″ ,, ,, ,, ,,	,,	3 10
Extra only for moulded horns	Each	6
1¼″ deal four-panel square, both sides, door	F.S.	2 0
2″ ,, ,, ,, ,,	,,	2 8
1¼″ ,, but moulded both sides	,,	2 4
2″ ,, ,, ,, ,,	,,	3 0
4″ × 3″ deal, rebated and moulded frames	F.R.	1 0
4½″ × 3½″ ,, ,, ,,	,,	1 4
1¼″ deal tongued and moulded window board, on and including deal bearers	F.S.	1 9
1¼″ deal treads, 1″ risers in staircases, and tongued and grooved together on and including strong fir carriages	,,	2 6
1¼″ deal moulded wall strings	,,	2 1
1½″ ,, outer strings	,,	2 4
Ends of treads and risers housed to string	Each	1 9
3″ × 2″ deal moulded handrail	F.R.	1 3
1″ × 1″ deal balusters and housing each end	Each	2 0
1¼″ × 1¼″ ,, ,, ,, ,,	,,	2 9
3″ × 3″ deal wrought framed newels	F.R.	1 3
Extra only for newel caps	Each	6 0
Do., pendants	,,	6 0

SMITH AND FOUNDER

		£ s. d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt.	15 6
Riveted plate or compound girders, and hoisting and fixing in position	,,	19 6
Do. stanchions with riveted caps and bases and do.	,,	19 0
Mild steel bar reinforcement, ½″ and up, bent and fixed complete	,,	17 6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S.	11
Wrot-iron caulked and cambered chimney bars	Per cwt.	1 10 0

PLUMBER

		£ s. d.
Milled lead and labour in flats	cwt.	1 13 6
Do. in flashings	,,	1 17 0
Do. in covering to turrets	,,	2 3 0
Do. in soakers	,,	1 9 0
Labour to welted edge	F.R.	3½
Open copper nailing	,,	3½
Close ,, ,,	,,	4½

Lead service pipe and fixing with pipe hooks	½″ s. d.	¾″ s. d.	1″ s. d.	1¼″ s. d.	2″ s. d.	4″ s. d.
	F.R. 1 0	1 2	1 5	2 1	3 0	—
Do. soil pipe and fixing with cast lead tacks	—	—	—	—	—	5 9
Extra, only to bends	Each —	—	—	—	2 3	6 3
Do. to stop ends	,, 6½	8	9	11	1 0	—
Boiler screws and unions	,, 3 3	3 9	5 0	8 0	—	—
Lead traps	,, —	—	—	6 3	8 9	—
Screw down bib valves	,, 6 9	9 6	11 0	—	—	—
Do. stop cocks	,, 9 0	11 0	14 6	20 6	47 0	—

		£ s. d.
4″ cast-iron ½-rd. gutter and fixing	F.R.	1 0
Extra, only stop ends	Each	1 0
Do. angles	,,	1 6
Do. outlets	,,	2 9
4″ dia. cast-iron rain-water pipe and fixing with ears cast on	F.R.	1 2
Extra, only for shoes	Each	1 3
Do. for plain heads	,,	5 6

PLASTERER AND TILING

		s. d.
Expanded metal lathing, small mesh	Y.S.	2 3
Do. in n/w to beams, stanchions, etc.	,,	3 6
Lathing with sawn laths to ceilings	,,	1 4
½″ screeding in Portland cement and sand for tiling, wood block floor, etc.	,,	1 8
Do. vertical	,,	2 1
Rough render on walls	,,	1 3
Render, float and set in lime and hair	,,	1 11
Render and set in Sirapite	,,	2 1
Render, backing in cement and sand, and set in Keene's cement	,,	2 10
Extra, only if on lathing	,,	4
Keene's cement, angle and arris	F.R.	6
Arris	,,	2
Rounded angle, small	,,	3
Plain cornices in plaster, including dubbing out, per 1″ girth	,,	1½
1″ granolithic pavings	Y.S.	3 6
1½″ ,, ,,	,,	4 6
6″ × 6″ white glazed wall tiling and fixing on prepared screed	,,	17 6
9″ × 3″ ,, ,, ,, ,,	,,	1 2 6
Extra, only for small quadrant angle	F.R.	8

GLAZIER

		s. d.
21 oz. sheet glass and glazing with putty	F.S.	7¾
26 oz. do. and do.	,,	8¾
Arctic glass and glazing with putty	,,	1 1
Cathedral glass and do.	,,	1 2
Glazing only, British polished plate	,,	7
Extra, only if in beads	,,	2
Washleather	F.R.	4

PAINTER

		s. d.
Clearcolle and whiten ceilings	Y.S.	6½
Do. and distemper walls	,,	9
Do. with washable distemper	,,	1 1
Knot, stop, prime and paint four coats o foil colour on plain surfaces	,,	3 3
Do. on woodwork	,,	3 6
Do. on steelwork	,,	3 0
Do. and brush grain and twice varnish	,,	5 6
Stain and twice varnish woodwork	,,	1 11
Stain and wax-polish woodwork	,,	4 6
French polishing	F.S.	1 2
Stripping off old paper	Piece	2 0
Hanging ordinary paper from	,,	2 9

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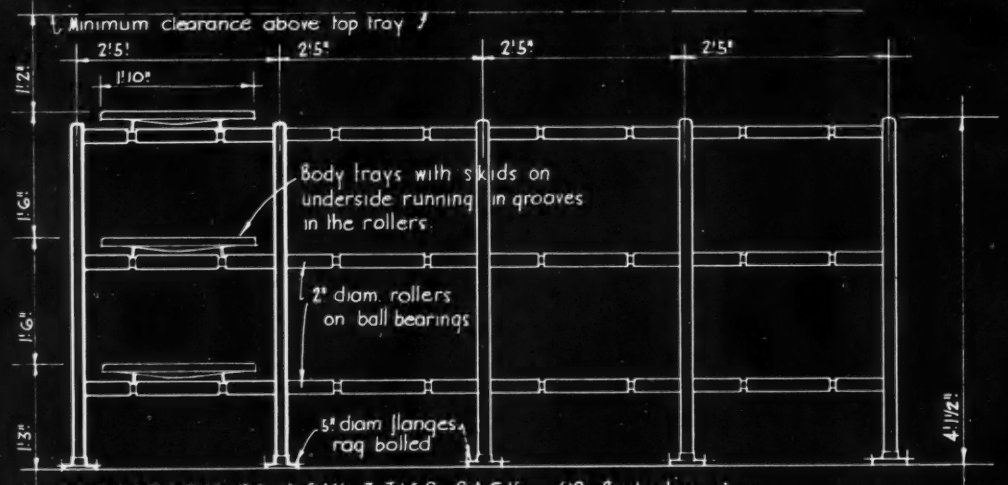
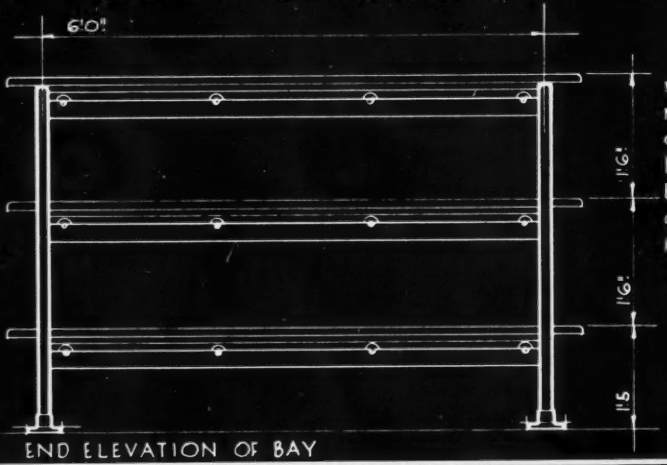


ELEVATION OF 4-BAY, 3 TIER RACK. (12 Body trays.).
Racks supplied in single, 3 tier units or in any number of bays.

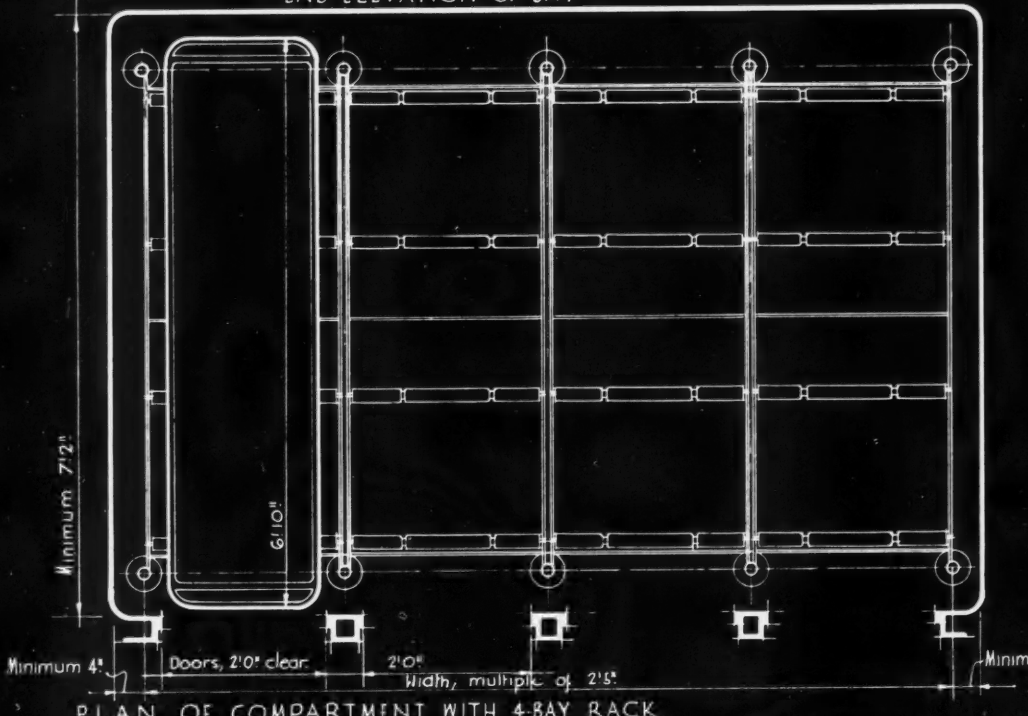
NOTE.

1. Racks & trays are finished in stoved synthetic Aluminium Enamel after galvanizing.
2. Parts are detachable for assembly inside compartments.
3. Trays run on ball bearing runners.
4. Standard racks are of 3 tiers, extra tiers supplied if required.



END ELEVATION OF BAY

NUMBER OF RACKS : No definite figures are available for different types of hospital, but for General Hospitals allow approximately 1 rack for every 17 to 20 beds



PLAN OF COMPARTMENT WITH 4-BAY RACK

Information from James Gibbons Ltd.

INFORMATION SHEET : MORTUARIES : GIBBONS' BODY RACKS.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.1.

INFORMATION SHEET • 83 • MORTUARY BODY RACKS

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

• 83 •

MORTUARY BODY RACKS

Name of Product: Gibbons all-steel Body Racks

Type Illustrated: No. H. 5012

Description:

The racks are designed in conjunction with Refrigerating Companies for modern mortuary installations.

The bodies are carried on steel trays, galvanized after manufacture. They have tubular runners on the bottom which engage in grooves in the ball-bearing rollers, and give exceptional ease of movement. Each tray is fitted with removable name card holder and Ivorine number.

The standards of the rack are 2" steel tubes, with 5" flanges for screwing to floor. The 2" × ½" horizontal bars carring the rollers fit into special lugs welded to the standards, and are fixed with bolts and nuts. The ¾" round steel bars are also fixed with hexagon-headed pins, enabling the rack to be easily and quickly erected.

The whole of the rack and tray, with the exception of the rollers, is finished after galvanizing in stoved synthetic aluminium enamel.

Name of Manufacturers: James Gibbons, Ltd.

Address St. John's Works, Wolverhampton

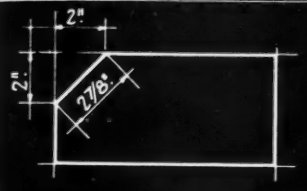
Telephone Wolverhampton 20401-3

London Showrooms 15-16 Fisher Street, Southampton Row, W.C.

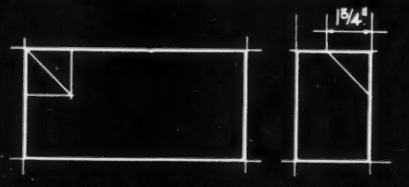
Telephone Holborn 0358-9

NOTE. All specials are made in 3" & 2⅝" sizes, & where not otherwise shown, conform to the R.I.B.A. standard sizes

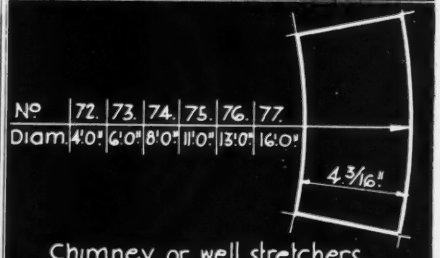
The numbers given below are the reference numbers of London Brick Company & Forders Ltd.



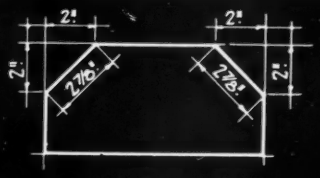
42. Cant brick.



50. Plinth internal return, Right hand.
51. ditto, Left hand.

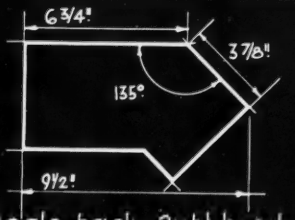


Chimney or well stretchers.

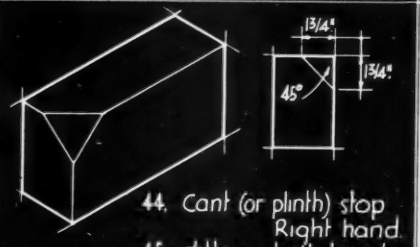


43. Double Cant brick.

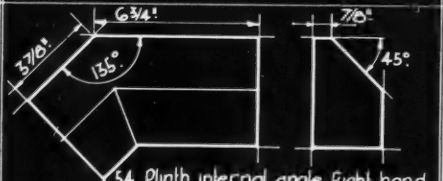
52. Plinth external return, Right hand.
53. ditto, Left hand.



78. Angle brick, Right hand.
79. ditto, Left hand.

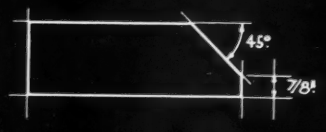


44. Cant (or plinth) stop Right hand.
45. ditto, Left hand.

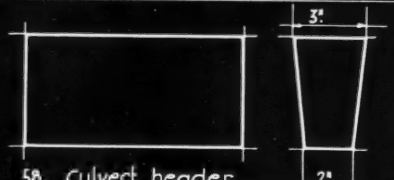


54. Plinth internal angle, Right hand.
55. ditto, Left hand.
56. Plinth external angle, Right hand.
57. ditto, Left hand

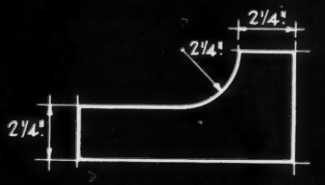
80. Birdsmouth, 150°
81. ditto, 130°



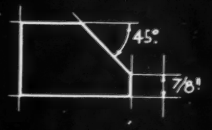
46. Plinth header.



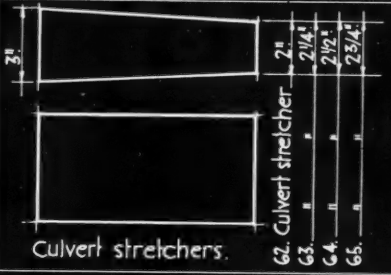
58. Culvert header 2"
59. " " 2¼"
60. " " 2½"
61. " " 2¾"



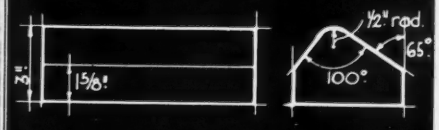
82. Pistol brick (circular corner).



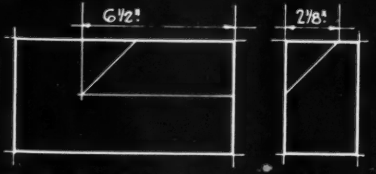
47. Plinth stretcher



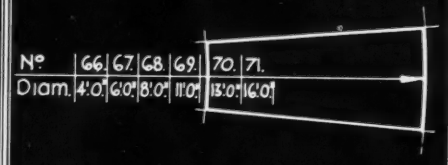
Culvert stretchers.



83. Girder skewback.



48. Plinth internal return, Right hand.
49. ditto, Left hand.



Chimney or well headers.

NOTE:
The designation of handed bricks is based upon the junction of the brick in the work.

Information from London Brick Company & Forders Ltd.

INFORMATION SHEET : PHORPRES BRICKS : STANDARD SPECIALS. 2.
SIR JOHN BURNET, TAIT AND LORNE ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.1.

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INFORMATION SHEET

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BRICKS
(STANDARD SPECIALS)

Name of Product: "Phorpres"

Type Illustrated: Standard Specials 2.

SCHEDULE OF SPECIAL BRICKS

Makers' Number		
42.	Cant	
43.	Double Cant	
44.	Cant (or Plinth) Stop Right Hand	
45.	Cant (or Plinth) Stop Left Hand	
46.	Plinth Header	
47.	,, Stretcher	
48.	Plinth Internal Return Right Hand ..	6½" radius
49.	,, ,, ,, Left Hand ..	6½" ,,
50.	,, ,, ,, Right Hand ..	1¼" ,,
51.	,, ,, ,, Left Hand ..	1¼" ,,
52.	,, External Return Right Hand	
53.	,, ,, ,, Left Hand	
54.	,, Internal Angle Right Hand	
55.	,, ,, ,, Left Hand	
56.	,, External Angle Right Hand	
57.	,, ,, ,, Left Hand	
58.	Culvert Header 3"—2"	
59.	,, ,, 3"—2¼"	
60.	,, ,, 3"—2½"	
61.	,, ,, 3"—2¾"	
62.	,, Stretcher 3"—2"	
63.	,, ,, 3"—2¼"	
64.	,, ,, 3"—2½"	
65.	,, ,, 3"—2¾"	
66.	Chimney (or Well) Header for 4' diameter	
67.	,, ,, ,, ,, 6' ,,	
68.	,, ,, ,, ,, 8' ,,	
69.	,, ,, ,, ,, 11' ,,	
70.	,, ,, ,, ,, 13' ,,	
71.	,, ,, ,, ,, 16' ,,	
72.	,, ,, Stretcher ,, 4' ,,	
73.	,, ,, ,, ,, 6' ,,	
74.	,, ,, ,, ,, 8' ,,	
75.	,, ,, ,, ,, 11' ,,	
76.	,, ,, ,, ,, 13' ,,	
77.	,, ,, ,, ,, 16' ,,	
78.	Angle Brick Right Hand	
79.	,, ,, Left Hand	
80.	Birdsmouth 150°	
81.	,, 130°	
82.	Pistol Brick (Circular Corner)	
83.	Girder Skewback 3" only	

Examples of standard specials Nos. 1 to 41 were published in Information Sheet No. 81.

N.B.—The Company's process permits the manufacture of special shapes other than those enumerated, which may be required for particular purposes.

Blue prints giving all measurements and angles of the special bricks illustrated can be obtained from the manufacturers.

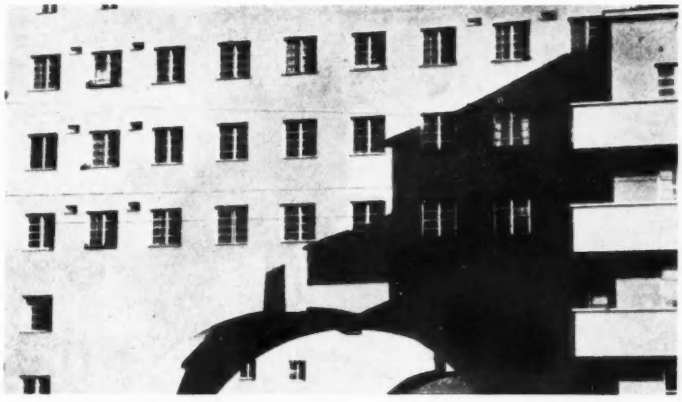
Name of Manufacturers : London Brick Company and Forders Ltd.

Address Africa House, Kingsway London, W.C.2

Telephone Holborn 8282 (10 lines)

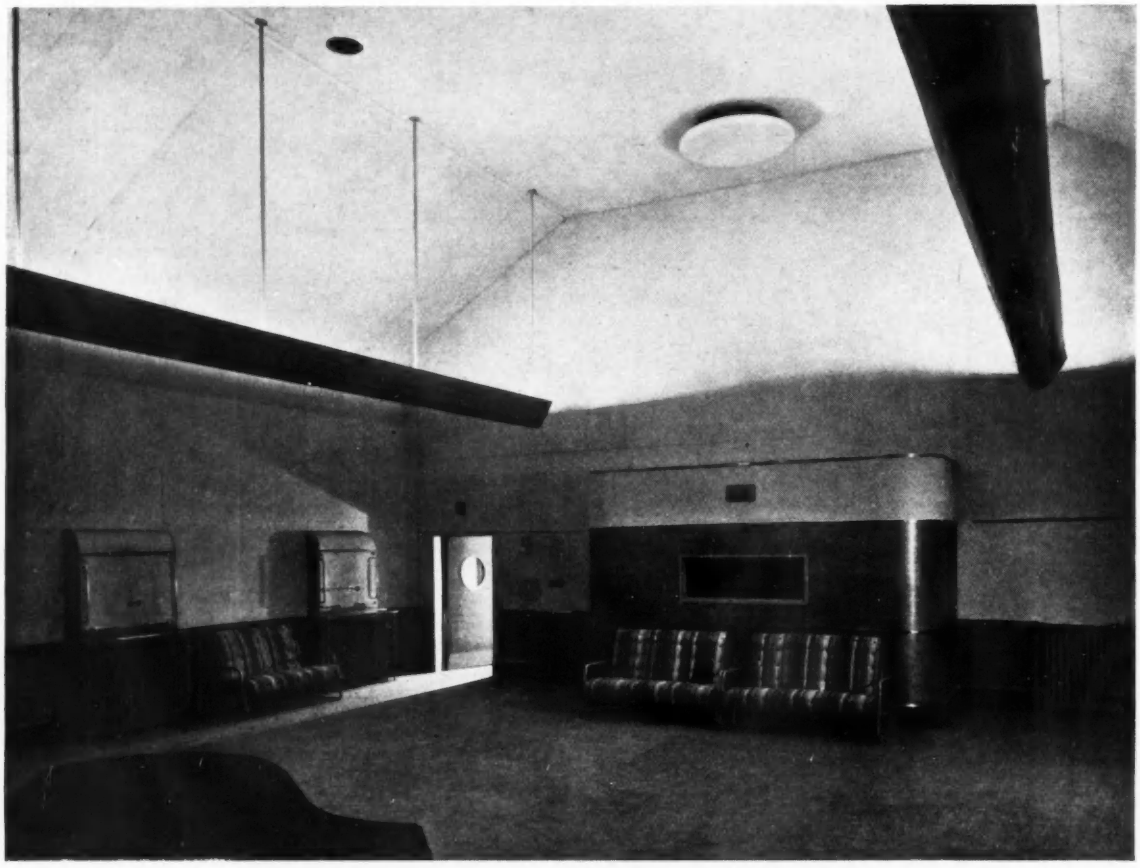
BATTLE-SCARRED FLATS

KARL MARX HOF, VIENNA



PART of the rear elevation of Karl Marx Hof, Vienna, before and after a battery of artillery had wrecked it in an effort to drive out the socialists who had taken possession of the building and were using it as a stronghold in the Austrian civil war.

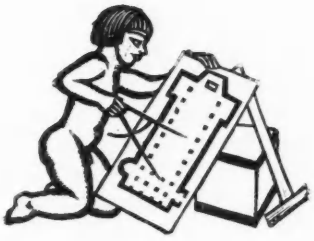
To mere architects, as distinct from politicians, it seems rather silly that the citizens of Vienna should spend millions of pounds and years of labour putting up buildings which are the admiration of the world, if in the end all they want to do with them is to knock them down with their own artillery. However, the bombardment showed one thing. They were well built.



B.B.C. STUDIOS, BIRMINGHAM

Above : Studio Number 4 at Broadcasting House, Birmingham. This studio is used for orchestral performances, choral work, etc. Below : The Midland Regional Director's Room.

Further illustrations, plans and detail drawings of these studios, of which Serge Chermayeff is the architect, are given on pages 280-286.



A QUESTION TO SIR OSWALD MOSLEY

POLITICAL changes have seldom been reflected in architectural design except when they have been accompanied by changes in religion. For example, the expulsion of the Moors from the Kingdom of Granada was accompanied by a complete change in the architectural character of the towns and cities in that part of Spain. But political complexion has only been openly identified with architectural forms recently. The post-war disease of aggressive nationalism is beginning to impose limitations upon architecture. The most brutal example is the censorship of design exercised by the sadistic boy scouts who are at present in charge of Germany's destiny. Germans have never been conspicuous for humour, and there is something dully academic as well as rawly juvenile about the deliberate suppression of what is known as "The Art of the Left." As Hitler and his Ministers have now repudiated the Kaiser and his works very firmly, it is unlikely that Hohenzollern architectural taste will be reinstated; and it is to an older Germany that the Nazis are looking for their inspiration.

Truly national architecture is something that grows. It cannot arise at the behest of some ex-soldiers and militant politicians. If its growth is forced by artificial means, it will show, as architecture has a way of showing, how false and brittle it is, how un-nourished by true tradition, how starved of thought, how poor in genius. Mussolini, in providing adequate patronage for design, has not been so foolish as to demand any limitations. Of course he had a different nation to deal with; a nation that has led Europe in civilization for centuries, and which requires no sabre rattling to inspire its artists to efforts worthy of their great past and adjusted to the needs of their contemporary life.

But what about the incipient dictators of old England? Leaving politics out of it, and contenting ourselves merely with the reflection that one Oliver Cromwell was all the English could ever bring themselves to stomach, and comforting ourselves with the knowledge that there are no signs whatever of a comparable figure in the offing, what, we may ask, are the ideas of, shall we call him the Leader, about architecture that will represent the glory and the power, the empire, the earnestness, the wealth, the industry and the innate decency and sportsmanship of England? Will the Leader favour banker's Classic or builder's Tudor? And what about modern materials? Because architects in Soviet Russia are using steel and concrete and glass (badly for the most part), will those materials come under his ban? Will every architect in England have to prove the purity of his intentions by subscribing to an all-English cult of design, and will England be deprived of her special and peculiar gift of giving opportunities to the great men of other nations to practise their arts on English soil?

It is only since nationalism has looked with narrow eyes upon the European scene that the nations have lost generosity and vision in art. It should be remembered that Henry VII employed Torrigiano in Westminster Abbey, that Louis XIV was a patron of Bernini, that William III employed Daniel Marot side by side with Wren at Hampton Court, and that in the eighteenth century great English architects commissioned such artists as Pergolesi, Zucchi and Angelica Kauffmann. We were civilized in the eighteenth century. There was reason to hope that we were again becoming civilized and that the next third of the twentieth century might witness the fruition of a new Renaissance. But would the Leader like this to come about? Will we be kept to the thin patriotic path? Will architecture be Kiplingized? At least the Leader has borrowed two foreign fashions: his haberdashery, which is completely un-English; and that queer symbol referred to by the talented authors of *1066 And All That* as "axes and bundles."

We all know that Britain was once a Roman province, but it is not yet an Italian colony. If architecture is to match these symbols then presumably we are doomed, if the Leader wills it (and, of course, the nation), to dark years of Corinthian columns and capitals in black marble, just like the mantelpiece clock in the Victorian study. Or are we not? A correspondent has said in these columns that there are already many Fascist architects in England. That being the case, we would ask the Leader to state his architectural policy.

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NOTES & TOPICS

"OUR ARCHITECTURE *must be* ENGLISH"

WHEN I saw this title in *The News Chronicle* on Friday spleen reared its ugly head. Even the words "By G. Grey Wornum, F.R.I.B.A." had no power to soothe. The never-never-never-shall-be racket which achieved official status with *Rule Britannia*, that far from immortal song, and reached its zenith in the works of the Sage of Burwash, always strikes at least one true born Englishman as singularly un-English, both in its pretentiousness and in its vocal blast.

*

With all their faults the English have generally shown a certain tolerance of the ideas of other nations, and have combined with this as certain humility about their own, which is, after all, amiable. Nay—as Sir Giles Gilbert Scott would say—gentlemanly. What are the brayings and trumpetings of nationalism, but an abject confession of weakness? Does the rabbit brag about its powers of reproduction?

*

We shan't get a national architecture by roaring "It must be *English*." Whatever architecture we get it *will be* English—anæmic minds nervous of the fearful foreigner can be assured of that. National character is not "applied"; it is "inherent in the conditions."

*

Such were the thoughts inspired by Mr. Wornum's title. But, alas, Mr. Wornum's article had nothing to do with the title. The title, I suspect, was "applied" by an unscrupulous sub-editor. The article is a direct, acute—and disarming—analysis of our present building problems. I commend it to earnest young moderns.

NOEL COWARD AND THE REGENCY

If you want to feel patriotic go to see Noel Coward's new entertainment, *Conversation Piece*, which has for its background Regency Brighton. Will those charming settings devised by Mrs. Calthrop at His Majesty's Theatre make the public realize that England once possessed an architectural style that was truly national and wholly beautiful?

*

Will this delicately graceful creation of Noel Coward's help to extend the knowledge that many English towns and cities, including of course Brighton, still possess these architectural splendours, and that they are unprotected from destruction at the hands of the speculator? The popular press might cash in on the popularity *Conversation Piece* will achieve, by opening the eyes of playgoers to this fact.

*

Everybody who frames a "Come to Britain" advertisement should know where examples of late Georgian architecture and town planning can be found; for this style is unique: as noble as anything the Continent can show, and as English as beef and beer. It would at least be appreciated by foreign visitors.

THE ARCHITECTURE OF SOCIALISM

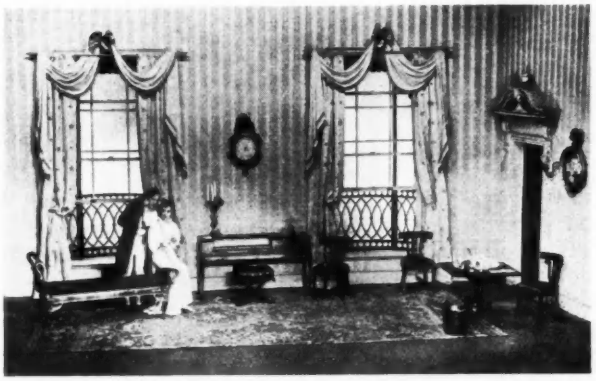
While Noel Coward is flirting tenderly with the past, Mr. Bernard Shaw has just loosed two brutally disrupting prefaces to plays about the present and the immediate future The appearance last week of *Too True to be Good* and *On the Rocks* in one volume must have filled the week-end with depression for many admirers of our major prophet.

*

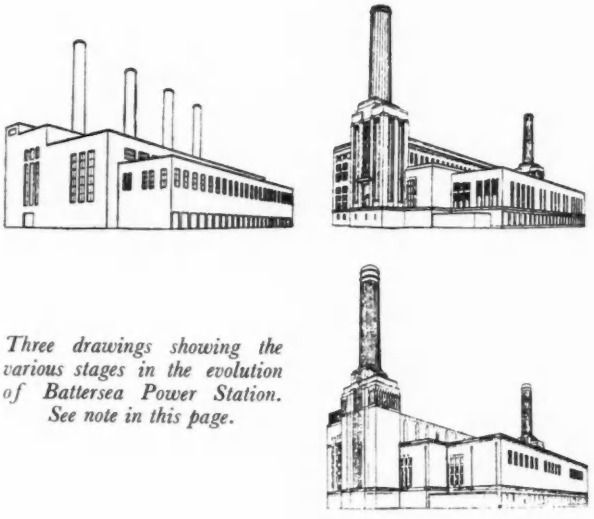
Mr. Shaw sees salvation only in the suppression of individualism, and his world of panels and government officials on the Russian model sounds too grim to be possible. He puts in a good word for the sacredness of criticism; but imagine the encouragement a critic would receive if he accused government architects of ignorant stupidity in the standardized state? (Mr. Belloc once called this miserable conception of society "the Servile State.")

*

At present we can draw attention to the defects of any



A scene from Noel Coward's new musical play, "Conversation Piece," now being shown in London.



Three drawings showing the various stages in the evolution of Battersea Power Station. See note in this page.

public (or private) building or projected building—and survive. In the "servile state" after the necessary forms had been filled in by the appropriate officials ("passed to you for information, please, and necessary action") we should be charged with making subversive and anti-social statements about plans officially sanctioned, and our troublesome individualism would be, in Mr. Shaw's word, "liquidated"—in a lethal chamber.

AT THE BUILDING CENTRE

On Monday evening we gathered together, the guests of Lord De La Warr and the Building Centre, to view a selection of the Bexhill Competition drawings, and to congratulate Lord De La Warr on his good fortune in securing for his town a design that is likely to change the whole complexion of sea-side development, as we have always known it would.

*

The authors of the winning design were not there, but plenty of others were present to drink to the health of healthier days to come.

BIG DEMAND FOR SANITARY WARE

Owing to the house-building boom, I hear that some firms in the Potteries who make baths, wash-basins and sanitary ware, are overwhelmed with orders.

*

Some firms estimate that they have enough work to keep them busy for another five years. The main demand is for sanitary ware suitable for smaller houses, of which over 200,000 were built last year.

BLACK LINE SKETCHES

The little line drawings reproduced on this page are taken from an article in *The Manchester Guardian*, and show various stages in the evolution of Battersea Power Station.

*

The article was an interesting one as showing the changes in architectural character from the first purely industrial conception of the power house to its final appearance.

*

But these little black line sketches, fitting neatly into the column spaces and offering no difficulty to the block-maker, to the editor, or to the printer, are interesting in another way, for they seem to me to offer a means, neglected since the introduction of photography, for the illustration of current buildings and other architectural matter into the daily Press.

*

Architecture is rarely news, but articles upon architecture, illustrated by small line blocks, is a new idea, and one that could, with profit, be pursued.

ADVERTISING ON BUILDINGS

The Times has been giving the subject of advertising on buildings a good airing.

*

Is this to be just another airing, or may we hope that the getting together of the R.I.B.A., London Society, S.C.A.P.A. and the Master Sign Writers' Association, will produce something to make Trafalgar Square more bearable.

*

I don't really care a hang about legislation. It is no use without public taste; and if the Master Sign Writers are an association to any good intent they will recognize that it is up to them to propose a better way of advertising than plastering Bile Beans in view of Nelson and the National Gallery.

MUNICIPAL HOUSING

Mr. Frank Hunt, the Valuer of the London County Council, is responsible for the reconditioning of pre-war property belonging to the L.C.C.

*

It is not generally realized that municipal housing started in London as long ago as 1892. Up to 1914 nearly 10,000 dwellings were provided, and even then the rent-roll was £227,000 a year.

*

Today the L.C.C. dwellings accommodate as many people as there are in the city of Bradford, and the rent-roll is £2,500,000 a year. As there is an actual surplus on the rents of pre-war dwellings, the profits are being used to instal electricity for lighting.

ASTRAGAL

WORKING DETAILS

In this issue we publish the second of a series of fully dimensioned constructional details; these will be found on pages 283-286. The subjects chosen for this series, which is called Working Details, may or may not have reference to jobs illustrated in the body of the paper—the current ones have—but they are selected as being of specific interest in themselves, and hence worthy of specific filing. For easy filing, the sheets need to be detached—or detachable. It has been arranged, therefore, that the pages in question shall be perforated so that they can be removed and filed with least possible difficulty.

NEWS

POINTS FROM THIS ISSUE

"Truly national architecture is something that grows. If its growth is forced by artificial means . . . it will show how false and brittle it is. . . ." 269

Today the L.C.C. dwellings accommodate as many people as there are in the City of Bradford 271

It has been decided to hold an architectural competition for designs for a public hall, Wolverhampton 274

Would it not be infinitely better to divide the country into eight regions and to restrict the competitions for small and normal-sized buildings in any one region to architects within that region? 278

The second of a series of perforated sheets devoted to working drawings 283

THE LIVERPOOL AIRPORT

At the Liverpool Airport, in the new inner-satellite township of Speke, fifteen minutes by motor car from the centre of the city, the Corporation has undertaken to provide what facilities may be needed for new air services. The landing ground is one of the largest in the country—it has recently been chosen by Royal Dutch Airlines as a terminus in preference to Manchester whose airport accommodation is not so large—and new buildings, including hangars, a clubhouse, and possibly an hotel, must shortly be put up there.

CHELSEA BRIDGE

The L.C.C. Improvements Committee report that a general agreement has been reached with the Royal Fine Art Commission on the question of the design for the new Chelsea Bridge. It will be recalled that last November the L.C.C decided to reconstruct Chelsea Bridge at a cost of £480,000 on the understanding that 60 per cent. would come from the Road Fund.

The new suspension bridge is to be of steel, with river piers and abutments of granite, and will have a total span of approximately 700 ft. There will be a central span over the navigable water and two shore spans, the length of the central span being approximately 332 ft. clear, and that of each shore span about 163 ft. clear.

The bridge will have a carriage-way, 40 ft. in width, sufficient for four lines of traffic, and two footways each 12 ft. wide at the central span and about 14 ft. wide at the shore spans.

Drawings and a small section model of the proposed bridge were exhibited at a meeting of the L.C.C. on Tuesday last.

THE ARCHITECTS' DIARY

Thursday, February 22

SOCIETY OF ANTIQUARIES OF LONDON. *At Burlington House, W.1. "The Work of the Colchester Excavation Committee, 1933." By M. R. Hull, Miss Thalassa Cruso, and Christopher Hawkes, F.S.A.* 8.30 *p.m.*

L.C.C. GEFFRYE MUSEUM. *At Kingsland Road, Shoreditch, E.2. "London of the Restoration." By D. Martin Roberts, M.A.* 7.30 *p.m.*

INSTITUTION OF STRUCTURAL ENGINEERS. *At 10, Upper Belgrave Street, S.W.1. "Metallic Materials of Construction." By Dr. Walter Rosenhain.* 6.30 *p.m.*

Friday, February 23

ART GALLERY, CHELTENHAM. *"Romance of Wrought Iron in the Architectural Arts." By E. Holden, M.I.Struct.E.* 7.30 *p.m.*

ARCHITECTURAL ASSOCIATION, 36 *Bedford Square, W.C.1. Exhibition of the Works of Adolf Loos. Last day. Monday, February 26.*

Tuesday, February 27

INSTITUTION OF ELECTRICAL ENGINEERS. *(Scottish Centre.) At the Engineers' Rooms, 39, Elmbank Crescent, Glasgow, C.2. "The Measurement of Noise, with special reference to Engineering Noise Problems." By B. A. G. Churcher, A. J. King, B.Sc.Tech., and H. Davies.* 7.30 *p.m.*

ARCHITECTURAL ASSOCIATION. 36 *Bedford Square, W.C.1. "Theatrical Production." By Albert Rutherston.* 8 *p.m. Exhibition—The Art of the Theatre.*

INSTITUTION OF STRUCTURAL ENGINEERS. *(Lancashire and Cheshire Branch.) At the Liverpool Engineering Society, Liverpool. "Foundations." By G. B. R. Pinnn.* 7.0 *p.m.*

Wednesday, February 28

INSTITUTION OF CIVIL ENGINEERS. *At Great George Street, Westminster. "Some Engineering Aspects of the Water-supply of London." By P. W. Morrison-Godfrey, Struct. Inst.C.E.* 6.30 *p.m.*

INSTITUTION OF WELDING ENGINEERS. *(North-Western Branch.) At the Manchester College of Technology, Sackville Street, Manchester. "Recent Advances in the Technique and Application of Electric Welding." By J. H. Paterson, D.Sc., F.I.C.* 7.30 *p.m.*

UNIVERSITY OF LONDON. *At University College, Gower Street, W.C. "The New Architecture in Sweden.—1." By E. Mesterton.* 5.30 *p.m.*

R.I.B.A., 9 *Conduit Street, W.1. "Modern Influences on London Architecture: Hotels." By Arthur J. Davis, A.R.A., F.R.I.B.A.* 6 *p.m.*

L.C.C. CENTRAL SCHOOL OF ARTS AND CRAFTS. *At Southampton Row, W.C.1. "English Mediæval Architecture—7. The Tower of London." By Sir Banister Fletcher, F.S.A., P.P.R.I.B.A.* 6 *p.m.*

DIRECTOR OF LEEDS ART GALLERY

The Leeds Art Gallery Committee have decided to offer the post of art director to Mr. P. Hendy, of London. Mr. Hendy succeeds Dr. J. K. M. Rothenstein, who now holds a similar post at Sheffield.

SCOTTISH BUILDING COSTS

The relative costs of building in Scotland and England were considered at a recent meeting of a Committee of the Scottish National Development Council on Building Costs in Scotland.

The committee, which is one of many constituted by the Council to conduct investigations into matters affecting industry in Scotland, is concentrating more particularly on the costs of industrial and commercial subjects.

It is felt that while the cost of erecting a factory is not the only consideration which prompts an industrialist to establish his plant in a particular area, nevertheless it cannot fail to be of benefit to Scotland if it can be shown that building costs are lower in Scotland than in the South.

With a view to securing comparable costs, arrangements were made (states *The Glasgow Daily Mail and Record*) to circularize a large number of representative builders, surveyors, architects, and constructional engineers who carry on business both in Scotland and England.

The personnel of the Committee is as follows:—Mr. James Barr, F.S.I., F.F.S., chairman, Glasgow; Mr. Harbourne MacLennan, architect, Aberdeen; Mr. A. Balfour Paul, L.R.I.B.A., Edinburgh; Lieut.-Col. G. Gardner Maclean, F.R.I.A.S., Glasgow; Mr. R. A. Scrymgeour, F.R.I.A.S., Dundee; Mr. A. Mickel, builder Glasgow; Mr. A. Melville, builder, Glasgow; Mr. R. Smith, F.F.S., Edinburgh; Mr. William Baird, F.F.S., Edinburgh; Mr. A. Purdie, F.F.S., Glasgow; Mr. E. Bruce, builder, Edinburgh; and Mr. John Fraser, M.C., secretary, Development Board for Glasgow and District (honorary secretary).

MORE BUILDINGS IN 1933

The current issue of the *Ministry of Labour Gazette* shows that there was an increase of 26 per cent. in the amount of building during 1933. The total value of all buildings for which plans were passed is £83,682,000, as against £66,254,000 in 1932, the corresponding figures for dwelling houses only being £62,308,000 and £46,888,000. Much of this increase is due to the growth of building in the outer London area.

AN OPEN-AIR BATH FOR MORECAMBE

The Morecambe Corporation propose to begin the building of an open-air bath, at a cost of £75,000, as the first part of the Old Harbour development scheme, which will cost altogether £123,000.

BRIGHTER HOMES EXHIBITION

The Daily Dispatch Brighter Homes Exhibition of 1934 will be opened at the City Hall, Deansgate, Manchester, on Friday, March 2, by Sir Edward Hilton Young, Minister of Health.

WEMBLEY SPORTS ARENA

On Thursday last, Lord Derby laid the foundation-stone of the Empire swimming pool and sports arena at Wembley.

THE CREATIVE SPIRIT OF THE CRISIS

Mr. Erich Mendelsohn, speaking upon "The creative spirit of the crisis" at Manchester University last week, said we had emerged with fantastic suddenness from the stable condition which we apparently enjoyed before the war. The future of man was now being violently prepared and might overtake us tomorrow. The question was whether man was capable of building himself a new life in the middle of chaos or revolution. It was apparent that the new life already had real existence in the arts. Architecture had its new constructions. The necessity of erecting for new industries in the shortest time had led to the standardization of materials and construction and technical and mechanical details. The architect was released from the forms of individualistic or classical

styles, symmetry, and geometric pattern. His business was to be simply creative. Every problem was a direct original problem. He had to try to solve it so that all the parts were organically interlocked. If he succeeded in organizing it in three dimensions rhythmically, then he achieved the pleasure called beauty.

RIBBON BUILDING

Mr. C. H. Calvert, F.R.I.B.A., speaking at the annual dinner of the Nottingham, Derby and Lincoln Architectural Society, held recently at Nottingham, said one of the chief concerns today was the development of ribbon building on practically every main road in the country. Mr. Calvert advocated that it would be more picturesque and economical if local authorities and private builders would undertake the construction of cul-de-sac roads at right-angles to main thoroughfares so that communities were self-contained. By this means the beauties of the countryside would be preserved.

Other speakers included: Sir Giles Gilbert Scott, P.R.I.B.A.; Ald. J. Farr (Lord Mayor of Nottingham); Mr. H. Slaney (Lord Mayor of Derby); Professor F. S. Granger; Dr. A. R. Laurie; and Mr. N. Denholm Davis.

CHARTERED SURVEYORS' INSTITUTION

A paper on "Building Materials Research and its Practical Application" was read by Dr. R. E. Stradling before a meeting of the above Institution in London yesterday.

MASTER SIGN MAKERS' ASSOCIATION

The fifth annual conference of the above Association is to be held at the Dorchester Hotel, Park Lane, W.1, today, at 11 a.m. During the afternoon session, Mr. F. R. Yerbury is to deliver a lantern lecture on "Architecture and Signs."

RECONSTRUCTION OF ROAD BRIDGES

Mr. C. U. Peat, M.P., introduced a deputation from the British Steelwork Association to the Minister of Transport last week to urge the importance of proceeding as quickly as possible with the reconstruction of weak and dangerous road bridges.

The Minister, in reply, stated that he was losing no opportunity of drawing the attention of highway authorities to the necessity of the reconstruction of weak and inadequate bridges on the more important routes without delay.

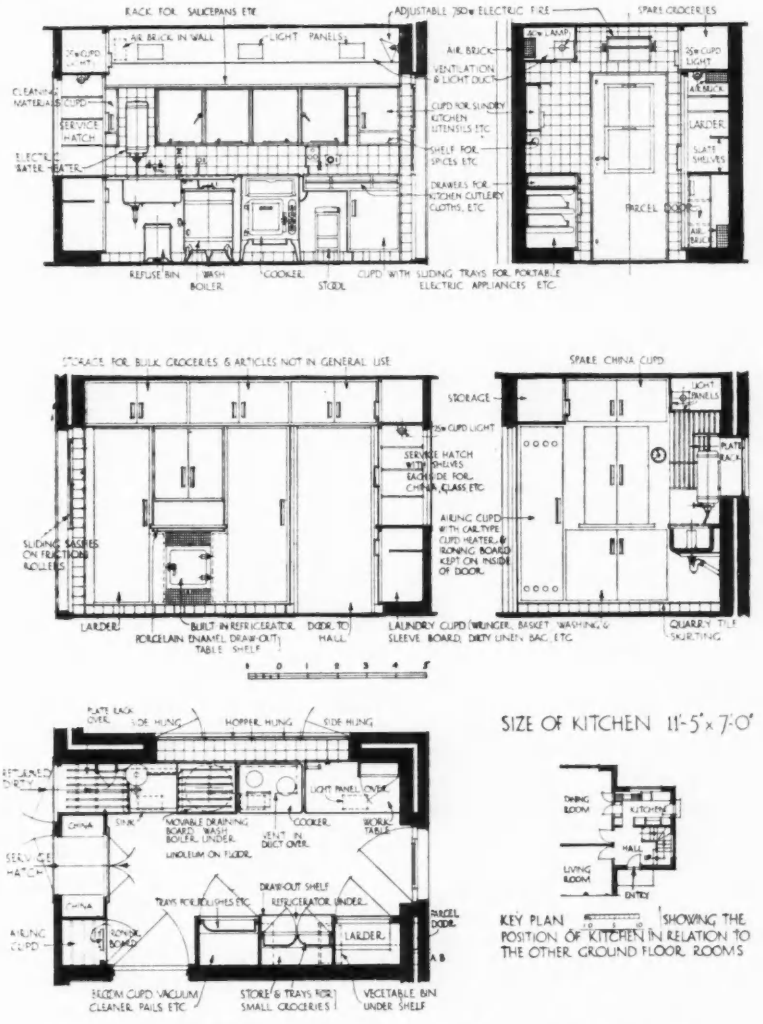
ARCHITECTS OF IRELAND

At the first meeting of the new Council of the Royal Institute of the Architects of Ireland, Mr. G. F. Beckett (President) in the chair, Mr. Louis F. Giron was unanimously appointed Vice-President, and Mr. C. G. Mitchell was co-opted to the Council.

The following committees were appointed: Professional Practice:—Messrs. T. J. Byrne, F. P. Sheridan and J. H. Webb. Arts:—Messrs. G. F. Hicks, L. F. Giron and J. J. Robinson. Publication:—Messrs. H. Allberry, S. M. Ashlin and T. F. Strahan. Premises and Finance:—Messrs. E. Bradbury, W. H. Cooke, F. Hayes and C. H. Mitchell. Board of Architectural Education:—Prof. R. M. Butler, and Messrs. G. Atkinson, T. J. Byrne, W. H. Cooke, L. F. Giron, V. Kelly, H. G. Leask, H. V. Miller and J. J. Robinson.

Library:—Messrs. T. L. Cullimore, R. C. Keefe and J. M. Fairweather. Representative on the R.I.B.A. Council:—Prof. R. M. Butler, M.Arch., F.R.I.A.I. Representatives of the Architectural Association of Ireland on the joint R.I.A.A. and A.A.I. Propaganda Committee:—Messrs. M. Robertson, W. H. Cooke and J. J. O'Gorman.

B.E.D.A. COMPETITION: WINNING DESIGN



Design placed first in Class 1 (house valued at £300-400) in the competition for designs of electrical kitchens. See Competition News on page 274.

SOUTH EASTERN SOCIETY OF ARCHITECTS

At a recent meeting of the Guildford Chapter of the above Society, held at Guildford last week, there was a representative gathering of members, students, and their friends under the chairmanship of Mr. T. R. Clemence, F.R.I.B.A. A selection of prize drawings by students of the Society were displayed; and Mr. P. A. Smith delivered a lecture upon the theory and practice of heating science.

MAIDSTONE ARTS AND CRAFTS SOCIETY

"The Exhibition of British Art," now being held at Burlington House, was the subject of lecture by Mr. St. Gui Bernard, at a meeting of the above Society on February 7.

Our art, he declared, was widely indebted to foreign influence, but it was also, in a sense, deeply national—reflecting primarily the innate reticence of the Briton. The keynote of British art, therefore, was one of quiet unassertiveness—an unassuming quality that resulted at times almost in an apparent lack of virility.

ARCHITECTS' WILLS

Mr. Maurice Bingham Adams, F.R.I.B.A., left £15,829 (net personalty, £12,148).

Sir Frank Baines, K.C.V.O., F.R.I.B.A., left £65,826.

Mr. Norman George Bridgman, of Paignton,

architect and surveyor, who died on September 7 last, left estate of the gross value of £12,113 0s. 6d. (net personalty, £8,663 7s. 6d.).

IN PARLIAMENT

[BY OUR SPECIAL REPRESENTATIVE]

Housing

Mr. Chorlton asked the Minister of Health if he would take any steps to ensure that the percentage of rehousing was not less than 70 per cent. in areas where it would impose hardship on the present inhabitants to move them to housing sites which were, as far as their means went, relatively distance.

Sir Hilton Young said that the avoidance of hardship of the kind suggested was certainly a principal object both of the local authorities in submitting their rehousing proposals, and of himself in considering those proposals. Local circumstances varied so materially that it would not be practicable to lay down any hard and fast rule in the matter.

Mr. D. G. Somerville asked the Minister of Health what had been the result to date of the inquiries which he caused to be instituted into the adequacy of the slum-clearance scheme in eleven towns.

Sir Hilton Young said that the result had been, as regarded eight of the towns, to furnish information necessary for the discharge of his responsibilities in respect of slum clearance under the Act of 1930, and he had communicated with the authorities concerned his conclusions on the reports made to him. The report on the inquiry at Bootle was still receiving his consideration; he was awaiting the inspector's report on the inquiry at Leicester, and he was making certain further enquiries of the Corporation of Croydon.

Mr. Hicks asked the Minister of Health whether he could state the number of houses which he had approved for Exchequer subsidy under the Housing (Financial Provisions) Act, 1924, in pursuance of the powers contained in the proviso to Section 1 of the Housing (Financial Provisions) Act, 1933: and the latest date for completion of these houses.

Sir Hilton Young said that the number of houses so approved was rather over 8,000. The nominal date for completion was March 31, 1934, but he was prepared to entertain applications for extension up to a date not later than June 30 next.

Major Nathan asked for the number of rural district councils in England and Wales which had made arrangements with private builders for the erection of working-class dwellings to be let under Section 2 of the Housing (Financial Provisions) Act, 1933.

Sir Hilton Young said that nine rural district councils had made arrangements with private builders of the kind referred to. Two others had such arrangements under consideration.

Major Nathan asked what was the estimated number of persons to be displaced and rehoused during the period 1934 to 1938 under the provisions of the Housing Act, 1930, by the operations of the London County Council, the Metropolitan borough councils, and the local authorities in the Metropolitan police district outside the administrative county area, respectively.

Sir Hilton Young said that it was estimated that about 150,000 persons living in the County of London would be displaced and rehoused during the period mentioned by the combined operations of the L.C.C. and the Metropolitan borough councils. The operations of the borough councils would be closely co-ordinated with those of the County Council, and would represent about 10 per cent. of the total. The number of persons to be displaced and rehoused by local authorities wholly or partly in the Metropolitan Police District, but outside the Administrative County area, was estimated as about 19,000.

Captain Strickland asked the Minister of Health whether his attention had been drawn to the housing scheme put forward by Messrs. Rees and Nicholson for the establishment of a national housing committee and a stable programme undertaken on a non-party basis: and whether he would consider the appointment of a committee of members of that House to examine these proposals and to report.

Sir Hilton Young said that his attention had been drawn to the scheme mentioned. As regards the last part of the question, he would invite his hon. and gallant friend's attention to the report issued last July of the Departmental Committee on Housing which was presided over by Lord Moyne and for the rest consisted of members of that House.

R. I. B. A.

PUBLIC LECTURES

The second of a series of public lectures, devoted to the development of modern architecture and its adaptation to everyday needs, was given at the Institute last evening. Mr. Edward Maufe, F.R.I.B.A., dealt with the subject of modern architecture in relation to the home.

R.I.B.A. PAMPHLET

The 1934 edition of the R.I.B.A. pamphlet *Membership of the R.I.B.A.* has now been published. Copies may be obtained from the Secretary R.I.B.A., price 1s. each, exclusive of postage.

The pamphlet, in addition to containing information regarding the Examinations and Membership of the R.I.B.A., contains full particulars with regard to architectural training, scholarships available at the Schools of Architecture recognized for exemption from the R.I.B.A. Examinations. Maps showing the local distribution of facilities available for architectural education in the British Empire are an important feature of the pamphlet.

COMPETITION

NEWS

B.E.D.A. COMPETITION RESULT

The result of the competition for the designs of electrical kitchens (organized by the British Development Association) was announced last week as follows:—

CLASS I (House valued at £300-£400). 1st Prize (£50), Mr. A. L. Osborne, of 15 Wyndham Place, London, W.1. 2nd Prize (£25), Mr. H. Pittaway, A.R.I.B.A., of 48 Umberslade Road, Selly Oak, Birmingham.

CLASS II (House valued at £800-£900). In the opinion of the assessors the two winning designs in this class were of equal merit and it was therefore decided to award the prize money equally in the form of joint premiums to:—Messrs. L. J. Couves and Partners, Architects and Surveyors, of Carliol House, Newcastle-upon-Tyne 1, and Mr. J. M. Clarke, A.R.I.B.A., of 2 Pentley Park, Welwyn Garden City, Herts.

The assessors were:—Messrs. R. S. Downe, M.I.E.E., Francis Lorne, F.R.I.B.A., Lionel G. Pearson, F.R.I.B.A., A. C. Cramb, M.I.E.E., and Miss Maughan, M.Sc.

A kitchen specially built and equipped according to the winning design (Class I) will be exhibited at the Building Centre, 158 New Bond Street, W.1, from February 26 to March 26 inclusive. During the same period there will be a special display of other electrical equipment for kitchens.

PUBLIC HALL FOR WOLVERHAMPTON

The Wolverhampton Borough Council have decided to build a public hall on the site fronting North Street and adjoining the existing Town Hall, now partly occupied by the old telephone exchange.

The Council have also approved the following two recommendations:—

(1) "That the Civic Centre Committee be authorized to arrange an open architectural competition for designs for the Public Hall, and to request the president of the Royal Institute of British Architects to appoint an assessor."

(2) "That the conditions of the competition be those approved by the Royal Institute of British Architects, together with such special conditions as to cost, accommodation, etc., as may be subsequently approved by the Council."

Commenting on the cost, at a recent meeting, the Lord Mayor said the premiums for the first, second and third prize-winners might be in the neighbourhood of £600 or £700.

Competitions Open

March 17.—Sending-in Day. Limited Competition for municipal buildings, etc., for the Stoke Newington Borough Council. (Twenty-eight firms of architects have been selected to submit designs.) Assessor: Sir Edwin Lutyens, R.A., P.I.A.A.S. Premiums: £250, £100 and £50. Full particulars were published in the *A.J.* for January 25 last.

March 26.—Sending-in Day. Façade in grey Cornish granite, for the Cornish Quarry Masters' Association. Open to all architects, architects' assistants, and architectural students. Assessors: C. Lovett Gill, F.R.I.B.A., Professor A. B. Knapp-Fisher, F.R.I.B.A., and Howard Robertson, F.R.I.B.A. Also, two members of the Cornish Quarry Masters' Association. Premium: £50. The design, etc., is to be sent to the Secretary, Architectural Association, 34-36 Bedford Square, W.C.1, by Monday, March 26. Full particulars of the competition may be obtained from the Secretary of the A.A.

THIS ARSHETECTURE

"One of the most attractive lay-outs in ultra-modern service flats has just been added to the residential amenities of Bournemouth .... An oak door, Gothic in style, has been provided for the main entrance, sheltered by a steel canopy filled in with opal glass ..."

From THE BOURNEMOUTH DAILY ECHO.

NEW STREET FAÇADES, HULL

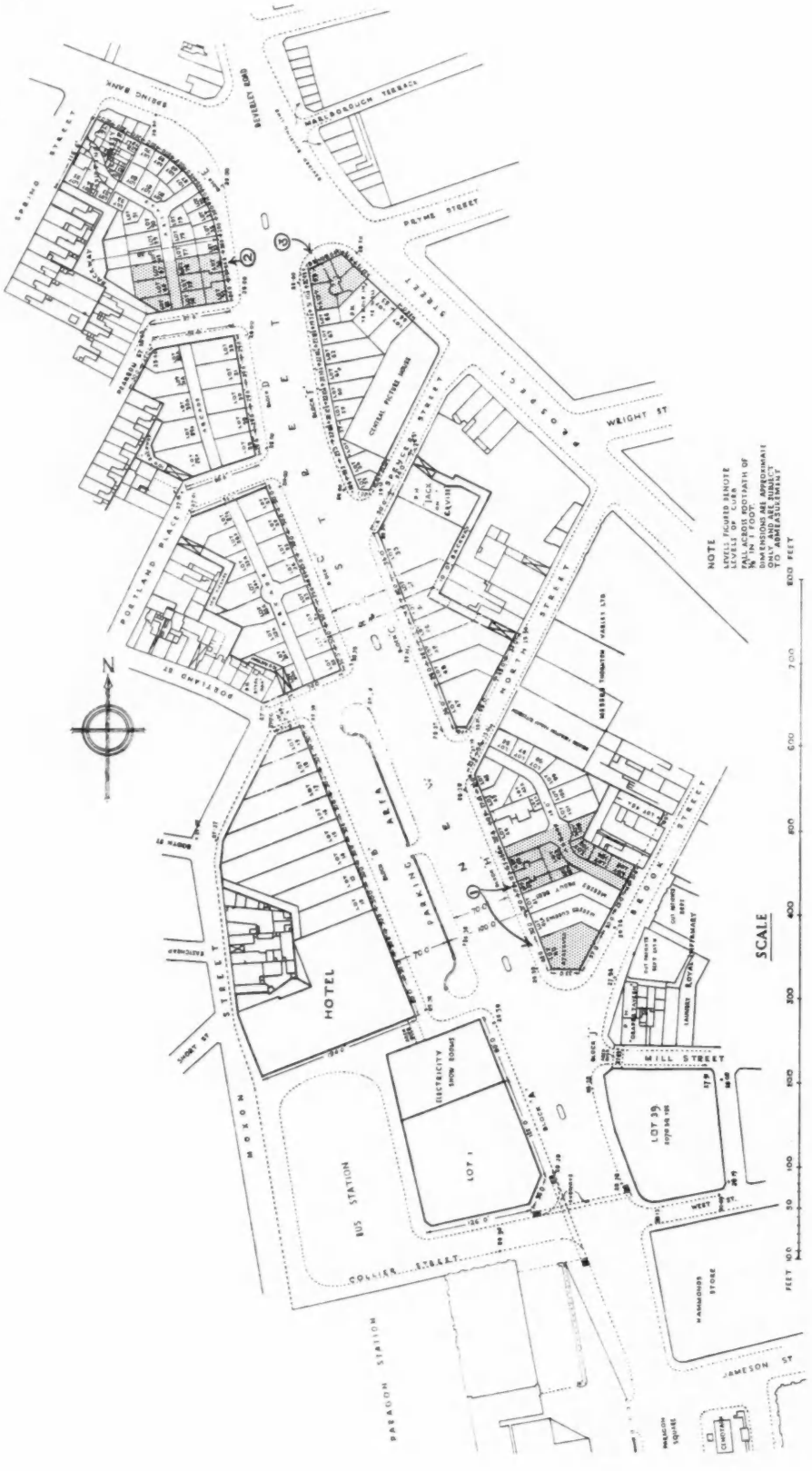
Ferensway, named after a benefactor of Hull, stands where five years ago was a slum. In 1924 it was decided to cut out this diseased core, and a town planning scheme of earlier date was revived which visualized a wide, new thoroughfare, 500 yds. long (destined to be the principal shopping and business centre of the city), cutting diagonally through this maze of mean streets from Paragon Station to Beverley Road. Parliamentary powers were obtained to proceed with the scheme, and the existing property was acquired, by the beginning of 1930, at a cost of £350,000. Provision was made for rehousing the occupants of this area on the outskirts of the city.

The Council decided that the new street should form one unified architectural entity. A competition was held at the end of 1929 for designs for the elevations of the whole length of the street and the side streets abutting thereon. Sir Reginald Blomfield, R.A., the assessor, stipulated that the elevations should be of 2 in. multi-coloured bricks with Portland stone dressings, 50 ft. high to the cornice, and with string courses at the height of 14 ft. 6 ins. and 25 ft. It was also a condition that the more important side streets should be arched over where they intersect the main thoroughfare. The competition was won by Scarlett and Ashworth with a simple design of eighteenth-century character, as was more or less implicit in the conditions of the competition.

The illustrations show: Above, one of the drawings submitted in the competition. Below (left), the main façade, facing Ferensway, of Shell House. Right: Block of flats at the corner of Ferensway and Prospect Street.

BY SCARLETT AND ASHWORTH

NEW STREET FAÇADES, HULL:



LAY-OUT PLAN

1: *Government Departments, now in course of construction.* **2**: *Shell House (Shell-Mex and B.P. Offices).* **3**: *Prospect House (flats).*

BY SCARLETT AND ASHWORTH

The sites on the new street were divided up into lots at ground rents varying according to their position, to be let on building leases of 89 years, after which time has elapsed the buildings become the property of the Corporation. The Corporation proceeded with the development of the street by erecting the first buildings themselves, for which purpose a Ministry of Health loan was obtained. Scarlett and Ashworth were appointed architects.

The first building was a block of offices leased by Messrs. Shell-Mex and B.P. Ltd. (Fig. 2, lay-out plan), which consists of shops on the ground floor and four floors of offices over. The site presented unusual difficulties. Most of Hull stands upon a strata of black silt, necessitating piling, and owing to the presence of underground water the basements have been constructed as waterproofed reinforced concrete tanks.

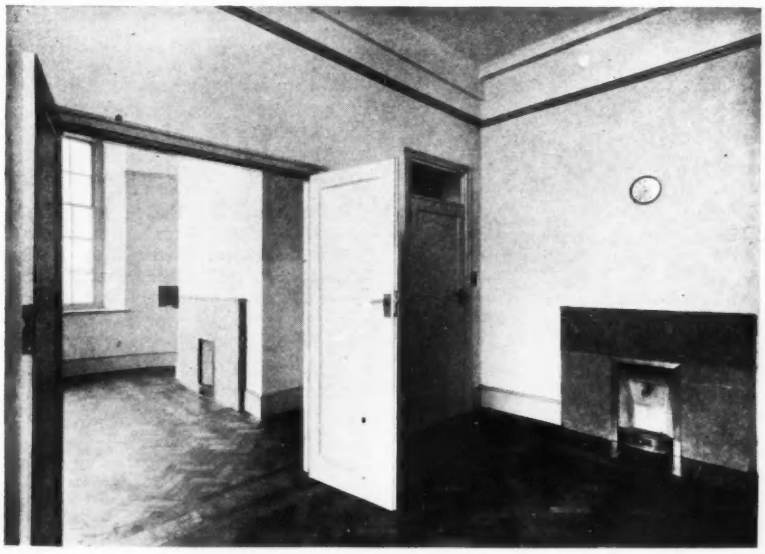
On the corner site opposite Shell House the Corporation have built a block of flats (Fig. 3, lay-out plan), the first of their kind in Hull, the only previous blocks of flats being working-class tenements. This building contains eight flats, each with dining room, drawing room and two or three bedrooms. The flats are served by two lifts and a semi-circular reinforced concrete staircase. The site is on an irregular corner and presented difficulties of planning at obtuse angles.

Further along the street two blocks of offices are in the course of construction which will house Government departments (Fig. 1, lay-out plan). To connect up Ferensway more closely with existing shopping streets and to develop more back land, an arcade has been built running through the ground floor of one of these buildings leading to one of the side streets. As this arcade relies largely on artificial light, the conservative style of the façades has been somewhat relaxed and modern materials used. The shop fronts are of stainless steel with black glass fascias and Napoleon marble surrounds, illuminated by reeded glass lighting strips. The upper floors of these two buildings consist of open office space capable of subdivision to tenants' requirements.

Other buildings erected or in course of erection by private enterprise include the Broadway Tavern, a super cinema and another office and shop building. The Hull Corporation Electricity Department also have erected new showrooms and offices. All these new buildings conform more or less to the competition elevations.

The work of constructing the roadway and pavements was carried out by Mr. H. Hamer, the City Engineer. It is 100 feet wide, with footpaths 15 feet wide and a 70-foot carriageway, and is constructed of reinforced concrete on the alternate bay system.

The partnership between Scarlett and Ashworth has now been dissolved, and the work for the Hull Corporation is being carried out by Mr. Frank Scarlett, under whose name the firm is now known.



Above: Entrance vestibule to block of flats at the corner of Ferensway and Prospect Street, showing the staircase. The panelling is of Australian walnut with ebonized base.

Left: Typical interior of one of the flats. The fireplace is of Roman stone and stainless steel. Each flat has a synchronized clock.

LETTERS FROM READERS

WESLEY DOUGILL, B.ARCH., A.R.I.B.A.
D. L. BRIDGWATER, B.ARCH., A.R.I.B.A.
H. T. BROCK GRIGGS (British Union of Fascists)
JAMES BURFORD, A.R.I.B.A.
A. G. GIBSON
INTERESTED
A. RANDALL WELLS

Competitions

SIR,—After generating a great deal of excitement in the architectural world, the Bexhill Entertainments Hall Competition has been assessed, won and lost. The competition presented or enjoyed all the ingredients necessary for a bumper entry—an attractive programme; a stipulation in the conditions that the building should be on modern lines; a scarcity of architectural work in the country; a competent and open-minded assessor; a period of architectural uncertainty and a (perhaps inflated) belief in the minds of many that the Bexhill Competition would set the seal on future design and would go a long way towards settling the vexed question of "modern" *versus* "tradition." The ingredients mixed perfectly and an entry of 230 was the result.

In cold figures, what do these 230 schemes represent? Probably something like this: each scheme required the equivalent of two men working full time, ordinary office hours, for a period of two months. At five pounds each per week, for the 230 schemes, this amounts to £18,400. (The figures are kept to what seems a reasonable minimum in order to combat any possible charge of deliberate exaggeration.) To the £18,400 must be added the cost of say 200 partially completed, but not submitted, schemes, £3,000; travelling to inspect the site, £200; delivery and return of plans, mounting, paper, expenses incurred by the promoters, say £1,000. We thus arrive at a total of £22,600, nearly one-half of the originally stipulated cost of the building.

Very few people, if any, would question the immense value of competitions as media for arriving at an efficient scheme, unearthing latent talent, giving young architects their opportunity, acting as stimulating agents to architecture generally, and, not the least important, providing exhibitions of designs and provoking publicity in the localities concerned.

But can the unstricted Open Competition for small and medium-sized buildings, like the one at Bexhill, be defended in these days when efficiency and economy are the passwords? The same set of "ingredients" as at Bexhill will recur—the probability is that we shall have a spate of competitions in the next few years—and we might easily have not 230 schemes, but 430 or more. The Limited Competition offers one alternative, but universal application of it is not desirable in that some of the chief advantages inherent in the competition system are not open to it.

Would it not be infinitely better to divide the country into eight regions and to restrict the competitions for small and normal-sized buildings in any one region to architects within that region? The regions would correspond with the areas of every three or four allied societies, and would be so devised that each one contained approximately the same weight of urban development, and could therefore be expected to promote the same, or nearly the same, number of competitions. Such a system would certainly have the overwhelming advantage of ensuring a sense of proportion in the numbers of competitors, and would place the whole competitive process on a more reasonable and dignified basis. Exceptions to the method advocated could be made in the case of major buildings and those of national significance, where an open field would appear desirable.

Granted acceptance of the hypothesis that competitions are beneficial, and in the best interests of architecture, then it follows that if the restrictions of the field as suggested above are put into operation, there should be a corresponding increase in their numbers. Is it not possible, by propaganda and other means, to stimulate very considerably the holding of competitions for, at any rate, public buildings? Also, is it not possible to bring to light many of the private competitions which are unheard of generally?

What is wanted is a spreading out of the benefits of the competition system, rather than concentration on a few isolated cases. After all, even if there are as many as 500 schemes submitted in a competition, only one of those schemes can be executed.

WESLEY DOUGILL

Alien Architects Invade Britain

SIR,—Most architects and *all* artists will surely deplore the outlook depicted in some of the correspondence you published in your last issue.

Mr. Mendelsohn's scheme, in an open competition, was adjudged by a brilliant architect to be the best. If he can produce a scheme better than any English architect, surely we should be thankful for the chance of employing him.

Do those who object to Mr. Mendelsohn being employed expect us, when that fine Concert Hall is finished, to refuse to listen to the Bexhill Orchestra playing Brahms, or Schumann, or Mozart, and to booh when the local authorities are lucky enough to get Mr. Menuhyn to give a recital? Are we, when the Bexhill Council acquire a Cezanne or Van Gogh, to pelt it with rotten eggs?

Perhaps there will be no chance to do any of these things. Perhaps, immediately after the Mendelsohn building is erected, those who hope to control the future of this country will destroy it with artillery fire, in a manner similar to the recent destruction of the Karl Marx Hof and other Viennese workers' dwellings—seeing first of all, of course, that the building is fairly full of the wives and children of the Bexhill work people.

D. L. BRIDGWATER

SIR,—With reference to the comments and correspondence published in your last issue under the above heading, I should like to make a few observations and to ask a few questions.

You attempt, unjustifiably, to reduce the question from one of principle to one of a particular person and a particular nationality. The position is the same regarding immigrants of any nationality.

I should like to emphasize that the article you reprinted from the *Fascist Week* was published before the result of the Bexhill Competition was known.

Turning to Lord De La Warr's letter, the reasons which his Lordship puts forward, regarding the immediate subject of his letter, merely place the responsibility on the R.I.B.A., and what he says suggests that the particular case to which he refers is a single exception to a rule. Is this so? What have the R.I.B.A. done in the matter generally?

The plain fact is that this country is not in a position to support foreigners. Every time a foreigner does a job in this country a Briton is correspondingly out of the job. Deny that if you can.

H. J. BROCK GRIGGS

[*We do not attempt to deny it. Senator Marconi no doubt displaced a Briton when he "did a job" in this country in the early days of wireless. Wireless on the other hand has given a good many jobs to a good many Britons.*—ED., *A.J.*]

SIR,—The fact that I am part author of one of the designs commended in the Bexhill Competition does not deter me from joining the argument which has arisen round it.

We understand that Mr. Mendelsohn was given permission to practise in this country subject to the approval of the R.I.B.A., and we learn that the R.I.B.A. gave that approval by reason of his distinction as an artist. In other words, it appears that the

R.I.B.A., just at that moment, wished to encourage the type of work for which Mr. Mendelsohn stands.

There is strong public protest at the result of this competition. The public generally will not discriminate between the design and its author.

If the R.I.B.A. wished to encourage this kind of work it could scarcely have chosen less fortunate means of doing so. Or are we to assume that the R.I.B.A. was subtle enough to take this way of discouraging it?

JAMES BURFORD

Eastbourne's Sea Front

SIR,—The fact that the architectural press has at last realized the merits of Eastbourne's magnificently conceived scheme for the laying-out of its water front gives me infinite pleasure, for we are naturally—and I hope justly—proud that we possess within our own boundaries the genius to produce so perfect a piece of design that it not only accords well with the spirit of our town, but at the same time has in it the very essence of this age, and this age alone.

It seems to me to support most pungently Sir Giles Gilbert Scott's advice to students on the necessity of being a gentleman—and I am glad to say an English gentleman—as well as an architect. We have always prided ourselves in this town on our finer sensibilities towards the social and artistic activities of man, which I am told are the essential greasepaints in the make-up of a gentleman, at the same time preserving that narrowly national and insular outlook that has happily saved us from committing so grave a blunder, both politically and æsthetically, as have our neighbours at Bexhill. Capital, sir, capital!

A. G. GIBSON

Ships' Interiors

SIR,—Referring to the articles contained in your JOURNAL for January 25, in connection with the interior decoration of modern liners, I do not propose to enter into correspondence as to the merits or otherwise of the views expressed, but would like to draw your attention to some inaccuracies.

(1) The *Empress of Britain* does not rank fourth in the list of average carryings of 1st class passengers across the North Atlantic during 1933. The *Ile de France*, *Europa*, *Bremen*, *Aquitania*, *Berengaria* and *Majestic*, all come ahead of her.

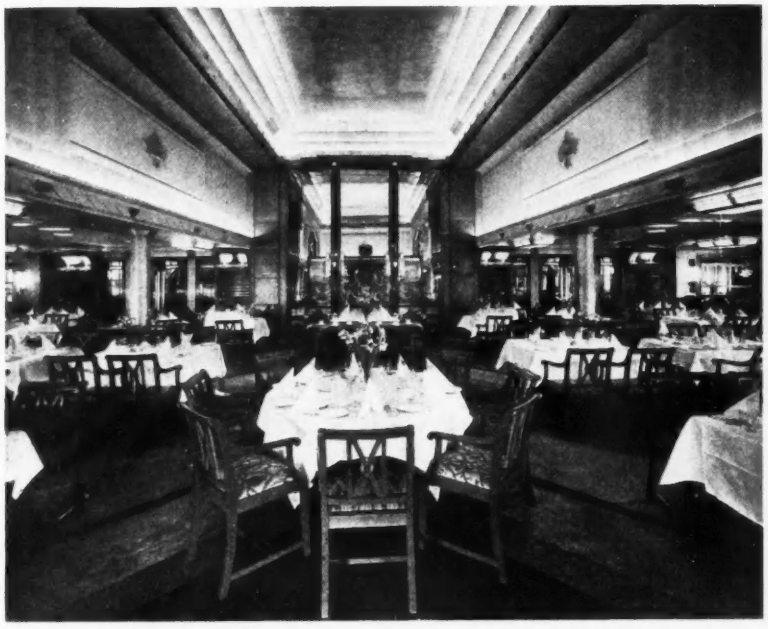
(2) The *Georgic* is not decorated in Period style, as stated on page 146.

(3) Illustration No. 2 on page 150 is not the interior of the Lounge of the White Star liner *Majestic*, it is the Palm Court at the entrance to the Restaurant.

(4) The North German Lloyd did not make a profit in 1932 as stated on page 153. A reference to their Balance Sheet for 1932 shows a loss considerably larger than that of the British company referred to.

INTERESTED

[*We regret that we should have referred to a "palm court" merely as a "lounge." A statement to the effect that the North German Lloyd made a small profit in 1932 appeared in the Press in the early part of 1933, and was never refuted. We have approached the N.G.L., but have not yet received an answer. The "Georgic" is decorated in period style, as the above illustration shows. Its decoration is of that kind generally associated with the Paris Exhibition of 1925, for which the word "moderne" has been coined, and "moderne," like "Louis," is "period." "Interested," no doubt appreciates the distinction which can be drawn between modern and "moderne."*—ED., *A.J.*]



The dining saloon of the "Georgic." See letter on this page.

Architects' (Registration) Act, 1931

SIR,—As an unattached registered architect I have received a circular letter from Mr. Raymond Walker, which in effect solicits my vote for his candidature for the Architects' Registration Council.

I was on the original committee of nine appointed in December, 1931, to constitute the first Council. That Council had its first meeting in March, 1932, and I have sat on it since that date. I am a member of the Board of Architectural Education, the Admission Committee, the Amending Act Committee and various other committees.

As the only unattached registered architect with this full experience, it may be of interest to other unattached architects to learn why I am not voting for Mr. Raymond Walker.

1. His offer of service is based upon misinformation. The offer, therefore, is of no value, e.g.:

There are no proposals for reorganizing the Registration Council.

There have been no suggested amendments to the Act threatening the extinction of the unattached architect.

There is no reason to believe that the R.I.B.A. are trying to obtain a monopoly through the Architects' Registration Council denied them by the Act.

The R.I.B.A., having the largest number of registered members, have naturally, as in all democratic bodies, the greatest voting power. This is not a grievance, and it seems silly to try and make it one.

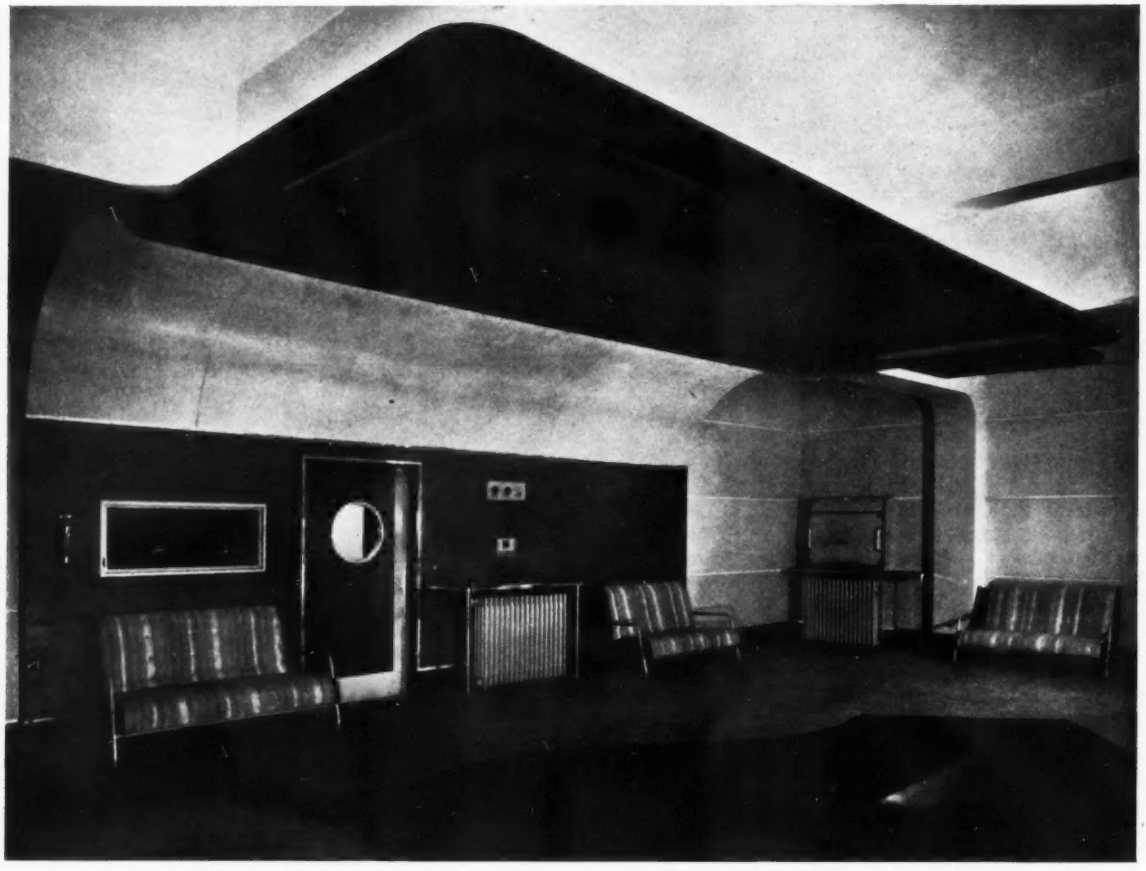
2. Competent representation of the unattached must come from the *bona fide* unattached. It does not appear desirable that votes should be given to a man who resigns from an architectural body so as technically to qualify himself as unattached to stand for the Council.

The sentence in the circular ". . . having resigned to take up the cause of unattached architects," smacks of impertinence. The unattached will, I believe, feel that they are capable of looking after their own cause.

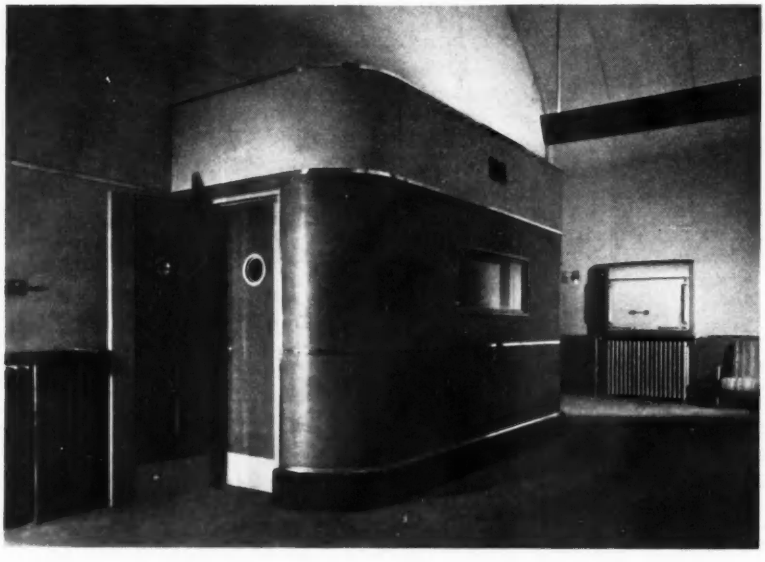
A. RANDALL WELLS

[*Owing to pressure on our space, we are compelled to hold over several letters from this issue.*—ED., *A.J.*]

B. B. C. STUDIOS, BIRMINGHAM:

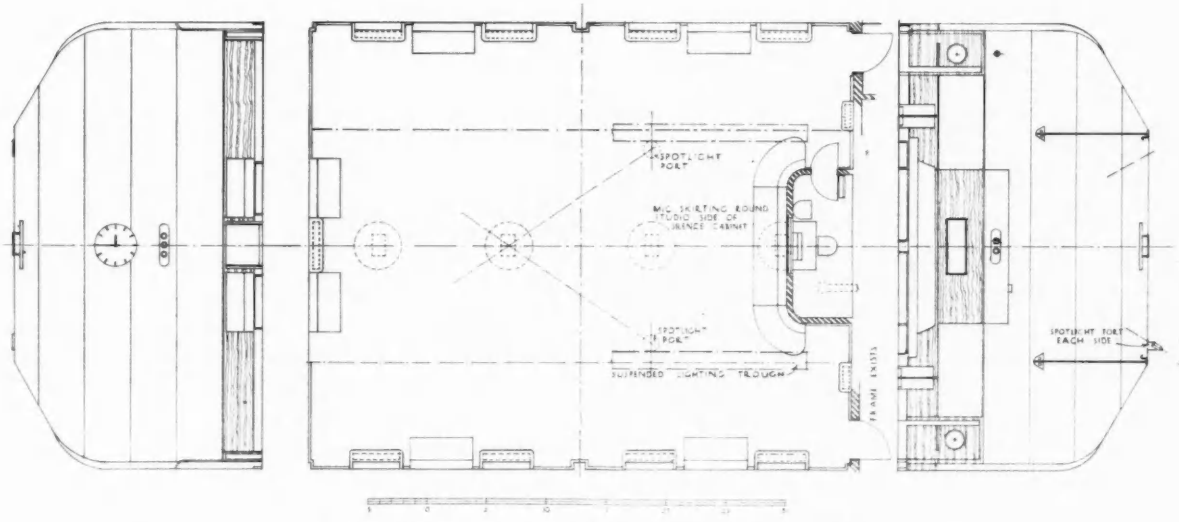


The general view of Studio No. 1, illustrated above, shows the false ceiling containing extract ducts and with a lighting cove on all sides. The walls and suspended ceiling are acoustically treated, the ceilings and beams being painted. Below: Exterior view of the Silence Room to Studio No. 4. This room is specially insulated with double doors.



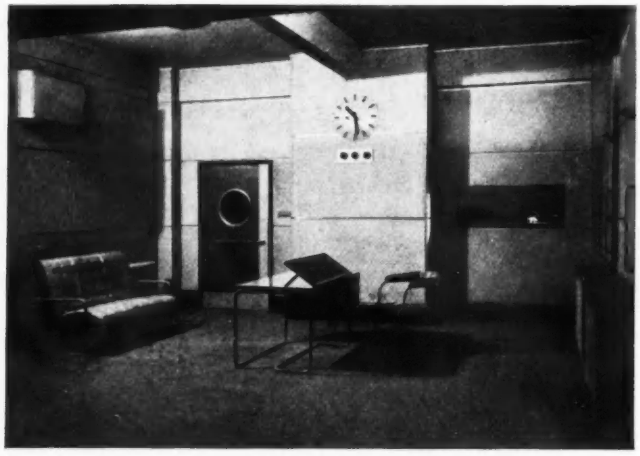
B Y S E R G E C H E R M A Y E F F

Above: The walnut vestibule doors leading to Studio No. 1. The metalwork is anodized stainless steel, the walls have a white matt finish and the ceiling is painted with full gloss pale green enamel. Right: A view of Studio No. 1 from the vestibule, showing the three-piece chorus table arranged for rehearsals. The three sections of the table nest for storing. Below: Plan and elevations of Studio No. 4.



STUDIO No. 4: PLAN AND ELEVATIONS

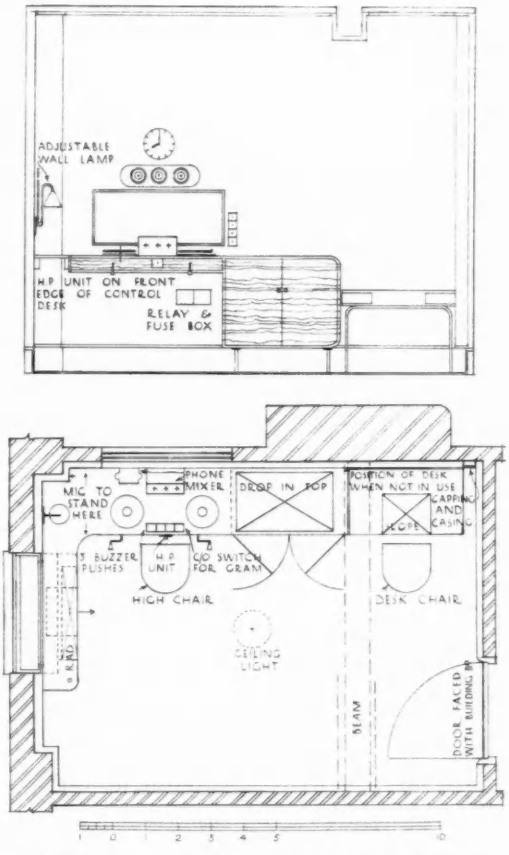
B. B. C. STUDIOS, BIRMINGHAM



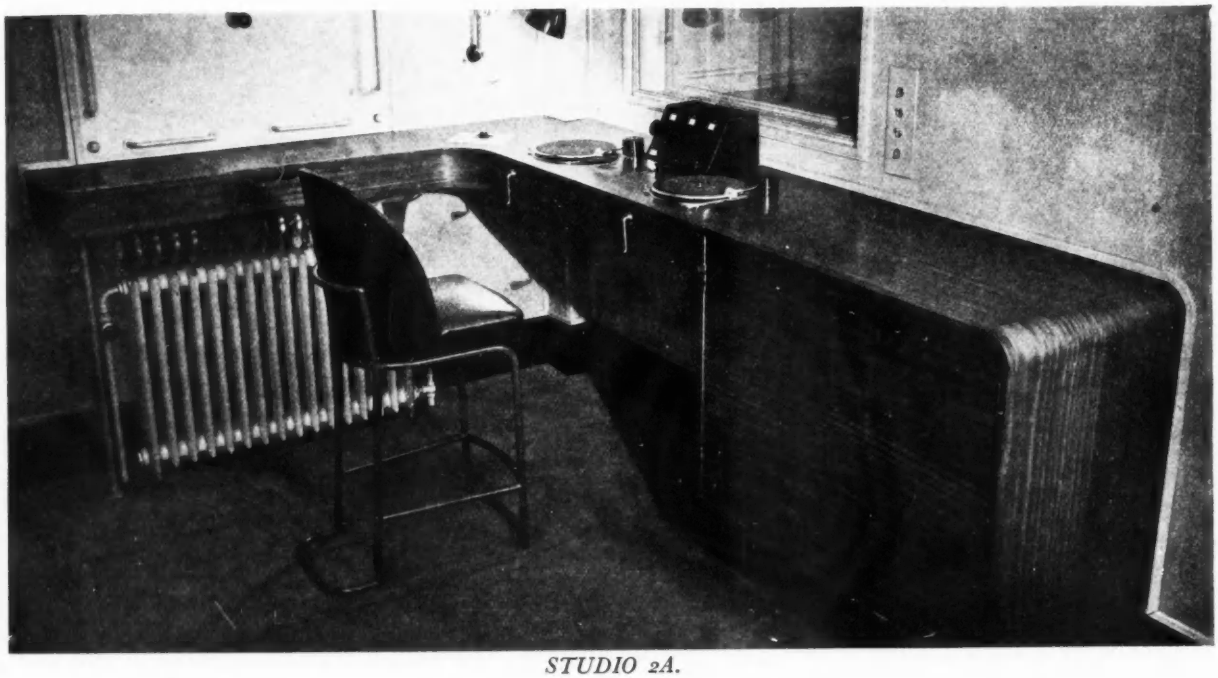
STUDIO 2.

The silence room end of Studio No. 2, shown above, is designed to fulfil the double purpose of Chamber Music and Emergency Talks Studio. The talks desk is specially designed to give maximum flexibility of arrangement, with a removable reading flap and squared top for every microphone position marking.

Studio No. 2a, of which a plan, elevation and photograph are shown on this page, serves as a silence room to Studio No. 2, and as a Gramophone Room. The fitment contains turntables, a large cupboard, transformers and other technical installation. The walls are treated with rock-wool, with a protective covering of thin fabric, and the woodwork is waxed mahogany.



STUDIO 2A. PLAN AND ELEVATION



STUDIO 2A.

DESIGNED BY SERGE CHERMAYEFF

WORKING DETAILS : 5

LIGHTING TROUGHS • B.B.C. STUDIOS, BIRMINGHAM • SERGE CHERMAYEFF

A general view of Studio No. 4. This studio is designed for use for large orchestral performances, choral work and music hall, and, apart from the general lighting, is equipped with special spot lights for dramatic effect.

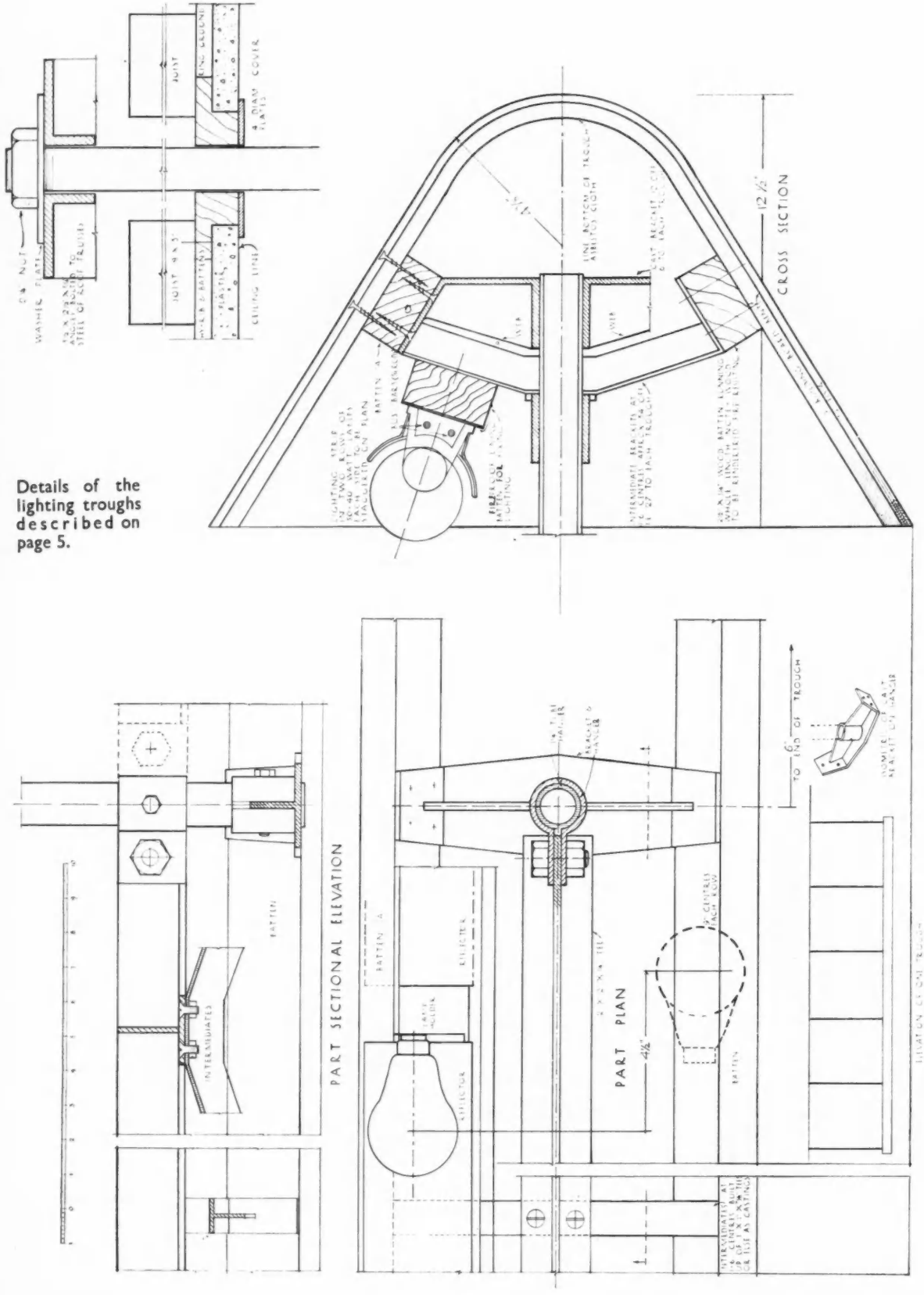
The large lighting troughs, built of plywood on aluminium framing, are suspended by polished aluminium tubes from the main ceiling, which has a hard reflective surface, the walls and coves are acoustically treated.

The woodwork is stained birch; the lighting troughs are painted light blue; the reveals to the air intake cases are dark blue and so is the upholstery.

Detail drawings of the lighting troughs are illustrated on page 6 of this series.

WORKING DETAILS : 6

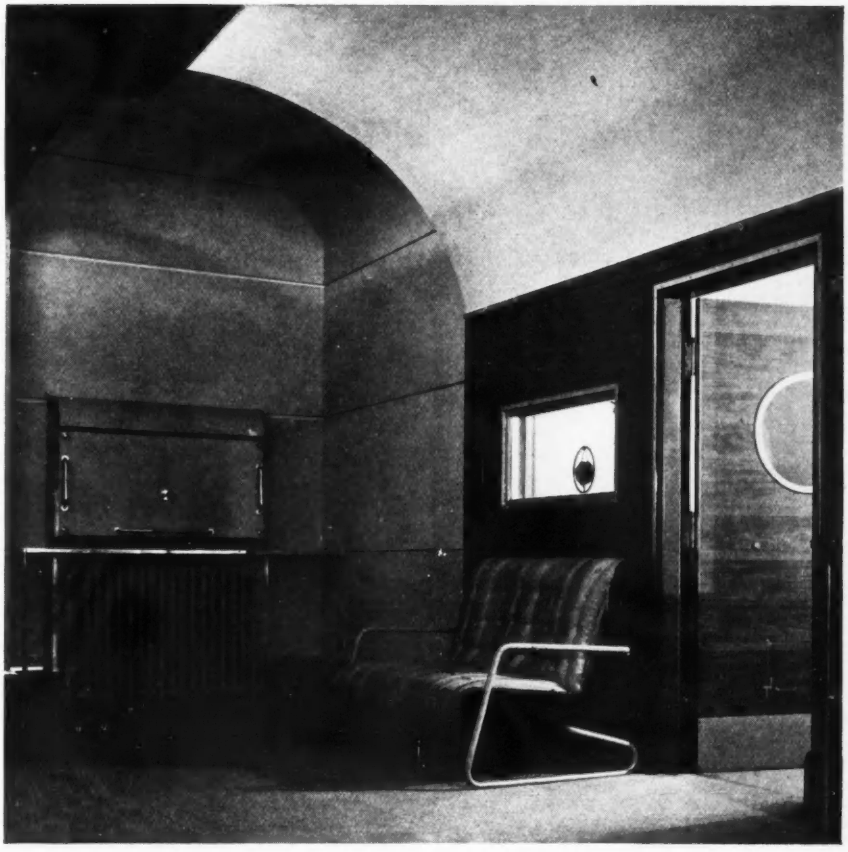
LIGHTING TROUGHS • B.B.C. STUDIOS, BIRMINGHAM • SERGE CHERMAYEFF

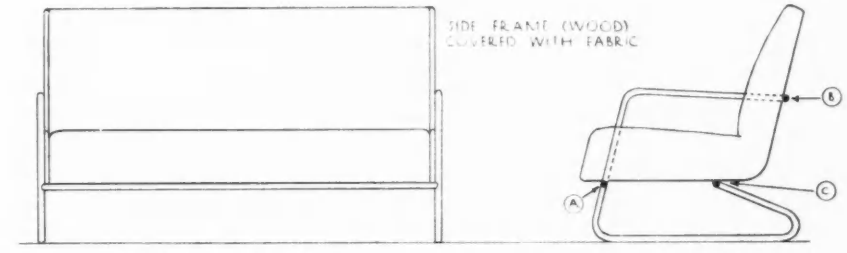


Details of the lighting troughs described on page 5.

WORKING DETAILS : 7

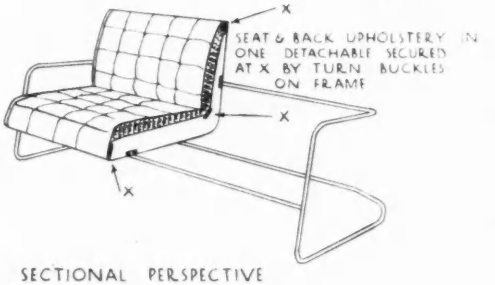
SETTEE • B.B.C. STUDIOS, BIRMINGHAM • SERGE CHERMAYEFF





FRONT ELEVATION SIDE ELEVATION

(A) TUBE SCREWED TO SEAT FRAME
(B) TUBE SCREWED TO BACK FRAME
(C) ROLLING CONTACT

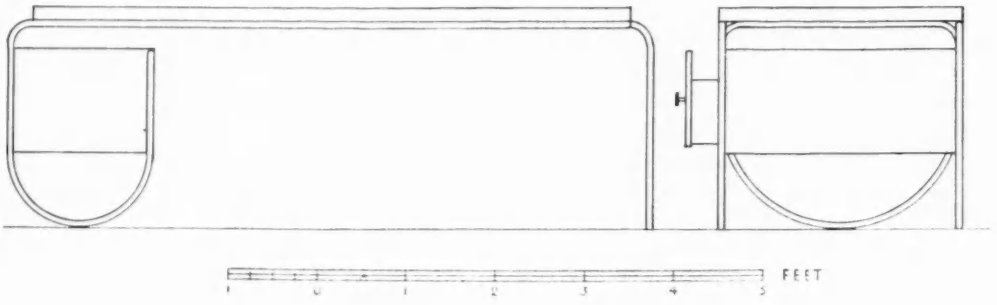


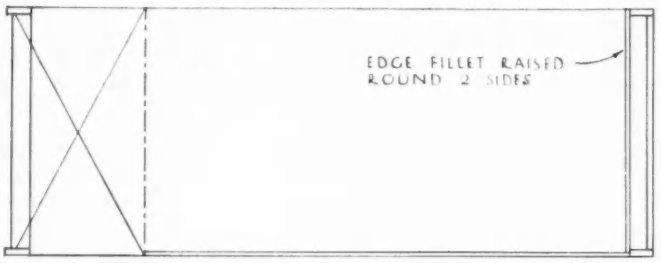
SECTIONAL PERSPECTIVE

Studio No. 1, showing settee, of which detail drawings are here reproduced. The Settees are standardized throughout the studios. The upholstery is removable in one piece for cleaning and is carried on a stove enamelled steel tube frame.

WORKING DETAILS : 8

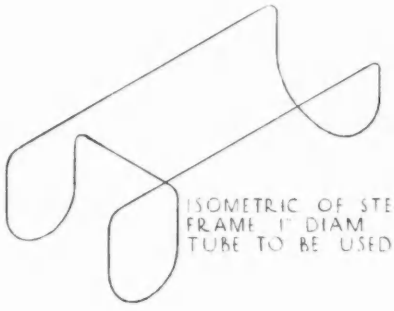
DESK • B.B.C. STUDIOS, BIRMINGHAM • SERGE CHERMAYEFF

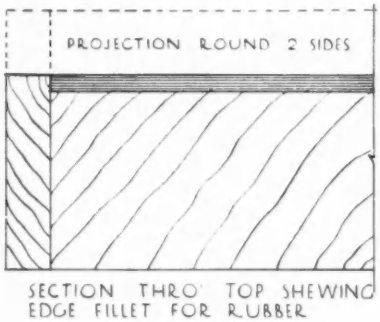




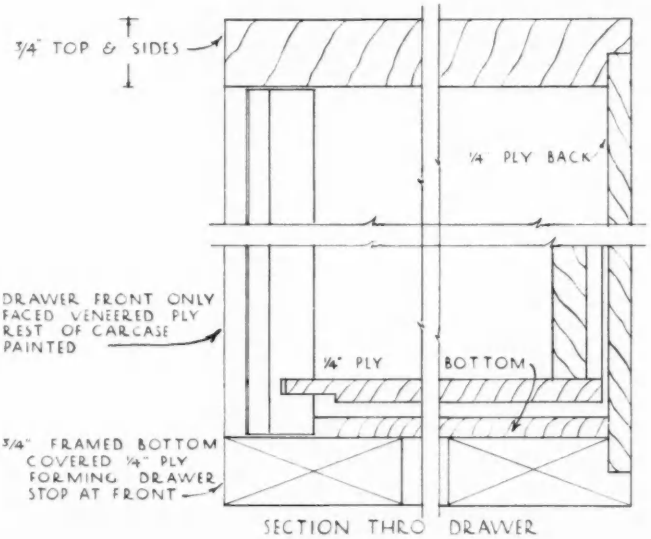
FILING DRAWER FITTED WITH STDD TIGHTENER INSIDE

TOP OF DESK STANDARD FLUSH DOOR FOR PAINTING. 6'8" X 2'8" EDGES COVERED

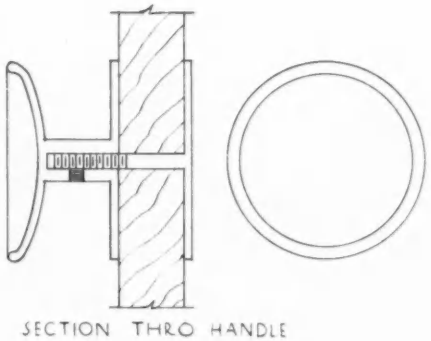




SECTION THRO' TOP SHEWING EDGE FILLET FOR RUBBER

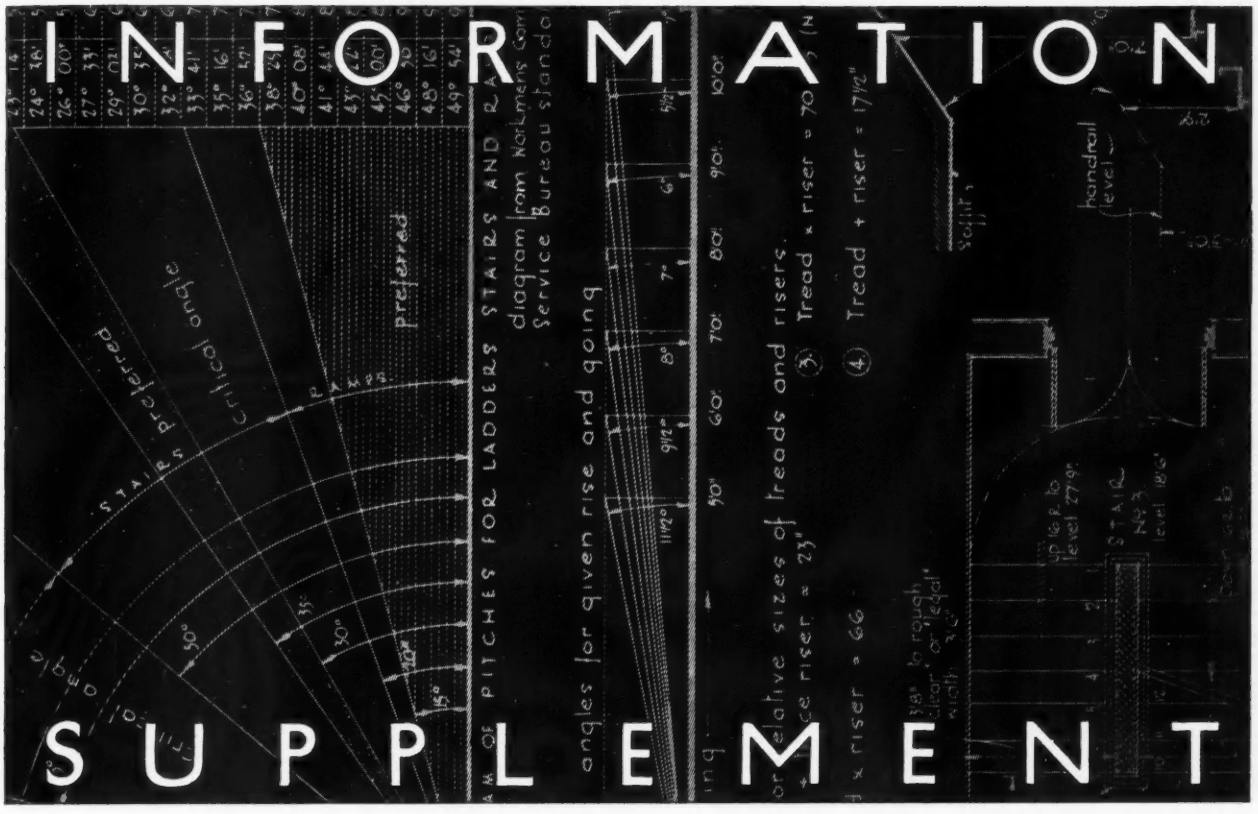


SECTION THRO DRAWER



SECTION THRO HANDLE

Detail of the Midland Regional Director's desk. A standard birch faced door has been used for the top, and birch ply for the filing drawer front. The rest of the woodwork is walnut. The whole is carried on a chromium-plated steel tube frame.



4: CALCULATIONS FOR STEELWORK

[*By RICHARD LANGLEY, A.M.I.Struct.E.*]

The introduction of the L.C.C. Code of Practice for Steelwork in 1932 resulted in the available steelwork calculation tables, such as many architects use in the course of their practice, becoming out of date; and a great deal of confusion and wastefulness has resulted from the lack of new figures based on the new Code. Further confusion has been caused by changes in the obtainable standard rolled sections caused by the issue of the British Standard Specification in the same year. We therefore give in the following pages, as the fourth of our series of Information Supplements, a number of tables drawn out by a structural engineer for his own use

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INTRODUCTION

THE past six years have seen a great change in the design of steelwork for buildings. From 1909, when the London Building Act permitting steel frame buildings was passed, until 1927, designers in London were compelled to follow that Act with few waivers or relaxations. Outside London there was not this control, but unless engineers were in close touch with the Local Authority, the conditions under which designs had to be carried out were generally uncertain.

In 1927 the Institution of Structural Engineers issued its Report on Steelwork for Buildings, Part 1: Loads and Stresses. This did not produce order out of chaos, but many provincial towns accepted it as a basis for design, and many of its recommendations could be obtained as waivers from the London Building Act under subsection (34) (and (1) of Section 5 of the Act of 1923), notably the increase in stress on beams from 7½ to 8 tons per square inch, and, with one slight modification, the stanchion stresses.

The London Building Acts were consolidated in 1930 without alteration. The Code of Practice was issued in 1932 "as a basis of consideration of applications under Section 58 of the London Building Act, 1930, for relief

from the provisions of the Third Schedule to the Act." (The Third Schedule was verbally the same as the London Building Act of 1909, with the modification of 1923, and Section 58 similar to the previous subsection 34.)

In the same year came the British Standard Specification for the use of Structural Steel in Building (B.S.S. 449). Both this and the Code of Practice were based on the recommendations contained in the First Report of the Steel Structures Research Committee published in 1929 by the Department of Scientific and Industrial Research. At the same time the Institution of Structural Engineers was reconsidering its previous report, and in 1933 a revised edition was issued. In many points it resembles the Code of Practice and B.S.S. 499, but amplifies some of the points only lightly touched on by the other two, the most interesting of these being the definition of end fixity for stanchions.

Concurrently with these changes in method of design have been the alterations in rolled steel joists and channels. The original B.S.S. No. 4 was published in 1903. With few modifications the series covered by this specification remained in use until B.S.S. No. 6—1924 provided an entirely new range. It was expected that as rolls wore out, the old sections would give way to the new, but many of the old sections had properties which compelled their retention. So in 1932 a selection of both the old and new sections was made and published in B.S.S. No. 4—1932.

This specification gave forty rolled steel joist sections, and in the beam tables on pages 289-291 I have included all these, together with eleven of those specified in B.S.S. No. 4—1903 and B.S.S. No. 6—1924, which continue to be rolled. As far as I am aware, no such complete list has previously been published. Another reason for present confusion is that the uniformly distributed loads for the 1903 sections must usually be taken from tables prepared for a stress of $7\frac{1}{2}$ tons per square inch.

All structural engineers and architects engaged on steel frame buildings should possess B.S.S. No. 499, and if their work is in London a copy of the Code of Practice is equally necessary. For an explanation of these, Donovan H. Lee's *Steelwork in Buildings* will be found useful.

I wish to acknowledge the kindness of the British Standards Institution, 28 Victoria Street, S.W.1, in permitting me to take the properties of the rolled steel sections which appear in these tables from the B.S. Specifications referred to above.

NOTES ON THE TABLES

(The numbers which follow the letter "S" refer to the relevant clauses in B.S.S. No. 499, and those which follow "C" to the similar clauses in the Code of Practice.)

TABLE 1. *R.S.J's. IN ORDER OF MODULI. (S: 14, 15, 18, 19, 25. C: 36, 37, 40, 41.) Arranged in this order, one has a rapid means of selecting the most suitable section for the conditions required. Thus if a joist having a modulus of 57·5 is wanted, it will be found, working from low to high, that the first to possess this is a 10 × 8 — 55, a heavy section. Continuing up the column the sections increase in modulus and depth, but, as far as the 15 × 6 — 45, decrease in weight. This, therefore, is the most economical joist if modulus is the only consideration. Other possible sections are the 12 × 6 — 54 and the 14 × 6 — 46 which lie intermediately. Lacking other instructions, it has been assumed that provision is made against buckling if the web is considered as a pillar having a length equal to the distance between the intersections of the inner flange faces with the centre line of the web, and an end fixity which restrains it in position and direction.*

For grillage beams encased in concrete the stresses may be increased by 50 per cent. The moduli for beams having one or two flange holes deducted are also given. These are for use when it is necessary to hole a beam either in cranking it or making a flange connection.

TABLE 2. *UNIFORMLY DISTRIBUTED LOADS ON R.S.J's. (S: 14, 17, 23 and J. C: 12, 36, 39.) Up to a span of 24 times the depth the stress is the governing factor; past this, the deflection. The joist's own weight and the weight of casing must be added to the external load when using the table. Beams must have a minimum fireproof casing of 2 in. on each side and soffit, while 1 in. is required on top. The side cover on one side may be added to the breadth of the beam when considering lateral support.*

TABLE 3. *BENDING MOMENTS FOR FILLER FLOORS. Bending moments per foot width are given for a range of inclusive floor loadings and a range of spans. The table WL/8 is to be used for all floors where the fillers rest on shelf angles. If they are unbroken and run over the top of the supporting joists, the table WL/10 may be used for end bays and WL/12 for intermediate bays, provided that no greater moment of resistance is assumed than that of a filler floor with 1 in. cover, or whatever greater cover may be the least employed either above or below the fillers.*

TABLE 4. *MOMENTS OF RESISTANCE OF FILLER FLOORS. (S: 16, 17. C: 38, 39.) Having found the bending moment per foot width, the most suitable combination may be selected from these tables, noting that the maximum permissible span is not exceeded. As the wording is not very definite, it is sometimes assumed that fillers may in any case be stressed to 9 tons per square inch. The side columns give moments of resistance on this basis.*

TABLE 5. *ROLLED STEEL STANCHIONS. (S: 18, 19, 20. C: 40, 41, 42.) A selection of the most useful sections has been taken. The loads are for "Unit" length, that is, as pillars without top or bottom fixity. As the degree of fixity determines the "designing length" shorter lengths may be used in many cases, though in some a reading will have to be taken from a greater length. The flange and web eccentric coefficients given in the last column of the upper table have no authority under B.S.S. No. 449 or the Code of Practice, but they follow general practice in assuming that central flange and web loads are applied at 1 in. from the stanchion face.*

TABLE 6. *STANDARD GRILLAGES. (S: 15 and K. C: 37, 48.) The grillages have been designed for a pressure on concrete of 20 tons per square foot, the top and bottom flanges of the bottom tier joists taking bearing on concrete. No stiffening against shear or buckling is required for the sections given. The top tier must rest directly on the bottom tier. Though concrete grouting is permitted here, it will be found more economical to provide single tier grillages than do this. It should be noted that while B.S.S. No. 449 demands a casing of concrete not less than 4 in. on the sides and top of all grillage joists, the Code of Practice requirement is only 3 in., but this concrete must be of "constant horizontal cross section." It must not therefore, step in over the bottom tier.*

TABLE 7. *SLAB BASES. (S: 27, 28 and K. C: 23, 27, 48.) The two tables give the minimum sized stanchion which may be carried on a range of square slabs. The first is for slabs on 1 : 6 mass concrete, and the second for slabs on 1 : 2 : 4 concrete. The graph allows the size of any slab to be obtained on the basis of the formulæ given in B.S.S. No. 449 and the Code of Practice.*

R.S.J's. IN ORDER OF MODULI. (1)

SECTION		Z	S	B	d	Z_1	Z_2
+ 24 × 7½	100	221·23	72·0	2·52	⅞"	199	177
24 × 7½	95	211·09	68·4	2·24	"	190	169
× 24 × 7½	90	203·60	62·4	1·79	"	183	163
20 × 7½	89	167·29	60·0	3·06	"	150	133
22 × 7	75	152·44	55·0	1·83	"	137	122
18 × 8	80	143·56	45·0	2·42	"	129	115
18 × 7	75	127·91	49·5	2·86	"	113	99
20 × 6½	65	122·62	45·0	1·64	"	108	94
16 × 8	75	121·74	38·4	2·51	"	109	97
14 × 8	70	100·80	32·2	2·58	"	91	80
18 × 6	55	93·53	37·8	1·63	¾"	83	73
16 × 6	62	90·63	44·0	3·09	"	81	71
+ 15 × 6	59	83·88	37·5	2·79	"	74	65
12 × 8	65	81·30	25·8	2·56	⅞"	73	64
16 × 6	50	77·26	32·0	1·69	¾"	69	60
14 × 6	57	76·19	35·0	2·91	"	67	59
+ 10 × 8	70	69·01	30·0	4·11	⅞"	62	54
15 × 6	45	65·59	28·5	1·63	¾"	58	51
14 × 6	46	63·22	28·0	1·97	"	56	49
12 × 6	54	62·63	30·0	3·12	"	55	48
10 × 8	55	57·74	20·0	2·50	⅞"	51	45
15 × 5	42	57·13	31·5	1·98	¾"	50	43
× 14 × 5½	40	53·87	25·9	1·67	"	47	41
12 × 6	44	52·79	24·0	2·24	"	47	40
+ 9 × 7	58	51·05	24·7	3·78	⅞"	45	38
9 × 7	50	46·25	18·0	2·59	"	40	35

SECTION		Z	S	B	d	Z_1	Z_2
13 × 5	35	43·62	22·7	1·61	¾"	38	32
10 × 6	40	40·96	18·0	2·14	"	36	31
12 × 5	32	36·84	21·0	1·74	"	32	27
× 12 × 5	30	34·49	19·8	1·54	"	30	25
10 × 5	30	29·25	18·0	2·09	"	25	21
8 × 6	35	28·76	14·0	2·24	"	25	22
10 × 4½	25	24·47	15·0	1·54	"	21	17
8 × 5	28	22·42	14·0	2·23	"	19	16
9 × 4	21	18·03	13·5	1·66	⅝"	15	13
6 × 5	25	14·56	12·3	2·84	¾"	12	10
8 × 4	18	13·91	11·2	1·59	⅝"	12	10
6 × 4½	20	11·57	11·1	2·52	¾"	9·7	7·9
7 × 4	16	11·29	8·75	1·45	⅝"	9·6	8·0
× 7 × 3½	15	10·26	8·75	1·45	½"	8·9	7·5
5 × 4½	20	10·01	7·25	1·98	¾"	8·3	6·6
+ 5 × 4½	18	9·08	7·25	1·98	"	7·6	6·0
6 × 3	12	7·00	6·90	1·38	½"	5·9	4·8
5 × 3	11	5·47	5·50	1·40	"	4·6	3·7
× 5 × 2½	9	4·36	5·00	1·23	⅜"	3·7	3·0
4 × 3	10	3·89	4·80	1·64	½"	3·2	2·6
+ 4 × 3	9½	3·76	4·40	1·47	"	3·1	2·5
4¾ × 1¾	6½	2·83	4·27	1·08	—	—	—
3 × 3	8½	2·54	3·00	1·39	½"	2·1	1·6
4 × 1¾	5	1·83	3·40	1·05	—	—	—
3 × 1½	4	1·11	2·40	1·06	—	—	—

Z = GROSS MODULUS [TAKEN BY PERMISSION FROM B.S. SPECIFICATIONS Nos. 4 & 6]
S = SHEARING VALUE IN TONS.
B = BUCKLING VALUE IN TONS PER INCH RUN.
d = DIA. OF FLANGE RIVET OR BOLT.
Z_1 = APPROX. MODULUS OF R.S.J. LESS ONE HOLE IN ONE OR BOTH FLANGES.
Z_2 = APPROX. MODULUS LESS TWO HOLES.

R.L. FEB. 1934.

UNIFORMLY DISTRIBUTED LOADS

SECTION		12′	14′	16′	18′	20′	22′	24′	26′	28′	30′	32′	36′	40′
†24 × 7½	100	98·2	84·2	73·6	65·5	58·9	53·5	49·1	45·3	42·1	39·3	36·8	32·7	29·4
24 × 7½	95	93·8	80·4	70·3	62·5	56·2	51·1	46·9	43·2	40·2	37·5	35·1	31·2	28·1
×24 × 7½	90	90·4	77·5	67·8	60·3	54·2	49·3	45·2	41·7	38·7	36·1	33·9	30·1	27·1
22 × 7	75	67·7	58·0	50·8	45·1	40·6	36·9	33·8	31·2	29·0	27·1	25·4	22·5	20·3
20 × 7½	89	74·3	63·7	55·7	49·5	44·6	40·5	37·1	34·3	31·8	29·7	27·8	24·7	22·3
20 × 6½	65	54·4	46·7	40·8	36·3	32·6	29·7	27·2	25·1	23·3	21·7	20·4	18·1	16·3
18 × 8	80	63·8	54·6	47·8	42·5	38·2	34·8	31·9	29·4	27·3	25·5	23·9	21·2	17·2
18 × 7	75	56·8	48·7	42·6	37·8	34·1	31·0	28·4	26·2	24·3	22·7	21·3	18·9	15·3
18 × 6	55	41·5	35·6	31·1	27·7	24·9	22·6	20·7	19·1	17·8	16·6	15·5	13·8	11·2
16 × 8	75	54·1	46·3	40·5	36·0	32·4	29·5	27·0	24·9	23·1	21·6	20·2	16·0	12·9
16 × 6	62	40·2	34·5	30·2	26·8	24·1	21·9	20·1	18·5	17·2	16·1	15·1	11·9	9·6
16 × 6	50	34·3	29·4	25·7	22·8	20·6	18·7	17·1	15·8	14·7	13·7	12·8	10·1	8·2

		10′	12′	14′	16′	18′	20′	22′	24′	26′	28′	30′	32′	34′
†15 × 6	59	44·6	37·2	31·9	27·9	24·8	22·3	20·1	18·6	17·2	15·9	14·9	13·1	11·6
15 × 6	45	34·9	29·1	24·9	21·8	19·4	17·4	15·9	14·5	13·4	12·4	11·6	10·2	9·0
15 × 5	42	30·4	25·3	21·7	19·0	16·9	15·2	13·8	12·6	11·7	10·8	10·1	8·9	7·9
14 × 8	70	53·7	44·8	38·4	33·6	29·8	26·8	24·4	22·4	20·6	19·2	16·7	14·7	13·0
14 × 6	57	40·6	33·8	29·0	25·3	22·5	20·3	18·4	16·9	15·6	14·5	12·6	11·1	9·8
14 × 6	46	33·7	28·0	24·0	21·0	18·7	16·8	15·3	14·0	12·9	12·0	10·5	9·2	8·1
×14 × 5½	40	28·7	23·9	20·5	17·9	15·9	14·3	13·0	11·9	11·0	10·2	8·9	7·8	6·9
13 × 5	35	23·2	19·3	16·6	14·5	12·9	11·6	10·5	9·6	8·9	7·7	6·7	5·9	5·2
12 × 8	65	43·3	36·1	30·9	27·0	24·0	21·6	19·7	18·0	15·4	13·2	11·5	10·1	9·0
12 × 6	54	33·4	27·8	23·8	20·8	18·5	16·6	15·1	13·9	11·8	10·2	8·9	7·8	6·9
12 × 6	44	28·1	23·4	20·1	17·5	15·6	14·0	12·7	11·7	10·0	8·6	7·5	6·6	5·8
12 × 5	32	19·6	16·3	14·0	12·2	10·9	9·8	8·9	8·1	6·9	6·0	5·2	4·6	4·0
×12 × 5	30	18·3	15·3	13·1	11·4	10·2	9·1	8·3	7·6	6·5	5·6	4·9	4·3	3·8

THIS TABLE GIVES THE SAFE UNIFORMLY DISTRIBUTED LOADS CALCULATED ON A MAXIMUM STRESS OF 8 TONS PER SQUARE INCH OR ALTERNATIVELY ON A DEFLECTION OF 1/325TH OF THE SPAN. A JOIST MUST BE LATERALLY SUPPORTED IF ITS LENGTH EXCEEDS 20 TIMES ITS BREADTH [INCLUDING DEFINED CASING]. THIS LIMIT FOR JOISTS HAVING THE MINIMUM CASING OF 2" IS INDICATED BY THE ZIG-ZAG LINE.

R.L. FEB. 1934.

ON ROLLED STEEL JOISTS (2)

SECTION		5′	6′	7′	8′	9′	10′	12′	14′	16′	18′	20′	22′	24′
+ 10 × 8	70			52·5	46·0	40·9	36·8	30·6	26·2	23·0	20·4	18·4	15·1	12·7
10 × 8	55				38·5	34·2	30·7	25·6	21·9	19·2	17·1	15·3	12·7	10·7
10 × 6	40			31·2	27·3	24·2	21·8	18·2	15·6	13·6	12·1	10·9	9·0	7·6
10 × 5	30	31·2	26·0	22·2	19·5	17·3	15·6	13·0	11·1	9·7	8·6	7·8	6·4	5·4
10 × 4½	25	26·1	21·7	18·6	16·3	14·5	13·0	10·8	9·3	8·1	7·2	6·5	5·3	4·5
+ 9 × 7	58		45·3	38·8	34·0	30·2	27·2	22·6	19·4	17·0	15·1	12·2	10·1	8·5
9 × 7	50			35·2	30·8	27·4	24·6	20·5	17·6	15·4	13·7	11·1	9·1	7·7
9 × 4	21	19·2	16·0	13·7	12·0	10·6	9·6	8·0	6·8	6·0	5·3	4·3	3·5	3·0
8 × 6	35		25·5	21·9	19·1	17·0	15·3	12·7	10·9	9·5	7·5	6·1	5·0	4·2
8 × 5	28	23·9	19·9	17·0	14·9	13·2	11·9	9·9	8·5	7·4	5·9	4·7	3·8	3·3
8 × 4	18	14·8	12·3	10·5	9·2	8·2	7·4	6·1	5·2	4·6	3·6	2·9	2·4	2·0
7 × 4	16	12·0	10·0	8·6	7·5	6·6	6·0	5·0	4·3	3·2	2·5	2·1	1·7	1·4
× 7 × 3½	15	10·9	9·1	7·8	6·8	6·0	5·4	4·5	3·9	2·9	2·3	1·9	1·5	1·3

		3′	4′	5′	6′	7′	8′	9′	10′	11′	12′	13′	14′	16′
6 × 5	25		19·4	15·5	12·9	11·0	9·7	8·6	7·7	7·0	6·4	5·5	4·7	3·6
6 × 4½	20	20·5	15·4	12·3	10·2	8·8	7·7	6·8	6·1	5·6	5·1	4·3	3·7	2·8
6 × 3	12	12·4	9·3	7·4	6·2	5·3	4·6	4·1	3·7	3·3	3·1	2·6	2·2	1·7
5 × 4½	20		13·3	10·6	8·8	7·6	6·6	5·9	5·3	4·4	3·7	3·1	2·7	2·0
+ 5 × 4½	18		12·0	9·6	8·0	6·9	6·0	5·3	4·8	4·0	3·3	2·8	2·4	1·8
5 × 3	11	9·7	7·2	5·8	4·8	4·1	3·6	3·2	2·9	2·4	2·0	1·7	1·4	1·1
× 5 × 2½	9	7·7	5·8	4·6	3·8	3·3	2·9	2·5	2·3	1·9	1·6	1·2	1·0	0·8
4½ × 1¾	6½	5·0	3·7	3·0	2·5	2·1	1·8	1·6	1·4	1·1	0·9	0·8	0·7	0·5
4 × 3	10	6·9	5·1	4·1	3·4	2·9	2·5	2·0	1·6	1·3	1·1	0·9	0·8	0·6
+ 4 × 3	9½	6·6	5·0	4·0	3·3	2·8	2·5	1·9	1·6	1·3	1·1	0·9	0·8	0·6
4 × 1¾	5	3·2	2·4	1·9	1·6	1·3	1·2	0·9	0·7	0·6	0·5	0·4	0·3	
3 × 3	8½	4·5	3·3	2·7	2·2	1·6	1·2	1·0	0·8	0·6	0·5	0·4		
3 × 1½	4	1·9	1·4	1·1	0·9	0·7	0·5	0·4	0·3	0·2				

THE PROPERTIES OF THE R.S.J's MARKED "+" IN THESE TABLES WILL BE FOUND IN B.S.S.No4 - 1903, WHILE THOSE MARKED "X" WILL BE FOUND IN B.S.S. No.6 - 1924.
THE REMAINDER FORM THE NEW SERIES WHOSE PROPERTIES ARE GIVEN IN B.S.S. No.4 - 1932

R.L. FEB. 1934.

(3) BENDING MOMENTS PER FT. WIDTH OF FLOOR

INCLUSIVE LOAD IN LBS. PER SQ. FT.	4′	5′	6′	7′	8′	9′	10′	11′	12′	13′	14′	15′	16′	17′	18′	19′	20′
								WL/8									
100	·09	·14	·21	·28	·36	·46	·56	·68	·81	·95	1·10	1·26	1·43	1·62	1·81	2·02	2·24
112	·10	·16	·23	·31	·40	·51	·63	·76	·90	1·06	1·23	1·41	1·60	1·81	2·03	2·26	2·50
120	·11	·17	·25	·33	·43	·55	·67	·82	·97	1·14	1·32	1·51	1·72	1·94	2·17	2·42	·68
140	·13	·20	·29	·39	·50	·64	·79	·95	1·13	1·32	1·54	1·76	2·00	2·26	2·54	2·82	3·13
150	·14	·21	·31	·41	·54	·68	·84	1·02	1·21	1·42	1·64	1·89	2·15	2·42	2·71	3·02	3·35
168	·15	·24	·34	·46	·60	·76	·94	1·14	1·35	1·59	1·84	2·11	2·40	2·71	3·04	3·39	3·75
180	·17	·26	·37	·50	·65	·82	1·01	1·22	1·45	1·70	1·97	2·26	2·57	2·90	3·26	3·63	4·02
200	·18	·28	·41	·55	·72	·91	1·12	1·35	1·61	1·89	2·19	2·52	2·86	3·23	3·62	4·03	4·47
224	·20	·32	·45	·62	·80	1·02	1·25	1·52	1·80	2·12	2·45	2·82	3·20	3·62	4·05	4·52	5·00
250	·23	·35	·51	·69	·90	1·13	1·40	1·69	2·01	2·36	2·74	3·14	3·57	4·03	4·52	5·04	5·58
280	·25	·40	·57	·77	1·00	1·27	1·57	1·89	2·25	2·64	3·07	3·52	4·00	4·52	5·06	5·64	6·25
300	·27	·42	·61	·82	1·08	1·36	1·68	2·03	2·41	2·83	3·28	3·77	4·29	4·84	5·43	6·05	6·70
								WL/10									
100	·08	·12	·17	·22	·29	·37	·45	·54	·65	·76	·88	1·01	1·15	1·29	1·45	1·62	1·79
112	·08	·13	·18	·25	·32	·41	·50	·61	·72	·85	·98	1·13	1·28	1·45	1·62	1·81	2·00
120	·09	·14	·20	·27	·35	·44	·54	·65	·78	·91	1·05	1·21	1·38	1·55	1·74	1·94	2·15
140	·10	·16	·23	·31	·40	·51	·63	·76	·90	1·06	1·23	1·41	1·60	1·81	2·03	2·26	2·50
150	·11	·17	·25	·33	·43	·55	·67	·82	·97	1·14	1·32	1·51	1·72	1·94	2·17	2·42	2·68
168	·12	·19	·27	·37	·48	·61	·75	·91	1·08	1·27	1·47	1·69	1·92	2·17	2·43	2·71	3·00
180	·13	·21	·29	·40	·52	·66	·81	·98	1·16	1·36	1·58	1·81	2·06	2·33	2·61	2·90	3·22
200	·15	·23	·33	·44	·58	·73	·90	1·08	1·29	1·51	1·75	2·01	2·29	2·58	2·90	3·23	3·57
224	·16	·25	·36	·49	·64	·81	1·00	1·21	1·44	1·69	1·96	2·25	2·56	2·89	3·24	3·61	4·00
250	·18	·28	·41	·55	·72	·91	1·12	1·35	1·61	1·89	2·19	2·52	2·86	3·23	3·62	4·03	4·47
280	·20	·32	·45	·62	·80	1·02	1·25	1·52	1·80	2·12	2·45	2·82	3·20	3·62	4·05	4·52	5·00
300	·22	·34	·49	·66	·86	1·09	1·34	1·63	1·93	2·27	2·63	3·02	3·43	3·87	4·34	4·84	5·36
								WL/12									
100	·06	·10	·14	·19	·24	·31	·38	·45	·54	·63	·73	·84	·96	1·08	1·21	1·35	1·49
112	·07	·11	·15	·21	·27	·34	·42	·51	·60	·71	·82	·94	1·07	1·21	1·35	1·51	1·67
120	·08	·12	·17	·22	·29	·37	·45	·54	·65	·76	·88	1·01	1·15	1·29	1·45	1·62	1·79
140	·09	·14	·19	·26	·34	·43	·53	·63	·75	·88	1·02	1·18	1·34	1·51	1·69	1·88	2·09
150	·09	·14	·21	·28	·36	·46	·56	·68	·81	·95	1·10	1·26	1·43	1·62	1·81	2·02	2·24
168	·10	·16	·23	·31	·40	·51	·63	·76	·90	1·06	1·23	1·41	1·60	1·81	2·03	2·26	2·50
180	·11	·17	·25	·33	·43	·55	·67	·82	·97	1·14	1·32	1·51	1·72	1·94	2·17	2·42	2·68
200	·12	·19	·27	·37	·48	·61	·75	·90	1·08	1·26	1·46	1·68	1·91	2·15	2·41	2·69	2·98
224	·14	·21	·30	·41	·54	·68	·84	1·01	1·20	1·41	1·64	1·88	2·14	2·41	2·70	3·01	3·34
250	·15	·24	·34	·46	·60	·76	·93	1·13	1·34	1·58	1·83	2·10	2·38	2·69	3·02	3·36	3·72
280	·17	·27	·38	·52	·67	·85	1·05	1·26	1·50	1·76	2·04	2·35	2·67	3·01	3·38	3·76	4·18
300	·18	·28	·41	·55	·72	·91	1·12	1·35	1·61	1·89	2·19	2·52	2·86	3·23	3·62	4·03	4·47

THE BENDING MOMENTS ARE GIVEN IN TONS FEET. UNDER "WL/8" ARE VALUES FOR A SIMPLY SUPPORTED FLOOR FOR END AND INTERMEDIATE BAYS WHERE CONTINUITY IS ASSURED VALUES UNDER "WL/10" AND "WL/12" RESPECTIVELY MAY BE USED

R.L. FEB. 1934.

MOMENTS OF RESISTANCE PER FT. WIDTH OF FILLER FLOORS (4)

SPACING OF FILLERS	3" × 1½" – 4lb				3" × 3" – 8½lb				4" × 1¾" – 5lb				4" × 3" – 10lb			
	9 TONS PER SQ. IN.	COVER 1"	2"	3"	9 TONS PER SQ. IN.	COVER 1"	2"	3"	9 TONS PER SQ. IN.	COVER 1"	2"	3"	9 TONS PER SQ. IN.	COVER 1"	2"	3"
1'–0"	·83	·77	1·04	1·43	1·90	1·69	1·69	1·83	1·37	1·24	1·54	1·97	2·91	2·59	2·59	2·59
1'–3"	·66	·70	·96	1·33	1·52	1·35	1·35	1·71	1·09	1·12	1·42	1·82	2·33	2·07	2·07	2·38
1'–6"	·55	·65	·90	1·24	1·26	1·12	1·21	1·62	·91	1·04	1·32	1·71	1·94	1·72	1·77	2·23
1'–9"	·47	·61	·85	1·18	1·08	·96	1·15	1·53	·78	·97	1·24	1·61	1·66	1·48	1·66	2·10
2'–0"	·41	·58	·82	1·13	·95	·84	1·09	1·48	·68	·91	1·18	1·54	1·45	1·29	1·58	2·01
2'–3"	·37		·74	1·08	·84		1·05	1·42	·61	·86	1·12	1·47	1·29	1·22	1·51	1·92
2'–6"	·33			·99	·76		1·01	1·38	·54	·78	1·03	1·34	1·16	1·16	1·45	1·86
2'–9"	·30			·92	·69			1·34	·49		·95	1·24	1·06		1·39	1·79
3'–0"	·27			·85	·63			1·30	·45		·88	1·15	·97		1·35	1·73
MAX. SPAN		10'-8"	13'-4"	16'-0"		10'-8"	13'-4"	16'-0"		13'-4"	16'-0"	18'-8"		13'-4"	16'-0"	18'-8"

SPACING OF FILLERS	4¾" × 1¾" – 6½lb				5" × 2½" – 9lb				5" × 3" – 11lb				6" × 3" – 12lb			
	9 TONS PER SQ. IN.	COVER 1"	2"	3"	9 TONS PER SQ. IN.	COVER 1"	2"	3"	9 TONS PER SQ. IN.	COVER 1"	2"	3"	9 TONS PER SQ. IN.	COVER 1"	2"	3"
1'–0"	2·12	1·88	2·09	2·55	3·27	2·91	2·91	3·08	4·10	3·64	3·64	3·64	5·25	4·66	4·66	4·66
1'–3"	1·69	1·61	1·92	2·36	2·61	2·32	2·40	2·85	3·28	2·91	2·91	3·09	4·20	3·73	3·73	3·90
1'–6"	1·41	1·48	1·78	2·20	2·18	1·93	2·23	2·67	2·72	2·43	2·44	2·89	3·50	3·11	3·16	3·64
1'–9"	1·21	1·38	1·67	2·08	1·87	1·78	2·08	2·52	2·34	2·08	2·28	2·73	3·00	2·66	2·95	3·42
2'–0"	1·06	1·30	1·59	1·98	1·63	1·67	1·97	2·41	2·05	1·84	2·16	2·60	2·62	2·48	2·78	3·25
2'–3"	·94	1·23	1·52	1·90	1·45	1·57	1·88	2·31	1·82	1·72	2·06	2·49	2·33	2·34	2·64	3·11
2'–6"	·84	1·15	1·46	1·83	1·30	1·50	1·80	2·23	1·64	1·63	1·97	2·39	2·10	2·21	2·52	2·98
2'–9"	·77	1·05	1·34	1·68	1·18	1·43	1·73	2·15	1·49	1·55	1·89	2·31	1·90	2·11	2·42	2·90
3'–0"	·70		1·24	1·56	1·09	1·37	1·67	2·08	1·36	1·48	1·82	2·24	1·75	2·02	2·33	2·78
MAX. SPAN		15'-4"	18'-0"	20'-8"		16'-0"	18'-8"	21'-4"		16'-0"	18'-8"	21'-4"		18'-8"	21'-4"	24'-0"

THE MOMENTS OF RESISTANCE ARE GIVEN IN TONS FEET. THE M.R. MUST AT LEAST EQUAL THE BENDING MOMENT WHICH WILL BE IMPOSED. THE MAXIMUM SPAN MUST NOT BE EXCEEDED, NOR MUST THE SPACING BE GREATER THAN THAT FOR WHICH THE LOWEST VALUE OF THE M.R. IS GIVEN. [THIS DOES NOT APPLY TO THE HEAVIER FILLERS WHERE THE MAXIMUM SPACING RUNS OFF THE TABLE.] ABOVE THE ZIG-ZAG LINES THE M.R's. OF FILLERS STRESSED TO 8 TONS PER SQ. IN. AND IGNORING CONCRETE ARE GIVEN. THE COLUMNS HEADED "9 TONS PER SQ. IN." ALSO IGNORE CONCRETE. THE REMAINING VALUES HAVE BEEN CALCULATED ON MAXIMUM STRESSES OF 600lb & 9T PER SQ. IN. FOR CONCRETE AND STEEL RESPECTIVELY, AND A MODULAR RATIO OF 15.

R.L. FEB. 1934.

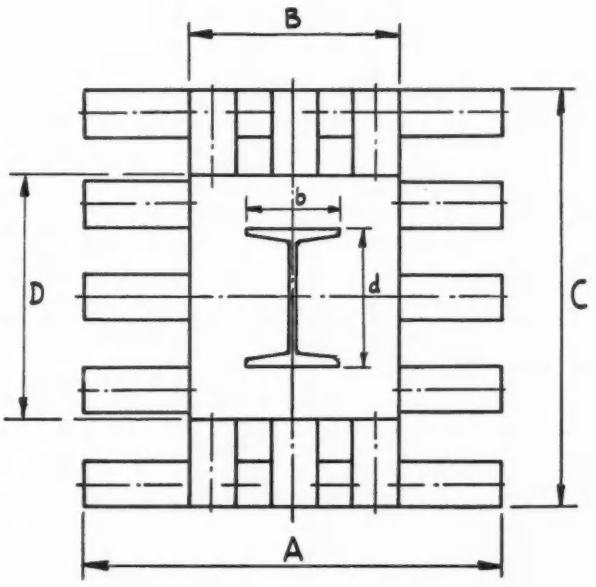
(5) JOIST PILLARS

SECTION		AREA	I_x	I_y	Z_x	Z_y	k_x	k_y	n/k_x^2	n/k_y^2	Fl. Ecc.	Web Ecc.
5 × 4½	20	5·88	25·03	6·59	10·01	2·93	2·06	1·06	0·59	2·01	2·06	2·30
6 × 4½	20	5·89	34·71	5·40	11·57	2·40	2·43	·96	·51	2·45	2·04	2·91
6 × 5	25	7·37	43·69	9·10	14·56	3·64	2·44	1·11	·51	2·02	2·02	2·44
8 × 5	28	8·28	89·69	10·19	22·42	4·08	3·29	1·11	·36	2·03	1·82	2·38
8 × 6	35	10·30	115·06	19·54	28·76	6·51	3·34	1·38	·36	1·58	1·79	1·86
9 × 7	50	14·71	208·13	40·17	46·25	11·48	3·76	1·65	·32	1·28	1·75	1·54
9 × 7	58	17·06	229·74	46·27	51·05	13·22	3·67	1·65	·33	1·29	1·84	1·64
10 × 4½	25	7·35	122·34	6·49	24·47	2·88	4·08	·94	·30	2·55	1·80	2·94
10 × 5	30	8·85	146·23	9·73	29·25	3·89	4·06	1·05	·30	2·37	1·81	2·68
10 × 6	40	11·77	204·80	21·76	40·96	7·25	4·17	1·36	·29	1·62	1·72	1·91
10 × 8	55	16·18	288·69	54·74	57·74	13·69	4·22	1·84	·28	1·18	1·68	1·42
10 × 8	70	20·58	345·04	71·61	69·01	17·90	4·09	1·86	·30	1·15	1·78	1·49
12 × 6	44	13·00	316·76	22·12	52·79	7·37	4·94	1·30	·25	1·76	1·72	2·12
12 × 6	54	15·89	375·77	28·28	62·63	9·43	4·86	1·33	·29	1·68	1·77	2·10
12 × 8	65	19·12	487·77	65·18	81·30	16·30	5·05	1·85	·23	1·17	1·65	1·42
14 × 8	70	20·59	705·58	66·67	100·80	16·67	5·85	1·80	·20	1·23	1·63	1·52
16 × 8	75	22·06	973·91	68·30	121·74	17·08	6·64	1·76	·18	1·29	1·63	1·60
18 × 8	80	23·53	1292·07	69·43	143·56	17·36	7·41	1·72	·16	1·35	1·64	1·69

SECTION		6′	7′	8′	9′	10′	11′	12′	13′	14′	16′	18′	20′
5 × 4½	20	32	28	25	21	18	16	14	12	10	8	6	5
6 × 4½	20	30	26	22	19	16	13	11	10	9	7	6	
6 × 5	25	41	37	33	28	24	21	19	16	14	11	9	7
8 × 5	28	47	42	37	32	28	25	21	18	16	13	10	8
8 × 6	35	63	60	55	50	46	41	36	33	29	23	19	16
9 × 7	50	95	92	87	82	77	71	65	59	54	44	37	31
9 × 7	58	111	106	101	95	89	83	75	69	63	52	43	36
10 × 4½	25	37	31	26	23	19	16	14	12	10	8	6	
10 × 5	30	48	43	37	32	27	24	20	18	16	12	10	8
10 × 6	40	72	68	63	57	51	46	41	36	32	26	21	17
10 × 8	55	107	104	100	96	90	85	79	74	68	57	48	41
10 × 8	70	137	132	128	123	116	110	102	95	88	74	64	53
12 × 6	44	78	73	67	61	54	48	42	38	33	26	21	18
12 × 6	54	98	90	83	75	67	60	53	47	42	34	27	23
12 × 8	65	127	123	119	113	108	101	95	88	81	69	58	49
14 × 8	70	136	132	126	121	114	107	100	92	85	71	60	50
16 × 8	75	145	140	134	128	120	113	105	96	88	73	62	52
18 × 8	80	154	149	142	135	127	118	109	100	92	76	64	53

THE VALUES OF "I", "Z" & "k" ARE TAKEN BY PERMISSION FROM B.S. SPECIFICATIONS Nos. 4 & 6.
THIS TABLE GIVES SAFE CONCENTRIC LOADS IN TONS ON "UNIT" LENGTHS OF R.S. PILLARS.
LENGTHS TO RIGHT OF ZIG-ZAG LINE MAY ONLY BE USED FOR SUBSIDIARY STRUTS. RL. FEB. 1934.

GRILLAGES (6)



THESE GRILLAGES HAVE BEEN DESIGNED TO DISTRIBUTE THE STANCHEON LOAD AT A PRESSURE [ON 1:6 MASS CONCRETE] NOT EXCEEDING 20 TONS PER SQ.FT.

STRESSES.
FLEXURAL. 12 TONS PER SQ.IN.
SHEARING. 7½ " " " "
BUCKLING. 150% STANCHEON STRESSES ON WEBS.
SLABS. 9 TONS PER SQ.IN.

LOAD IN TONS	A ≷ C	TOP TIER	BOTTOM TIER	SLAB D × B × t	WEIGHT T. T.	WEIGHT B. T.	WEIGHT SLAB	MIN. STAN. d × b
100 - 125	2'-6"	3/6" × 3" - 12lb	4/5" × 4½" - 18lb	18" × 15" × 2½"	90lb	180lb	191lb	9" × 7"
125 - 151	2'-9"	3/6" × 3" - 12lb	6/5" × 3" - 11lb	20" × 15" × 3"	99lb	182lb	255lb	10" × 8"
151 - 180	3'-0"	3/7" × 4" - 16lb	5/7" × 4" - 16lb	21" × 18" × 3"	144lb	240lb	322lb	10½" × 8"
180 - 211	3'-3"	3/9" × 4" - 21lb	5/7" × 4" - 16lb	21" × 18" × 3"	205lb	260lb	322lb	12" × 8"
211 - 245	3'-6"	3/10" × 5" - 30lb	6/7" × 4" - 16lb	21" × 21" × 3"	315lb	336lb	375lb	12" × 12"
245 - 281	3'-9"	3/10" × 5" - 30lb	6/8" × 4" - 18lb	21" × 21" × 3"	338lb	405lb	375lb	13" × 13"
281 - 320	4'-0"	3/10" × 6" - 40lb	7/8" × 4" - 18lb	24" × 24" × 3½"	480lb	504lb	572lb	13" × 13"
320 - 361	4'-3"	3/12" × 6" - 44lb	7/9" × 4" - 21lb	24" × 24" × 3½"	561lb	625lb	572lb	14¼" × 14¼"
361 - 405	4'-6"	3/12" × 6" - 54lb	7/9" × 4" - 21lb	24" × 24" × 3½"	729lb	662lb	572lb	15½" × 15½"
405 - 451	4'-9"	3/14" × 6" - 57lb	6/10" × 5" - 30lb	24" × 24" × 3½"	813lb	855lb	572lb	16½" × 16½"
451 - 500	5'-0"	3/16" × 6" - 62lb	7/10" × 5" - 30lb	24" × 24" × 3½"	930lb	1050lb	572lb	17" × 17"

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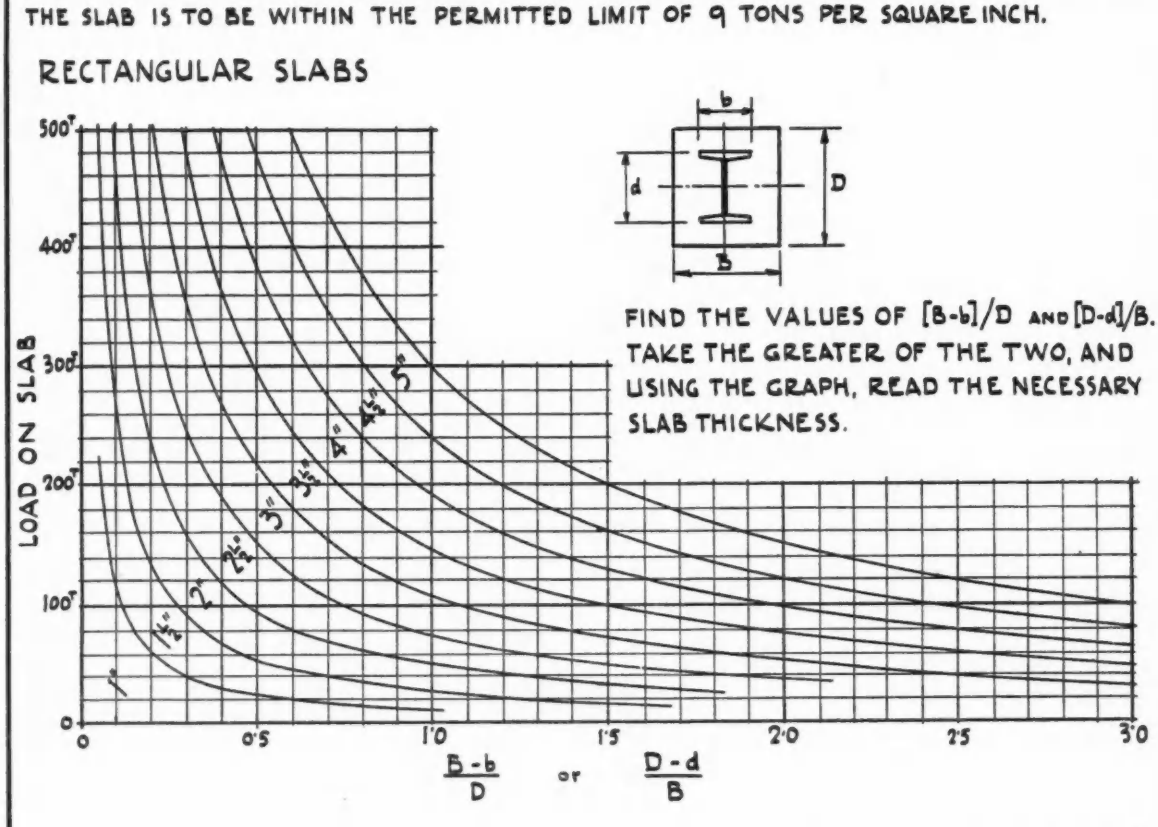
(7) SLAB BASES

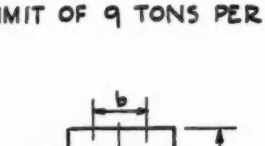
SQUARE SLABS

D & B	20 T./FT.² ON CONCRETE											30 T./FT² ON CONCRETE											
	LOAD IN TONS	THICKNESS OF SLAB [t]										LOAD IN TONS	THICKNESS OF SLAB [t]										
		1"	1¼"	1½"	1¾"	2"	2¼"	2½"	2¾"	3"	3¼" 3½"		1"	1¼"	1½"	1¾"	2"	2¼"	2½"	2¾"	3"	3¼" 3½" 3¾"	4"
12"	20	4'8	0'8									30	7'2	4'5	1'2								
14"	27	7'9	4'4									40	9'9	7'6	4'8	1'4							
15"	31	9'3	6'0	2'1								46	11'2	9'0	6'4	3'3							
16"	35	10'6	7'6	3'9								53	12'4	10'4	7'9	5'0	1'6						
18"	45	13'2	10'5	7'2	3'3							67	13'0	10'8	8'2	5'2	1'8						
20"	55	15'7	13'3	10'3	6'8	2'8						83	13'5	11'2	8'5	5'4	2'0						
22"	67		15'8	13'1	10'0	6'4	2'2					100		14'0	11'6	8'8	5'7	2'2					
24"	80			15'9	13'0	9'6	5'8	1'5				120			14'4	11'9	9'0	5'9	2'4				
26"	93				15'9	12'7	9'2	5'3	0'9			140				14'8	12'2	9'3	6'1	2'6			
28"	108					15'6	12'4	8'8	4'7			163					15'2	12'5	9'5	6'3	2'8		
30"	125						15'5	12'0	8'3	4'1		187						15'5	12'8	9'8	6'5	3'0	
32"	142							15'2	11'6	7'7	3'5	213							15'8	13'0	10'0	6'7	3'2
34"	160								14'8	11'2	7'2 2'9	240								16'1	13'3	10'2	6'9
36"	180									14'4	10'7 6'6	270									16'4	13'5	10'4

NEITHER "d" NOR "b" MUST BE LESS THAN THE DIMENSIONS GIVEN ABOVE IF THE STRESS IN THE SLAB IS TO BE WITHIN THE PERMITTED LIMIT OF 9 TONS PER SQUARE INCH.

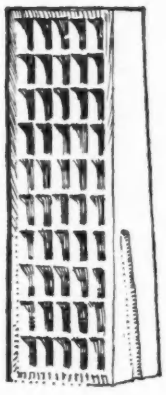
RECTANGULAR SLABS





FIND THE VALUES OF [B-b]/D AND [D-d]/B. TAKE THE GREATER OF THE TWO, AND USING THE GRAPH, READ THE NECESSARY SLAB THICKNESS.

R.L. FEB. 1934.



TRADE NOTES

[*BY F. R. S. YORKE, A. R. I. B. A.*]

B. I. F. Birmingham

THE British Industries Fair at Castle Bromwich was opened on Monday last. It is appropriate, therefore, that one should discuss certain features which it will be possible for visiting architects to inspect.

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On the stand of Henry Hope and Sons is shown one of the most up-to-date examples of metal window development. For those interested in housing, slum clearance and building generally, the patent steel-frames for sealing the heads and jambs of cavity walls, and at the same time providing an ideal fixing for metal windows, should be examined. The saving of time and labour effected by the use of this frame must be considerable when spread over a piece of building of any size. Architects who use the familiar form of cavity wall construction will realize the saving in omitting the formation of lead or other impervious trays over the windows, and the sealing to the jambs by slate or expanded metal. The frame serves as a template for the building of window openings and provides support for the outer brickwork over, without the need of arch bars or other reinforcement. Plaster and window board are accommodated without applied loose beads to cover shrinkage; and no damp can reach the inside wall. The frames are standardized to suit brick, plain or roughcast finish, concrete or stone. This firm also manufacture pressed steel door frames to take the place of the more usual architraves for hospitals, schools and all buildings where fireproof and hygienic qualities are essential. Examples of these steel door architraves are on exhibition.

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On the Kingfisher stand it is possible to see working a modern development in sliding screens. One is familiar with the usual type of sliding screen used so largely in all sorts of contemporary work, which has bearings at the top and a channel in the floor for a guide pin.

Bearings at the bottom have certain advantages, as will be seen. They are simpler and therefore safer. The track which is flush with the floor is easily kept clean.

The bottom fittings take so little space that several inches of opening are gained.

A light beam over is only required to act as a guide.

There is no danger of leaves sticking through settlement of a heavy beam.

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The body of the stand of Nobel Chemical Finishes exhibit is rendered with Petrumite paint, which has a texture of stone in its finish. This painting to the stand (this stand is incidentally one of the few really well-desinged ones) shows the faith which the vendors have in their product, since in the course of an Exhibition it must come in for a lot of wear, whilst the dust so inseparable from exhibition halls must not spoil its appearance.

One is invited to strike a match on the paint, and then it is cleaned with an eraser. It is also claimed to be fireproof.

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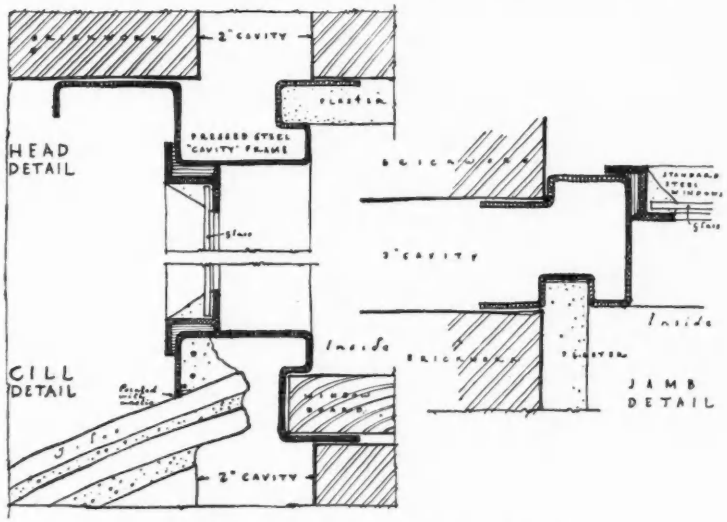
Bratt Colbran & Co. are to be congratulated on the efforts they constantly seem to be making to endeavour to improve not only the practical design of their products, but also the appearance of them. Their Portcullis series of gas fires are of special interest in this latter respect, while the fire itself embodies certain original features. (A drawing of the Portcullis fire is reproduced at the top of these notes.)

A new type of radiant is adopted, designed to have a powerful scrubbing effect on the flame. It is a noteworthy feature, and is a complete departure from the conventional type of "candle" radiant. In view of the fact that one "radiant" of the Portcullis fire is claimed to be equal in terms of radiant heat to that of 1 kilowatt of electricity, Portcullis radiants are termed units. It must be remembered, therefore, in selecting a fire of this type, that each unit is equal in heat output to a 1 kilowatt electric fire, or $2\frac{3}{4}$ ordinary gas fire radiants.

The front of the radiant is vertical while the back tapers slightly from the base, in a forward direction. The special form of the Portcullis radiant is claimed to result in a gain in radiant efficiency of 20 to 25 per cent. in excess of the normal gas fire without sacrifice of ventilation.

This has been obtained by using a fire back which is composed of specially non-conducting material, by placing the radiants close up against this back, so as to reduce heat losses to a minimum, and by increasing the number of thorns or "pips" and so obtaining better "scrubbing" of the flame.

A large increase of radiant heat is therefore obtained of a shorter wave length, and thus has greater luminosity, thereby adding to the fire's cheerfulness.



Pressed steel-frames for windows in cavity walls.

The floor of the Stanton Co.'s stand is paved with cast-iron road sections of the type which the company have supplied for use in the three mile stretch of road in the new Mersery Tunnel.

These sections are $1\frac{7}{8}$ in. deep, with ribbed undersides and diamond shaped studs on their upper faces to ensure that the cast iron will remain non-skid in all weathers.

By means of an exclusive process, the studs are provided with a hardened upper layer, which increases their resistance to wear.

Road or floor covering of this character is ideal for use at points liable to exceptionally heavy wear, such as occurs at bus stops, loading floors, docks, wharves and railway platforms.

A lighter type of section is available for indoor use in buildings such as garages, factories, dairies, breweries, bakeries, and in many other cases where a hard wearing surface is required.

It will readily be seen that as this sort of floor is dustless it is ideal for buildings used for the preparation of food.

The cast-iron sections should be laid on to a concrete foundation over which a film of bituminous grout has been squeezed. Half sections may be obtained to enable the joints to be staggered, and the gaps between the sections are grouted with bitumen. Each section is therefore completely insulated.

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A range of Flavel products attractively displayed shows the visitor to this Stand new and improved appliances. The Flavel cooker is now offered in so many styles and sizes that almost any requirements are anticipated. The Metro coke fire may be seen in operation.

There are two features of special interest here. The Radiant-Panel gas heater (preliminary models of which were exhibited at the 1933 Fair) and a new series of wall-type gas fire. These two products, in their various designs and finishes, form a large part of the present display. The Radiant-Panel gas heater is shown in three designs which are well suited for the buildings of today, giving high heating efficiency with a minimum of floor space occupied.

The Wall-type gas fires are produced also to suit present day fireplace designs and have been carefully thought out with the object of providing an efficient gas fire to combine with the latest development in fireplace construction.

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Crane, Ltd,. are exhibiting one of their new Whitehall boilers in conjunction with the Coal Utilization Council's Display.

One of the main features of this boiler is that the manufacturers have realized the importance of producing one which is not only all that could be expected internally, but one that has an unusually attractive external appearance.

These boilers incorporate a patent feature whereby the current of water circulating through the boiler is passed over the hottest portions of the boiler at a high velocity, which the makers claim is the means of materially increasing the output of the heating surfaces. The boiler displayed is cut open to show the baffles which direct the water flow.

THE BUILDINGS ILLUSTRATED

Sub-Contractors' List

Following are the names of the general contractors and some of the sub-contractors for the buildings illustrated in this issue.

Lay-out of a new street at Hull (pages 275-277).

Ferensway Chambers. General contractors A. E. Jones (Hull), Ltd. Sub-contractors, Pease and Partners, Ltd., steelwork; Siegwart Fireproof Floor Co., structural floors; Williams and Williams, metal windows and lantern lights; W. L. Harrison, Ltd., electric lighting; A. J. Snelling, Ltd., heating; Sturtevant Engineering Co., Ltd., ventilation to boiler room; Expanded Metal Co., Ltd., suspended ceilings; J. A. King & Co., pavement lights; Hollis Bros. & Co., Ltd., wood block flooring; North British Rubber Co., rubber flooring; Shanks & Co., Ltd., sanitary fittings; Yannedis & Co., door furniture; New Era Time and Telephone Systems, Ltd., clocks, bells and telephones; The Camden Tile Co., Ltd. terrazzo; H. A. Oakeshott, fireplaces and tiles; Quibell and Son, Ltd., masonry; J. T. Scotney, Ltd., W. I. gates; The Cashmore Art Workers, Ltd., lead rain water heads; Northern Asphalte Co., Ltd., asphalte; Ascog, Ltd., Falk Stadelman & Co., Ltd., and J. and W. Shale, light fittings; Wm. Mallinson and Sons, Ltd., panelling; Central Joinery (1928), Ltd., lift doors.

Office Lots 42 and 43. General contractors, Quibell and Son, Ltd. Sub-contractors: Dorman Long & Co., Ltd., steelwork; Caxton Floor Co., structural floors; E. Pollard & Co., Ltd., arcade; Pringle Art Metal Co., Ltd., bronze and W.I. gates, and lighting fittings; Doodson and Bain, Ltd., metal windows and lantern lights; W. L. Harrison, Ltd., electric lighting; Hopes Heating and Lighting, Ltd., heating; Sturtevant Engineering Co., ventilation; Waygood Otis, Ltd., lifts; Expanded Metal Co., suspended ceilings; Camden Tile Co., terrazzo; J. A. King & Co., pavement lights; Octavius Atkinson & Co., iron escape stairs; Hewetson & Co., Ltd., wood block floorings; Doulton & Co., Ltd., sanitary fittings; Yannedis & Co., door furniture; Houlton and Son, Ltd., joinery; Moler Products, Ltd., hollow blocks; Central Joinery, and Wm. Mallinson and Sons, Ltd., flush doors.

Broadcasting House, Birmingham (pages 280-286). General contractors, Allied Guilds, Ltd. Sub-contractors: Parlanti, Ltd., and James Gibbons, Ltd., metalwork; Tucker Armoured Plywood Co., ply-backed building board; Tentest Fibre Board Co., insulation board; Best and Lloyd, Ltd., and Troughton and Young, lighting fittings; Pel, Ltd., steel furniture; Donald Bros., special woven fabrics; Wilton Royal Carpet Factory, Ltd., carpets; Lacotile, Ltd., tops of special tables; Docker Bros., synthetic resin; Synchronome Co., clocks.

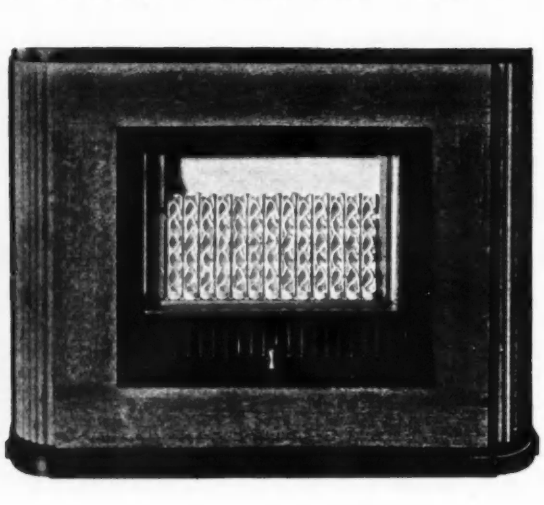
Asphalt Floors

Our attention has been drawn to the fact that in the Information Sheet giving costs of finishings, which was published in our issue for December 14, 1933, no prices were given for the many types of asphalt which are now available for different purposes. These prices vary somewhat according to the area of floor and the type of traffic it has to withstand, but for ordinary flooring 4s. to 7s. 6d. is an average amount, acid-resisting types costing up to 30s. for high temperatures and concentrations. Coloured asphalts and asphalt-terrazzos vary from 12s. to 30s., green being the most expensive in each case. All the above figures give cost per square yard.

It is interesting to note that asphalt has been used for paving and flooring since at least 1870. It provides a homogeneous, jointless surface, which is claimed to be waterproof, and is further stated to be smooth but not slippery, is dustless and comparatively noiseless and "soft" to the feet. Other claims put forward for asphalt are: "It is non-rigid and is consequently not liable to crack like other non-plastic substances. It does not affect metals, but, on the contrary, protects them. It is hygienic, being non-absorbent, odourless, and easily washed, and is not attacked by rot or vermin. If it should become damaged it can be easily repaired, the new material joining with the old without the addition of any cementing medium. It can be applied around projections and recesses, and can follow the plan of the building without any break in its continuity."

Change of Address

Messrs. Bank, Cardew and Gray are now practising at 1c, King Street, St. James's, S.W., and will be pleased to receive trade catalogues, samples, etc.



A Flavel wall gas fire, with marble surround.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILE RADIUS)

BANSTEAD. *Central School.* The Surrey Education Committee is to erect a central school for 720 children in Great Tattenham Way.

CATERHAM. *Houses.* Plans passed by the U.D.C.: Three houses, Addison Road, for Messrs. Batchelar and Son; two houses, Bakers Hill, for Mr. F. Lincoln; three shops, Croydon Road, for Mr. T. F. Allen; lay-out of 26 houses, Hillbury Road, for Messrs. R. J. Clarke & Co.; lay-out for 46 houses, Markfield Estate, for Messrs. J. A. Smith and Son; two houses, Hilltop Lane, Chaldon, for Mr. M. Evans.

DARTFORD. *Houses.* Plans passed by the Corporation: Two houses, Chastilian Road, for Mr. G. H. Giles; two houses, Wilmot Road, for Mr. R. F. Rons; two houses, Knowle Road, for Messrs. H. C. Wright & Co., Ltd.; 26 houses, off Princes Road, for Messrs. J. Frankling & Co. The Corporation is seeking permission from the Ministry of Health to complete the development of the Heath Lane estate, where there is room for an additional 135 houses.

EPSOM. *School.* The Board of Education has approved plans for the erection of a Roman Catholic school for 280.

KENSINGTON. *Hospital and Nurses' Home.* The L.C.C. is to extend the St. Charles' Hospital, Ladbroke Road, and erect a nurses' home, at a cost of £34,568.

LEWISHAM. *Houses.* Plans passed by the B.C.:—Four houses, Brockley Park, for Mr. L. A. Culliford; two houses, Duncombe Hill, for Mr. W. Baker; 18 houses, The Woodlands, for Mr. P. B. Dannatt; two houses, Westwood Park, for Mr. J. Lax.

MARYLEBONE. *Baths.* The B.C. has now obtained sanction for a loan of £150,000 for the erection of baths at Seymour Place.

MITCHAM. *School.* The Surrey Education Committee has approved revised plans for the erection of a school at Pollards Hill, at a cost of £33,605.

SHEPHERD'S BUSH. *Remand Home.* The L.C.C. is to erect a remand home at Goldhawk Road, at an estimated cost of £37,000.

WATFORD. *Houses and Flats.* Plans passed by the Corporation: Three shops and flats, High Street, for Watford Ideal Homes; three houses, Lower Paddock Road, for Mr. J. Grover; two houses, Berceau Walk, for Mr. E. W. Puddifoot; two houses, Tudor Walk, for Messrs. Rice and Sons; eight houses, Balmoral Road, for Mr. W. Simmonds; 10 houses, Bushey Mill Lane, for Messrs. Rice and Sons.

The Hillingdon Estate Co. has prepared plans for the erection of 38 houses on the Kingswood estate.

WOLDINGHAM. *School.* The Surrey Education Committee is to acquire compulsorily a site in Godstone Road, for the erection of a central school.

SOUTHERN COUNTIES

HASTINGS. *Houses and Bungalows.* Plans passed by the Corporation: 26 houses, Old London Road, for Mr. F. Gordon Watford; two bungalows, Red Lane, for Mr. B. F. Pennells; two houses, Park View, for Messrs. Jeffery and Bowcock; six houses, Fairlight Avenue, for Messrs. Jeffery and Bowcock.

NEWPORT (I.O.W.). *Houses.* The Corporation has approved plans for the erection of 22 houses, on the Barton estate, at an estimated cost of £7,800.

OXFORD. *Houses and Works Extensions.* Plans passed by the Corporation: Four houses, Ridgway Road, Headington, for Messrs. L. J. Davies & Co.; six houses, Staunton Road, for Messrs. R. and R. Lewis, Ltd.; 38 houses, Westfield estate, Cowley, for Isis Properties, Ltd.; three shops, Oxford Road, Cowley, for Mr. J. E. Cammell; works extensions, Cherwell Street, for Messrs. Mintys; eight houses, Fern Hill Road, for Dern Hill Building Co., Ltd.; two houses, Windmill Road, Headington, for Messrs. Pye Bros.

PORTSMOUTH. *Houses and Shops.* Plans passed by the Corporation: Four houses, Kenilworth Road, for Mr. V. G. Moore; flats, Winstanley Road and Newcomen Road, for Messrs. E. and A. Sprigings; two houses, Havant Road, for Mr. H. Westbrook; 22 houses, Doyle Avenue, Hilsea, for Mr. R. J. Winnicott; 19 houses, Salisbury Road, Cosham, for Messrs. Williams Bros.; three houses, Burrill Avenue, for Mr. W. E. Ekers; two houses, Carmarthen Avenue, for Mr. H. R. Horsey; two houses, Strode Road, for Mr. F. H. Dyer; shop premises, High Street, Cosham, for Messrs. Timothy White, Ltd., four houses, Grove Road, for Mr. C. V. Thorpe; eight houses, Hayling Avenue, for Messrs. Dye Bros.; nine houses, Shirley Avenue, for Mr. F. White; two shops, Cosham High Street, for Mr. W. F. Coles; 10 houses, Kirby Road, for Mr. V. Dye; houses, off Tipnor Road, for Victory Housing Society. Plans submitted: 30 houses, Hayling Avenue, for Messrs. Morey and Flowers.

SWINDON. *Houses, Flats, Offices, etc.* Plans passed by the Corporation: Shop, offices and flats, Victoria Road, for Messrs. J. T. Parsons and Sons; two houses, Marlborough Road, for Messrs. E. H. Bradley and Sons; two houses, Downs View Road, for Messrs. Pope Bros.; premises for National Provincial Bank, Regent Street, for Mr. F. R. C. Palmer; four houses, Downs View Road, for Messrs. Tydeman Bros., Son & Co., Ltd.; two houses, Shelley Street, for Mr. A. J. Colborne. Mr. A. J. Colbourne has prepared a scheme for the erection of about 600 houses in the vicinity of Drive Road.

TORQUAY. *Houses and Flats.* Plans passed by the Corporation: Six houses, Roundhill Road, for Mr. G. W. Chisholm; two houses, Reeves Road, Chelston, for the Chelston Building Co.; four houses, Florida Road, Warberry Vale, for Mr. F. White; two houses, Boundary Road, Chelston, for Messrs. C. J. Donovan and Sons; three houses, Warberry Road, for Messrs. H. Lloyd and Son; 10 houses, Thurlow Road, for Mr. H. Swayne; two houses, Marldon Road, for Messrs. L. Howard and Son; 12 flats, Babbacombe Road, for Mr. G. W. Hands; 10 houses, Teignmouth Road, for Daison Estates, Ltd.

The Corporation Housing Committee is to acquire approximately 28 acres at Barton for the erection of 200 houses.

MIDLAND COUNTIES

CHESTERFIELD. *Houses.* Plans passed by the Corporation: Two houses, Newbold Lane, for Mr. S. Short; seven houses, Holme Road, for Messrs. Clarke Bros.; shop and house, Derby Road, for Mr. A. Russell; two houses, Derby Road, for Messrs. Ervine & Co.; 10 houses, Hady Hill, for Messrs. C. Buckley and Son; two houses, Rhodes Avenue, for Mr. L. W. Crossley; two houses, Church Street, for Mr. C. Bird; four houses, Storrs' Road, for Messrs. J. Collis and Sons, Ltd.

The Corporation Housing Committee is to prepare plans for the erection of 134 houses for re-housing displaced tenants on the Barker Lane site.

ILKESTON. *Houses.* Plans passed by the Corporation: Eight houses, Flamstead Road, for Long Eaton Building Co., Ltd.; 40 houses, Longfield Lane, for Derby and Notts Estates Co., Ltd.

NORTHERN COUNTIES

BIRKENHEAD. *Aqueduct and Filtration Buildings.* The Corporation is to construct an aqueduct, and erect filtration buildings for the improvement of the water supply at a cost of £51,500. The complete scheme will cost £160,000.

BIRKENHEAD. *Tenements.* The Corporation is to obtain tenders for the erection of tenements in New Chester Road and Chamberlain Street.

BIRKENHEAD. *Houses.* Mr. A. H. Boulton proposes to build 24 houses at Woodchurch Road.

BLYTH. *Bathing Pool.* The Corporation has approved a scheme for the construction of a bathing pool at a cost of £16,000, and appointed Messrs. L. G. Mouchel and Partners as engineers for the scheme.

BLYTH. *Flats and Houses.* Plans passed by the Corporation: 18 flats, Nixon Terrace, for Mr. J. W. Tebble; 20 flats, Princess Louise Road, for Mr. J. E. Dover; two houses, Barras Avenue, for Mr. T. Hedley.

CARLISLE. *Houses.* Plans passed by the Corporation: Two houses, Belah Crescent, for Mr. W. C. Johnson; church hall, Ipperby Road, for Mr. Fawcett Martindale; two houses, London Road, for Mr. S. W. B. Jack; 38 houses, off London Road, for Messrs. T. Irwin and Sons, Ltd.; two houses, Brampton Road, for Mr. H. E. Scarborough; two houses, Millholme Avenue, for Messrs. Benwell and Slack; two houses, Scotland Road, for Messrs. Blakeley and Sons; shop and house, Scalegate Road, for Mr. A. Rose.

Manufacturers' Items

Messrs. Bell Brothers (Manchester, 1927), Ltd., of Calder Ironworks, Denton, near Manchester, have sent us a copy of their latest booklet, which is devoted to illustrations and a description of some of their manufactures. These include Bell's patent pressure filters; gravity filters; water softening plants; filtration, aerating and heating apparatus for public baths; plants for the extraction of grease and oil from boiler feed water; small type filters for villages, mansions, institutes; chlorinating plants, etc.

In the preface to the booklet, it is pointed out that "hard water owes its objectionable qualities to the presence of compounds of lime and magnesia, chiefly the carbonates and sulphates, but occasionally also the chlorides and nitrates. Many methods have been tried to overcome such difficulties, but it is now generally recognized that the most satisfactory and the cheapest is to soften water by a combination of chemical and mechanical means. The softening of hard water is not, as is sometimes assumed, an intricate or expensive matter, as the manipulation is very simple and the chemicals used are lime and carbonate of soda. The mechanical operations involved in the softening of hard water include the mixing of the chemicals with the water, the separation of the precipitate produced, and the subsequent carbonating of the softened water. In this process it has been found possible by a special method to increase the rate of subsidence of the precipitate to a very great extent. This is effected by the simple expedient of stirring up, every time a tankful of water is softened, some of the precipitate which has settled from previous operations. This precipitate collects into coarse flakes at the bottom of the tank, and these when stirred up and allowed to resettle, carry down with them the fine particles of the new precipitate."

The process being based upon correct scientific principles, the firm claim that they are able to soften water by means of the cheapest chemicals used in the most economical proportions. As the excess of alkali introduced into the water does not exceed $1\frac{1}{2}°$ of alkalinity the subsequent carbonating of the softened water is, it is further stated, easily accomplished, and thereby a soft water is produced which is suitable for all purposes.

Copies of the booklet are obtainable from the firm at the address given.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I s. d.	II s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A_1	Abergavenny ..	S Wales & M.	1 5	1 0½
A_2	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1½
A_2	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1½
A	Airdrie ..	Scotland	*1 5½	1 1½
C	Aldeburgh ..	E. Counties	1 1½	10½
A	Altrincham ..	N.W. Counties	1 5½	1 1½
B_2	Appleby ..	N.W. Counties	1 2	10½
A	Ashton-under-Lyne	N.W. Counties	1 5½	1 1½
A_2	Atherstone ..	Mid. Counties	1 4	1 0
B_1	Aylesbury ..	S. Counties	1 2½	11
B_1	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_2	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1½
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow ..	N.W. Counties	1 5½	1 1½
A	Barry ..	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke ..	S.W. Counties	1 3	11½
A_2	Bath	S.W. Counties	1 4½	1 0½
A	Batley ..	Yorkshire	1 5½	1 1½
A_2	Bedford ..	E. Counties	1 4½	1 0½
A_2	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_2	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	*1 7	1 2½
A	Birmingham	Mid. Counties	1 5½	1 1½
A_1	Bishop Auckland	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1½
A	Blackpool ..	N.W. Counties	1 5½	1 1½
A	Blyth ..	N.E. Coast	1 5½	1 1½
B_1	Bognor ..	S. Counties	1 3	11½
A	Bolton ..	N.W. Counties	1 5½	1 1½
A_2	Boston ..	Mid. Counties	1 4	1 0
A_2	Bournemouth ..	S. Counties	1 4	1 0
B_2	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1½
A_1	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M.	1 5½	1 1½
B_1	Bridgwater ..	S.W. Counties	1 3	11½
A_1	Bridlington ..	Yorkshire	1 5	1 0½
A	Brighouse ..	Yorkshire	1 5½	1 1½
A_2	Brighton ..	S. Counties	1 4	1 0
A	Bristol ..	S.W. Counties	1 5½	1 1½
B_2	Brixham ..	S.W. Counties	1 2½	11
A_2	Bromsgrove ..	Mid. Counties	1 4½	1 0½
B_2	Bromyard ..	Mid. Counties	1 2	10½
A	Burnley ..	N.W. Counties	1 5½	1 1½
A	Buralem ..	Mid. Counties	1 5½	1 1½
A	Burton-on-Trent	Mid. Counties	1 5½	1 1½
A	Bury ..	N.W. Counties	1 5½	1 1½
A_1	Buxton ..	N.W. Counties	1 5	1 0½
A_1	CAMBRIDGE	E. Counties	1 5	1 0½
B_1	Canterbury ..	S. Counties	1 3	11½
A	Cardiff ..	S. Wales & M.	1 5½	1 1½
A	Carlisle ..	N.W. Counties	1 5½	1 1½
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Carnforth ..	N.W. Counties	1 5½	1 1½
A	Castleford ..	Yorkshire	1 5½	1 1½
B	Chatham ..	S. Counties	1 3½	11½
A_2	Chelmsford ..	E. Counties	1 4	1 0
A_2	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester ..	N.W. Counties	1 5½	1 1½
A	Chesterfield ..	Mid. Counties	1 5½	1 1½
B_1	Chichester ..	S. Counties	1 3	11½
A	Chorley ..	N.W. Counties	1 5½	1 1½
B_1	Cirencester ..	S. Counties	1 3	11½
A	Clitheroe ..	N.W. Counties	1 5½	1 1½
A	Clydebank ..	Scotland	1 5½	1 1½
A	Coalville ..	Mid. Counties	1 5½	1 1½
A_2	Colchester ..	E. Counties	1 4	1 0
A	Colne ..	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_1	Consett ..	N.E. Coast	1 5	1 0½
A_2	Conway ..	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1½
A_2	Crewe	N.W. Counties	1 4½	1 0½
A_2	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1½
A	Darwen ..	N.W. Counties	1 5½	1 1½
B_1	Deal	S. Counties	1 3	11½
A_2	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby ..	Mid. Counties	1 5½	1 1½
A	Dewsbury ..	Yorkshire	1 5½	1 1½
B	Didcot ..	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1½
B_2	Dorchester ..	S.W. Counties	1 2½	11
A_2	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley ..	Mid. Counties	1 5½	1 1½
A	Dundee ..	Scotland	1 5½	1 1½
A	Durham ..	N.E. Coast	1 5½	1 1½
A_2	EASTBOURNE ..	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1½
A_1	E. Glamorganshire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter ..	S.W. Counties	*1 4½	1 0½
B	Exmouth ..	S.W. Counties	1 3½	11½
A_2	FELIXSTOWE	E. Counties	1 4	1 0
A_2	Filey	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1½
B_1	Folkestone ..	S. Counties	1 3	11½
A	Frodsham ..	N.W. Counties	1 5½	1 1½
B_2	Frome	S.W. Counties	1 2½	11
A	GATESHEAD ..	N.E. Coast	1 5½	1 1½
B	Gillingham ..	S. Counties	1 3½	11½
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole	Yorkshire	1 4½	1 0½
A_2	Gosport ..	S. Counties	1 4½	1 0½
A_2	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0½
A	Greenock ..	Scotland	*1 5½	1 1½
A	Grimsby ..	Yorkshire	1 5½	1 1½
B	Guildford ..	S. Counties	1 3½	11½
A	HALIFAX ..	Yorkshire	1 5½	1 1½
A	Hanley ..	Mid. Counties	1 5½	1 1½
A	Harrogate ..	Yorkshire	1 5½	1 1½
A	Hartlepools ..	N.E. Coast	1 5½	1 1½
B	Harwich ..	E. Counties	1 3½	11½
B_1	Hastings ..	S. Counties	1 3	11½
A_2	Hatfield ..	S. Counties	1 4½	1 0½
B	Hereford ..	S.W. Counties	1 3½	11½
A_2	Hertford ..	E. Counties	1 4½	1 0½
A	Heysham ..	N.W. Counties	1 5½	1 1½
A	Howden ..	N.E. Coast	1 5½	1 1½
A	Huddersfield ..	Yorkshire	1 5½	1 1½
A	Hull	Yorkshire	1 5½	1 1½
A	ILKLEY ..	Yorkshire	1 5½	1 1½
A	Immingham ..	Mid. Counties	1 5½	1 1½
A_2	Ipswich ..	E. Counties	1 4½	1 0½
B_2	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1½
A	KEIGHLEY ..	Yorkshire	1 5½	1 1½
B	Kendal ..	N.W. Counties	1 3½	11½
B	Keswick ..	N.W. Counties	1 3½	11½
A_2	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster	Mid. Counties	1 4½	1 0½
B_1	King's Lynn ..	E. Counties	1 3	11½
A	LANCASTER ..	N.W. Counties	1 5½	1 1½
A_1	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester ..	Mid. Counties	1 5½	1 1½
A	Leigh	N.W. Counties	1 5½	1 1½
B_2	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln	Mid. Counties	1 5½	1 1½
	Liverpool ..	N.W. Counties	*1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly ..	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12-15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1½
A	Loughborough	Mid. Counties	1 5½	1 1½
A_2	Luton	E. Counties	1 4	1 0
A	Lytham ..	N.W. Counties	1 5½	1 1½
A_1	MACCLESFIELD	N.W. Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11½
A_2	Malvern ..	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1½
A	Mansfield ..	Mid. Counties	1 5½	1 1½
B_1	Margate ..	S. Counties	1 3	11½
A	Matlock ..	Mid. Counties	1 4	1 0
A_1	Merthyr ..	S. Wales & M.	1 5	1 0½
A	Middlesbrough	N.E. Coast	1 5½	1 1½
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1 2½	11
A	Morecambe ..	N.W. Counties	1 5½	1 1½
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson	N.W. Counties	1 5½	1 1½
A	Newcastle ..	N.E. Coast	1 5½	1 1½
A	Newport ..	S. Wales & M.	1 5½	1 1½
A	Normanton ..	Yorkshire	1 5½	1 1½
A	Northampton	Mid. Counties	1 5½	1 1½
A	North Staffs ..	Mid. Counties	1 5½	1 1½
A	North Shields ..	N.E. Coast	1 5½	1 1½
A_1	Norwich ..	E. Counties	1 5	1 0½
A	Nottingham ..	Mid. Counties	1 5½	1 1½
A	Nuneaton ..	Mid. Counties	1 5½	1 1½
A_3	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham ..	N.W. Counties	1 5½	1 1½
A_2	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford ..	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	*1 5½	1 1½
B_3	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth ..	Scotland	*1 5½	1 1½
A_2	Peterborough ..	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	*1 5½	1 1½
A	Pontefract ..	Yorkshire	1 5½	1 1½
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_2	Portsmouth ..	S. Counties	1 4½	1 0½
A	Preston ..	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate ..	S. Counties	1 3½	11½
A_3	Retford ..	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A_3	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1½
B	Rochester ..	S. Counties	1 3½	11½
A_1	Ruabon ..	N.W. Counties	1 5	1 0½
A	Rugby	Mid. Counties	1 5½	1 1½
A_2	Rugeley ..	Mid. Counties	1 4½	1 0½
A	Runcorn ..	N.W. Counties	1 5½	1 1½
A_1	ST. ALBANS ..	E. Counties	1 5	1 0½
A	St. Helens ..	N.W. Counties	1 5½	1 1½
B_2	Salisbury ..	S.W. Counties	1 2½	11
A_1	Scarborough ..	Yorkshire	1 5	1 0½
A	Scunthorpe ..	Mid. Counties	1 5½	1 1½
A	Sheffield ..	Yorkshire	1 5½	1 1½
A	Shipley ..	Yorkshire	1 5½	1 1½
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton ..	Yorkshire	1 4½	1 0½
A_2	Slough	S. Counties	1 4½	1 0½
A_1	Solihull ..	Mid. Counties	1 5	1 0½
A_2	Southampton ..	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport ..	N.W. Counties	1 5½	1 1½
A	S. Shields ..	N.E. Coast	1 5½	1 1½
A_1	Stafford ..	Mid. Counties	1 5	1 0½
A	Stockport ..	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud	S.W. Counties	1 3½	11½
A	Sunderland ..	N.E. Coast	1 5½	1 1½
A	Swadlincote ..	Mid. Counties	1 5½	1 1½
A	Swansea ..	S. Wales & M.	1 5½	1 1½
A_3	Swindon ..	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton ..	S.W. Counties	1 3½	11½
A	Teesside Dist. ..	N.E. Counties	1 5½	1 1½
A_3	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1½
A_1	Torquay ..	S.W. Counties	1 5	1 0½
B_2	Truro	S.W. Counties	1 2½	11
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall ..	Mid. Counties	1 5½	1 1½
A	Tyne District ..	N.E. Coast	1 5½	1 1½
A	WAKEFIELD	Yorkshire	1 5½	1 1½
A	Walsall ..	Mid. Counties	1 5½	1 1½
A	Warrington ..	N.W. Counties	1 5½	1 1½
A_1	Warwick ..	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid. Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby	Yorkshire	1 4½	1 0½
A	Widnes	N.W. Counties	1 5½	1 1½
A	Wigan	N.W. Counties	1 5½	1 1½
B	Winchester ..	S. Counties	1 3½	11½
A_2	Windsor ..	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_3	Worksop ..	Yorkshire	1 4	1 0
A_1	Wrexham ..	N.W. Counties	1 5	1 0½
A_3	Wycombe ..	S. Counties	1 4	1 0
B_2	YARMOUTH ..	E. Counties	1 3	11½
B_1	Yeovil	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	1 1½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	£ s. d.
Bricklayer . . . per hour	1 7
Carpenter . . . . ,,	1 7
Joiner . . . . ,,	1 7
Machinist . . . . ,,	1 8
Mason (Banker) . . . ,,	1 7
,, (Fixer) . . . ,,	1 8
Plumber . . . . ,,	1 7
Painter . . . . ,,	1 6
Paperhanger . . . ,,	1 6
Glazier . . . . ,,	1 7
Slater . . . . ,,	1 7
Scaffolder . . . . ,,	1 3
Timberman . . . . ,,	1 3
Navvy . . . . ,,	1 2½
General Labourer . . . ,,	1 2½
Lorryman . . . . ,,	1 5
Crane Driver . . . . ,,	1 6
Watchman . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£ s. d.
Grey Stone Lime . . . per ton	2 2 0
Blue Lias Lime . . . ,,	1 16 6
Hydrated Lime . . . ,,	3 0 9
Portland Cement . . . ,,	2 6 0
Rapid Hardening Cement . . ,,	2 13 6
White Portland Cement . . ,,	8 15 0
Thames Ballast . . . per Y.C.	6 3
¾" Crushed Ballast . . . ,,	6 9
Building Sand . . . ,,	7 3
Washed Sand . . . ,,	8 3
2" Broken Brick . . . ,,	8 0
¾" ,, ,, . . . ,,	10 3
Pan Breeze . . . ,,	6 6
Coke Breeze . . . ,,	8 9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

	4" s. d.	6" s. d.
Straight Pipes . .per F.R	0 9	1 1
Bends . . . each	1 9	2 6
Taper Bends . . ,,	3 6	5 3
Rest Bends . . ,,	4 3	6 3
Single junctions . . ,,	3 6	5 3
Double . . . ,,	4 9	6 6
Straight channels . .per F.R.	1 6	2 6
¾" Channel bends . . each	2 9	4 0
Channel junctions . ,,	4 6	6 6
Channel tapers . . ,,	2 9	4 0
Yard gullies . . ,,	6 9	8 9
Interceptors . . ,,	16 0	19 6
IRON DRAINS:		
Iron drain pipe . . per F.R.	1 6	2 6
Bends . . . each	5 0	10 6
Inspection bends . . ,,	9 0	15 0
Single junctions . . ,,	8 9	18 0
Double junctions . . ,,	13 6	30 0
Lead wool . . lb.	6	—
Gaskin . . ,,	5	—

BRICKLAYER

	£ s. d.
Flettons . . . per M.	2 18 0
Grooved do. . . . ,,	3 0 0
Phorpres bricks . . ,,	2 18 0
Stocks, 1st quality . . ,,	4 11 0
,, 2nd ,, . . ,,	4 2 6
Blue Bricks, Pressed . . ,,	8 17 6
,, Wirecuts . . ,,	7 17 6
,, Brindles . . ,,	7 0 0
,, Bullnose . . ,,	9 0 0
Red Sand-faced Facings . ,,	6 18 6
Red Rubbers for Arches . ,,	12 0 0
Multicoloured Facings . ,,	7 10 0
Luton Facings . . ,,	7 10 0
Phorpres White Facings . ,,	3 17 3
Phorpres Rustic Facings . ,,	3 12 3
Midhurst White Facings . ,,	5 0 0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:	
Stretchers . . . ,,	21 0 0
Headers . . . ,,	20 10 0
Bullnose . . . ,,	27 10 0
Double Stretchers . . ,,	29 10 0
Double Headers . . ,,	26 10 0
Glazed Second Quality, *Less* . ,,	1 0 0
,, Buffs and Creams, *Add* . ,,	2 0 0
,, Other Colours . . ,,	5 10 0
2" Breeze Partition Blocks . per Y.S.	1 7
2½" ,, ,, ,, . . ,,	1 1/-
3" ,, ,, ,, . . ,,	2 1
4" ,, ,, ,, . . ,,	2 6

MASON

The following d/d F.O.R. at Nine Elms:	s. d.
Portland stone, Whitbed . . F.C.	4 4½
,, ,, Basebed . . ,,	4 9
Bath stone . . . . ,,	2 11
York stone . . . . ,,	6 6
,, ,, Sawn templates . . ,,	7 6
,, ,, Paving, 2" . . . F.S.	1 8
,, ,, ,, 3" . . . ,,	2 6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£ s. d.
24" × 12" Duchesses . . per M.	28 17 6
22" × 12" Marchionesses . . ,,	24 10 0
20" × 10" Countesses . . ,,	19 5 0
18" × 10" Viscountesses . . ,,	15 10 0
18" × 9" Ladies . . . ,,	13 17 6
Westmorland green (random sizes) . per ton	8 10 0
Old Delabole slates d/d in full truck loads to Nine Elms Station:	
20" × 10" medium grey per 1,000 (actual)	21 11 6
,, ,, green ,, ,,	24 7 4
Best machine roofing tiles . . ,,	4 10 0
Best hand-made do. . . . ,,	5 0 0
Hips and valleys . . . each	9½
,, hand-made . . . ,,	10
Nails, compo . . . lb.	1 4
,, copper . . . ,,	1 6

CARPENTER AND JOINER

	s. d.
Good carcassing timber . F.C.	2 2
Birch . . . as 1" F.S.	9
Deal, Joiner's . . ,, ,,	5
,, ,, 2nds . . ,, ,,	4
Mahogany, Honduras . . ,,	1 3
,, African . . ,, ,,	1 1
,, Cuban . . ,, ,,	2 6
Oak, plain American . . ,,	1 0
,, Figured ,, . . ,,	1 3
,, Plain Japanese . . ,,	1 2
,, Figured ,, . . ,,	1 5
,, Austrian wainscot . ,,	1 6
,, English . . ,,	1 11
Pine, Yellow . . ,,	1 0
,, Oregon . . ,,	4
,, British Columbian . ,,	4
Teak, Moulmein . . ,,	1 3
,, Burma . . ,,	1 2
Walnut, American . . ,,	2 3
,, French . . ,,	2 3
Whitewood, American . ,,	1 1

Deal floorings,	Sq.	18 6
,,	,,	1 1 6
,,	,,	1 2 0
,,	,,	1 5 0
,,	,,	1 10 0
Deal matchings	,,	14 0
,,	,,	15 6
,,	,,	1 4 0
Rough boarding	,,	16 0
,,	,,	18 0
,,	,,	1 6 0

Plywood, per ft. sup.

Thickness	¼"	⅜"	½"
Qualities	AA. A. B.	AA. A. B.	AA. A. B.
	d. d. d.	d. d. d.	d. d. d.
Birch	4 3 2	5 4 3	7½ 6 4½
Alder.	3½ 3 2	5 4 3	6½ 5½ 4½
Gaboon Mahogany	4 3 3	6½ 5½ 4½	9½ 7½ –
Figured Oak 1 side	8½ 7 –	10 8 –	11½ – –
Plain Oak 1 side	6½ 6 –	7½ 7 –	9½ – –
Oregon Pine	5 4 –	5½ 5 –	6 – –

	8"			10"			12"		
	AA.	A.	B.	AA.	A.	B.	AA.	A.	B.
	d.	d.	d.	d.	d.	d.	d.	d.	d.
Birch	8½	7	6	10½	9	7½	12½	10½	8½
Alder.	8	7	6	10	8½	7	12	10	8½
Gaboon Mahogany	11½	9½	7½	14½	12	9½	17½	14½	11½
Figured Oak 1 side	1/0½	10	–	1/3½	1/–	–	1/6½	1/2½	1/–
Plain Oak 1 side	1/–	–	–	1/3	1/–	–	1/6	1/5	1/–
Oregon Pine	–	–	–	–	–	–	–	–	–

	d.
Scotch glue . . . . lb.	8

SMITH AND FOUNDER

Tubes and Fittings:

(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	½"	¾"	1"	1¼"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9
,, 3"-11½" long ,,	7	9	1/3	1/8	3/–
Long screws, 12"-23½" long ,,	11	1/3	2/2	2/10	5/3
,, ,, 3"M-½" long ,,	8	10	1/5	1/11	3/6
Bends . . . ,,	8	11	1/7½	2/7½	5/2
Springs not socketed . ,,	5	7	1/1½	1/11½	3/11
Socket unions . . ,,	2/–	3/–	5/6	6/9	10/–
Elbows, square . . ,,	10	1/1	1/6	2/2	4/3
Tees . . . ,,	1/–	1/3	1/10	2/6	5/1
Crosses . . . ,,	2/2	2/9	4/1	5/6	10/6
Plain Sockets and nipples ,,	3	4	6	8	1/3
Diminished sockets . ,,	4	6	9	1/–	2/–
Flanges . . . ,,	9	1/–	1/4	1/9	2/9
Caps . . . ,,	3½	5	8	1/–	2/–
Backnuts . . . ,,	2	3	5	6	1/1
Iron main cocks . . ,,	1/6	2/3	4/2	5/4	11/6
,, ,, with brass plugs ,,	—	4/–	7/6	10/–	21/–

Discounts:

TUBES.

Per cent.		Per cent.
Gas . . . 65	Galvanized gas .	52½
Water . . . 61½	,, water	47½
Steam . . . 57½	,, steam	42½

FITTINGS.

Gas . . . 57½	Galvanized gas . 47½
Water . . . 52½	,, water 42½
Steam . . . 47½	,, steam 37½

SMITH AND FOUNDER—*continued*

	s. d.
Rolled steel joists cut to length . . cwt.	10 0
Mild steel reinforcing rods, ¾" . . ,,	8 6
,, ,, ⅝" . . ,,	8 3
,, ,, ½" . . ,,	8 0
,, ,, ⅜" . . ,,	7 6
,, ,, ¼" . . ,,	7 6
,, ,, 1" . . ,,	7 6
,, ,, 1¼" . . ,,	7 6
,, ,, 1½" . . ,,	7 6

	3" s. d.	4" s. d.
Cast-iron rain-water pipes of ordinary thickness metal . F.R	8	10
Shoes . . . each	2 0	3 0
Anti-splash shoes . . ,,	4 6	8 0
Boots . . . ,,	3 0	4 0
Bends . . . ,,	2 7	3 9
,, with access door . ,,	—	6 3
Heads . . . ,,	4 0	5 0
Swan-necks up to 9" offsets . ,,	3 9	6 0
Plinth bends, 4½" to 6" . ,,	3 9	5 3
Half-round rain-water gutters of ordinary thickness metal . F.R.	5	6
Stop ends . . . each	6	6
Angles . . . ,,	1 7	1 11
Obtuse angles . . ,,	2 0	2 6
Outlets . . . ,,	1 9	2 3

PLUMBER

	£ s. d.
Lead, milled sheets . . cwt.	1 0 0
,, drawn pipes . . ,,	17 0
,, soil pipe . . ,,	1 0 0
,, scrap . . ,,	10 6
Solder, plumbers' . . lb.	9½
,, fine do. . . ,,	1 0
Copper, sheet . . ,,	8½
,, tubes . . ,,	11

L.C.C soil and waste pipes:	3"	4"	6"
Plain cast . F.R.	1 0	1 2	2 6
Coated . . ,,	1 1	1 3	2 8
Galvanized . ,,	2 0	2 6	4 6
Holderbats . each	3 10	4 0	4 9
Bends . . ,,	3 9	5 3	10 3
Shoes . . ,,	2 10	4 4	9 6
Heads . . ,,	4 8	8 5	12 9

PLASTERER

	£ s. d.
Lime, chalk . . per ton	2 5 0
Plaster, coarse . . ,,	2 10 0
,, fine . . ,,	4 15 0
Hydrated lime . . ,,	3 0 9
Sirapite . . ,,	3 6 0
Keene's cement . . ,,	5 0 0
Sand, washed . . Y.C.	11 6
Hair . . lb.	6
Laths, sawn . . bundle	2 4
,, rent . . ,,	3 9
Lath nails . . lb.	3½

GLAZIER

	s. d.	s. d.
Sheet glass, 21 oz., squares n/e 2 ft.	s. F.S.	2½
,, ,, 26 oz. ,, ,, ,, ,,		3½
Arctic glass, white . . ,,		7
Cathedral glass, white, dbl.-rolled, plain, hammered, rimpled, waterwite, ,,		6½
¼" Hartley's rough rolled . ,,		7
¼" ,, wired cast . ,,		10
¼" Georgian wired cast . ,,		11
¼" Polished plate, n/e 1 ft. . ,,	†10 to	‡1 1
,, ,, 2 . ,,	†1 2 ,,	‡1 4
,, ,, 3 . ,,	†1 8 ,,	‡1 11
,, ,, 4 . ,,	†2 3 ,,	‡2 6
,, ,, 6 . ,,	†2 7 ,,	‡2 9
,, ,, 8 . ,,	†2 9 ,,	‡3 2
,, ,, 12 . ,,	†3 1 ,,	‡3 7
,, ,, 20 . ,,	†3 7 ,,	‡4 2
,, ,, 45 . ,,	†3 11 ,,	‡4 7
,, ,, 65 . ,,	†4 4 ,,	‡4 11
,, ,, 90 . ,,	†4 9 ,,	‡5 5
,, ,, 100 . ,,	†5 0 ,,	‡5 7
Vita glass, sheet, n/e 1 ft. . ,,		1 0
,, ,, ,, ,, 2 . ,,		1 3
,, ,, ,, over 2 . ,,		1 9
,, ,, plate, n/e 1 ft. . ,,		1 6
,, ,, ,, 2 . ,,		3 0
,, ,, ,, 5 . ,,		4 0
,, ,, ,, 7 . ,,		5 0
,, ,, ,, 15 . ,,		6 0
,, ,, ,, over 15 . ,,		7 6
Putty, linseed oil . . lb.		3

†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

	£ s. d.
White lead in 1 cwt. casks . cwt.	2 6 0
Linseed oil . . . gall.	2 2½
Boiled oil . . . ,,	2 4½
Turpentine . . . ,,	4 1½
Patent knotting . . . ,,	14 0
Distemper, washable . . cwt.	2 6 0
,, ordinary . . ,,	2 0 0
Whitening . . . ,,	4 0
Size, double . . firkin	3 0
Copal varnish . . gall.	13 0
Flat varnish . . ,,	14 0
Outside varnish . . ,,	16 0
White enamel . . ,,	1 15 0
Ready-mixed paint . . ,,	13 6
Brunswick black . . ,,	7 6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR

		£ s. d
Digging over surface n/e 12" deep and cart away	Y.S.	2 9
" to reduce levels n/e 5' 0" deep and cart away	Y.C.	8 6
" to form basement n/e 5' 0" deep and cart away	"	9 0
" " 10' 0" deep and cart away	"	9 6
" " 15' 0" deep and cart away	"	10 0
If in stiff clay	add "	2 6
If in underpinning	" "	4 0
Planking and strutting to sides of excavation	F.S.	1 0
" " to pier holes	"	5
" " to trenches	"	5
" " extra, only if left in	"	3
Hardcore, filled in and rammed	Y.C.	10 0
Portland cement concrete in foundations (6-1)	"	1 6 0
" " (4-2-1)	"	1 12 6
" " underpinning	"	1 16 0
Finishing surface of concrete, spade face	Y.S.	7

DRAINLAYER

		4" s. d.	6" s. d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	E.R.	1 6	2 3
Extra, only for bends	Each	2 8	3 9
" junctions		3 9	4 6
Gullies and gratings	"	16 6	18 0
Cast iron drains, and laying and jointing	F.R.	4 9	6 9
Extra, only for bends	Each	10 6	15 6

BRICKLAYER

		£ s. d.
Brickwork, Flettons in lime mortar	Per Rod	27 10 0
" " in cement	"	28 15 0
" Stocks in cement	"	35 0 0
" Blues in cement	"	52 0 0
Extra only for circular on plan	"	2 0 0
" backing to masonry	"	1 10 0
" raising on old walls	"	2 0 0
" underpinning	"	5 10 0
Fair Face and pointing internally	F.S.	1½
Extra over fletton brickwork for picked stock facings and pointing	"	8½
" " " red brick facings and pointing	"	11
" " " blue brick facings and pointing	"	1 4
" " " glazed brick facings and pointing	"	3 6
Tuck pointing	"	7
Weather pointing in cement	"	3½
Slate dampcourse	"	10
Vertical dampcourse	"	1 1

ASPHALTER

		s. d.
½" Horizontal dampcourse	Y.S.	4 6
½" Vertical dampcourse	"	6 9
½" paving or flat	"	4 0
1" paving or flat	"	5 6
1" × 6" skirting	F.R.	1 0
Angle fillet	"	2
Rounded angle	"	2
Cesspools	Each	5 0

MASON

		s. d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C.	17 9
Bath stone and do., all as last	"	15 6
Artificial stone and do.	"	13 0
York stone templates, fixed complete	"	10 6
" thresholds	"	13 6
" sills	"	1 0 6

SLATER AND TILER

		£ s. d.
Slating, Bangor or equal, laid to a 3" lap, and fixing with compo nails, 20" × 10"	Sqr.	3 10 0
Do., 18" × 9"	"	3 7 0
Do., 24" × 12"	"	3 17 0
Westmorland slating, laid with diminished courses	"	6 0 0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course	"	3 0 0
Do., all as last, but of machine-made tiles	"	2 16 0
20" × 10" medium Old Delabole slating, laid to a 3" lap (grey)	"	4 6 0
" " " " " " (green)	"	4 15 0

CARPENTER AND JOINER

		£ s. d.
Flat boarded centering to concrete floors, including all strutting	Sqr.	2 5 0
Shuttering to sides and soffits of beams	F.S.	8
" to stanchions	"	8
" to staircases	"	1 8
Fir and fixing in wall plates, lintols, etc.	F.C.	3 9
Fir framed in floors	"	4 6
" " roofs	"	6 6
" " trusses	"	7 6
" " partitions	"	8 6
¾" deal sawn boarding and fixing to joists	Sqr.	1 14 6
1" " " " "	"	1 17 6
1½" " " " "	"	2 3 0
4" × 2" fir battening for Countess slating	"	9 6
Do. for 4" gauge tiling	"	12 0
Stout feather-edged tilting fillet	F.R.	4½
Patent inodorous felt, 1 ply	Y.S.	2 3
" " " 2 "	"	2 9
" " " 3 "	"	3 3
Stout herringbone strutting to 9" joists	F.R.	10½
1" deal gutter boards and bearers	F.S.	1 2
1½" " " " "	"	1 6
2" deal wrought rounded roll	F.R.	8
1" deal grooved and tongued flooring, laid complete, including cleaning off	Sqr.	2 1 0
1¼" do.	"	2 10 0
1½" do.	"	2 17 0
1" deal moulded skirting, fixed on, and including grounds plugged to wall	F.S.	1 6
1¼" do.	"	1 9

CARPENTER AND JOINER—*continued*

		s. d
1¼" deal moulded sashes of average size	F.S.	1 9½
2" " " " "	"	1 11½
1½" deal cased frames double hung, of 6" × 3" oak sills, 1¼" pulley stiles, 1¼" heads, 1" inside and outside linings, ⅝" parting beads, and with brass faced axle pulleys, etc., fixed complete	"	3 7
2" " " " "	"	3 10
Extra only for moulded horns	Each	6
1¼" deal four-panel square, both sides, door	F.S.	2 0
2" " " " "	"	2 8
1⅝" " but moulded both sides	"	2 4
2" " " " "	"	3 0
4" × 3" deal, rebated and moulded frames	F.R.	1 0
4½" × 3½" " " "	"	1 4
1¼" deal tongued and moulded window board, on and including deal bearers	F.S.	1 9
1¼" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	"	2 6
1¼" deal moulded wall strings	"	2 1
1½" " outer strings	"	2 4
Ends of treads and risers housed to string	Each	1 9
3" × 2" deal moulded handrail	F.R.	1 3
1" × 1" deal balusters and housing each end	Each	2 0
1¼" × 1¼" " " "	"	2 9
3" × 3" deal wrought framed newels	F.R.	1 3
Extra only for newel caps	Each	6 0
Do., pendants	"	6 6

SMITH AND FOUNDER

		£ s. d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt.	15 6
Riveted plate or compound girders, and hoisting and fixing in position	"	19 6
Do. stanchions with riveted caps and bases and do.	"	19 0
Mild steel bar reinforcement, ½" and up, bent and fixed complete	"	17 6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S.	11
Wrot-iron caulked and cambered chimney bars	Per cwt.	1 10 0

PLUMBER

		£ s. d.
Milled lead and labour in flats	cwt.	1 13 6
Do. in flashings	"	1 17 0
Do. in covering to turrets	"	2 3 0
Do. in soakers	"	1 9 0
Labour to welted edge	F.R.	3½
Open copper nailing	"	3½
Close " "	"	4½

Lead service pipe and fixing with pipe hooks	½" s. d. F.R. 1 0	¾" s. d. 1 2	1" s. d. 1 5	1¼" s. d. 2 1	2" s. d. 3 0	4" s. d. —
Do. soil pipe and fixing with cast lead tacks	—	—	—	—	—	5 9
Extra, only to bends	Each —	—	—	—	2 3	6 3
Do. to stop ends	" 6½	8	9	11	1 0	—
Boiler screws and unions	" 3 3	3 9	5 0	8 0	—	—
Lead traps	" —	—	—	6 3	8 9	—
Screw down bib valves	" 6 9	9 6	11 0	—	—	—
Do. stop cocks	" 9 0	11 0	14 6	20 6	47 0	—
4" cast-iron ½-rd. gutter and fixing					F.R.	1 0
Extra, only stop ends					Each	1 0
Do. angles					"	1 6
Do. outlets					"	2 9
4" dia. cast-iron rain-water pipe and fixing with ears cast on					F.R.	1 2
Extra, only for shoes					Each	1 3
Do. for plain heads					"	5 6

PLASTERER AND TILING

		s. d.
Expanded metal lathing, small mesh	Y.S.	2 3
Do. in n/w to beams, stanchions, etc.	"	3 6
Lathing with sawn laths to ceilings	"	1 4
½" screeding in Portland cement and sand for tiling, wood block floor, etc.	"	1 8
Do. vertical	"	2 1
Rough render on walls	"	1 3
Render, float and set in lime and hair	"	1 11
Render and set in Sirapite	"	2 1
Render, backing in cement and sand, and set in Keene's cement	"	2 10
Extra, only if on lathing	"	4
Keene's cement, angle and arris	F.R.	6
Arris	"	2
Rounded angle, small	"	3
Plain cornices in plaster, including dubbing out, per 1" girth	"	1½
1" granolithic pavings	Y.S.	3 6
1½" "	"	4 6
6" × 6" white glazed wall tiling and fixing on prepared screed	"	17 6
9" × 3" " " " "	"	1 2 6
Extra, only for small quadrant angle	F.R.	8

GLAZIER

		s. d.
21 oz. sheet glass and glazing with putty	F.S.	7½
26 oz. do. and do.	"	8½
Arctic glass and glazing with putty	"	1 1
Cathedral glass and do.	"	1 2
Glazing only, British polished plate	"	7
Extra, only if in beads	"	2
Washleather	F.R.	4

PAINTER

		s. d.
Clearcolle and whiten ceilings	Y.S.	6½
Do. and distemper walls	"	9
Do. with washable distemper	"	1 1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	"	3 3
Do. on woodwork	"	3 6
Do. on steelwork	"	3 0
Do. and brush grain and twice varnish	"	5 6
Stain and twice varnish woodwork	"	1 11
Stain and wax-polish woodwork	"	4 6
French polishing	F.S.	1 2
Stripping off old paper	Piece	2 0
Hanging ordinary paper	from "	2 9

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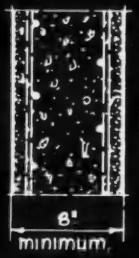
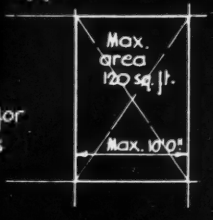
WALLS:
Generally regulations as to walls etc (thickness, construction, overhang etc) in the Reinforced Concrete Code of Practice are as in the Steelwork code, but in addition walls as shown at 1. & 2. are permitted.

1. PARTY WALLS,
Party walls of reinforced concrete are permitted provided they are cast in situ of 1:2:4 concrete (or richer) properly reinforced with steel & are at least 8" thick, & have the reinforcement anchored to structural framework.



2. PANEL WALLS IN ONE STOREY BUILDINGS:
Panel walls of solid bricks in cement mortar, not less than 4½" thick are permitted if adequately supported by piers, stanchions or beams.
Maximum width of panel, clear between vertical supports, 10'0"
Maximum area, in clear, 120 sq. feet.



Maximum sizes for brick panel walls 4½" thick.

MINIMUM SUPERIMPOSED LOADS on each floor & on the roof shall be estimated as equivalent to the following Dead loads:

CLASS Nº	TYPE OF BUILDING OR FLOOR.	Slabs Lbs. per sq. foot of floor area.	Beams, columns Piers, walls & foundations Lbs. per sq. foot of floor area.
1.	Rooms used for domestic purposes, hotel bedrooms, hospital rooms & wards	50.	40.
2.	Offices, floors above entrance floor	80.	50.
3.	Offices, entrance floor & floors below entrance floor	80.	80.
4.	Churches, schools, reading rooms art galleries & the like	80.	70.
5.	Retail shops & garages for cars of not more than two tons dead weight	80.	80.
6.	Assembly halls, drill halls, dance halls, gymnasia, light workshops, public spaces in hotels & hospitals, staircases & landings, theatres, cinemas, restaurants & grandstands	100.	100.
7.	Warehouses, book stores, stationery stores & similar uses, together with garages for motor vehicles exceeding two tons dead weight, actual load to be calculated but not less than	200.	200.
	ROOFS.	Lbs. per sq. foot of Covered Area.	Lbs. per sq. foot of Covered Area.
8.	Flat roofs & roofs inclined at an angle with the horizontal of not more than 20°	50.	30.

NOTE In every building scheduled for an applied loading exceeding 100 lbs. per sq. ft a notice shall be permanently exhibited in a conspicuous place on every floor stating the total superimposed load per sq. foot for which the floor has been designed. (inclusive of partitions if any.).

BENDING MOMENTS to be assumed in continuous spans in cases of uniformly distributed loading over a number of approximately equal spans.

Near middle of end span.	At support next to end support.	At middle of Interior spans.	At other Interior supports.
$+\frac{Wl.}{10}$	$-\frac{Wl.}{10}$	$+\frac{Wl.}{12}$	$-\frac{Wl.}{12.}$

Information from W.E.J. Budgen, B.Sc, A.M. Inst. C.E.

INFORMATION SHEET DIGEST OF THE CODE OF PRACTICE FOR REINFORCED CONCRETE: WALLS, FLOOR LOADS, ETC.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.1.

Supplement to THE ARCHITECTS' JOURNAL for February 22. 1934

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INFORMATION SHEET

• 85 •

THE CONCRETE CODE

(iv)

THIS is the fourth of a series of six Information Sheets dealing with the new concrete code. In it are given details of the party and panel walls which are now suggested, in addition to those already allowed under the steelwork code. Minimum superimposed loads for roofs and floors in different types of building are also shown, with the proposed formulæ for calculating bending moments.

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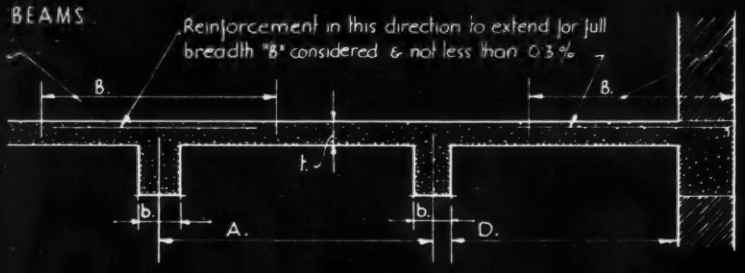
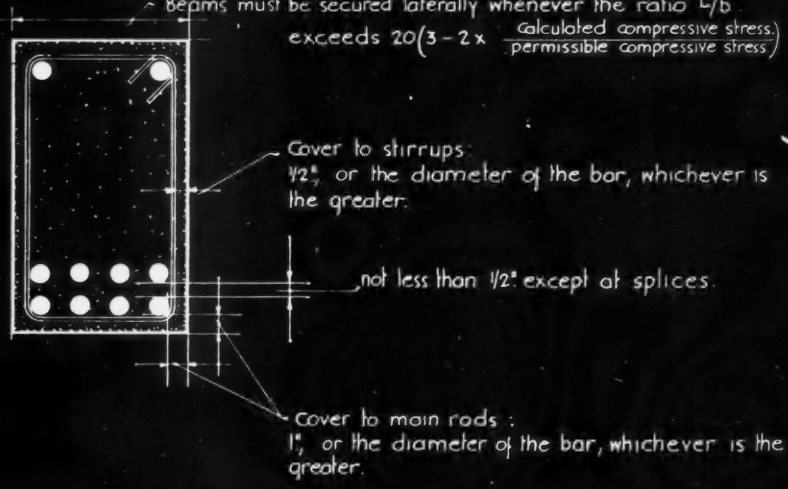
RULES FOR T. & L. BEAMS.

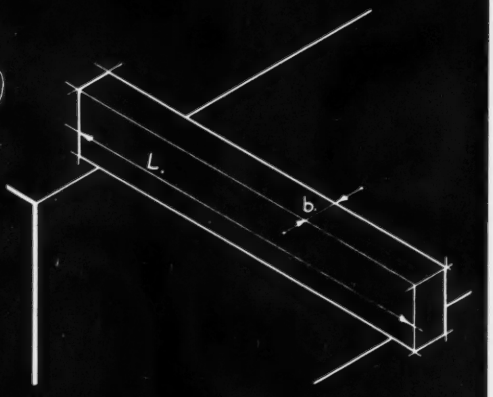
Breadth "B" of slab to be considered as forming compression flange not to exceed (1) 1/3 effective span, (2) A (3) b + 12t.



Breadth "B" of slab to be considered as forming compression flange not to exceed (1) 1/6 effective span, (2) Breadth "b" of rib + $\frac{D}{2}$ (3) Breadth "b" of rib + 4t.

RULES FOR RECTANGULAR BEAMS.

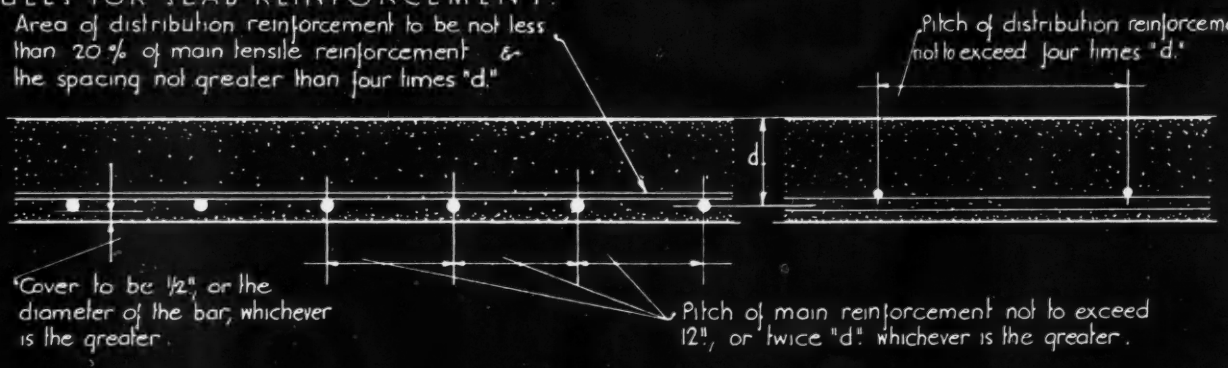




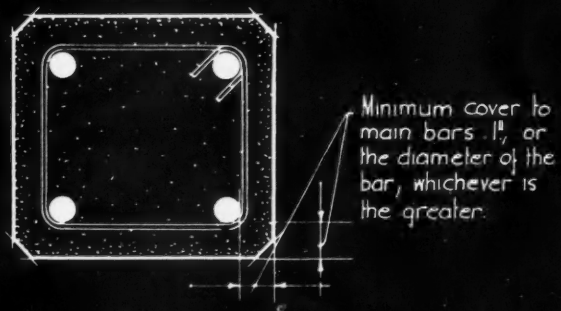
Beams shall be secured laterally whenever the ratio L/b. exceeds: $20\left(3 - 2 \times \frac{\text{Calculated compressive stress}}{\text{permissible compressive stress}}\right)$

RULES FOR SLAB REINFORCEMENT.

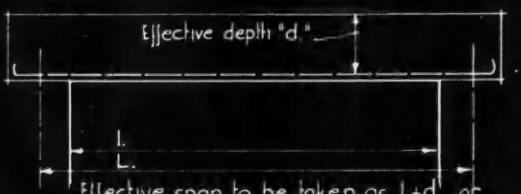
Area of distribution reinforcement to be not less than 20% of main tensile reinforcement & the spacing not greater than four times "d."



RULES FOR COVER TO COLUMN BARS.



EFFECTIVE SPAN FOR BEAMS & SLABS.



Effective span to be taken as l+d, or L. where L is the distance between centres of necessary bearing surfaces, whichever is the lesser.

Information from W. E. J. Budgen, B.Sc., A.M.Inst.C.E.

INFORMATION SHEET: DIGEST OF THE CODE OF PRACTICE FOR REINFORCED CONCRETE: SLABS, BEAMS & COLUMNS.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1.

Supplement to THE ARCHITECTS' JOURNAL for February 22, 1934

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INFORMATION SHEET

• 86 •

THE CONCRETE CODE

(v)

THIS, the fifth of the series of six Information Sheets dealing with the new concrete code, defines the dimensions on which formulæ are to be based, and gives rules for the covering of reinforcing bars. The fourth of the series is also presented with this issue.

CHELSEA SUSPENSION BRIDGES

THE PROPOSED AND EXISTING DESIGNS

ABOVE is a drawing of the new Chelsea suspension bridge, the design for which has been formally approved by the L.C.C. and the Royal Fine Art Commission; and a photograph of the existing structure.

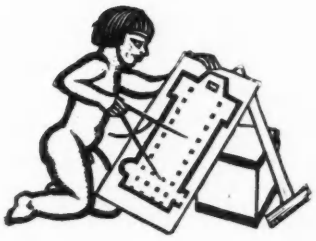
The new bridge, designed by Mr. G. Topham Forrest, Superintending Architect to the L.C.C., is to be of steel, with river piers and abutments of granite, and will have a total span of approximately 700 ft. The cost is estimated at £480,000.

The existing suspension bridge, designed by Thomas Page, was erected at a cost of £112,106 and was opened in 1858. It was owned originally by a private company, and was not freed of toll until 1879.

PREPARING FOR THE MERSEY TUNNEL

An infra-red photograph showing the site in the Old Haymarket, Liverpool, which has been cleared to make room for the approaches to the new Mersey Tunnel. St. George's Hall is seen in the background; and on the left of the Wellington Monument is the Picton Reading Room and the Public Museum.

When the scheme was set on foot about eight years ago a total expenditure of some £5,000,000 was contemplated. Already the works have absorbed about £7,000,000. It is calculated the cost of the tunnel will reach £8,000,000 before it is ready to be opened by the King and Queen on July 17 next.



ARCHITECTS AND BUILDING

IN times of depression the Building Industry is always the first to suffer, and, correspondingly, the last to feel the effects of industrial recovery. During the past year the trumpetings of the daily press and the reviving optimism of the manufacturers themselves had led us to expect a definite increase in the amount of building, but we were hardly prepared for the surprising figures which have now been published in *The Ministry of Labour Gazette*. These show, briefly, that 1933 was 26 per cent. better than 1932, and some 12 per cent. better than 1930, the best of the last ten years. The figures for the total value of plans passed are :—

Year	Total Cost. Dwelling Houses 000's	All Buildings 000's
1930	£46,764	£74,605
1932	46,888	66,254
1933	62,308	83,682

These figures are compiled by the Ministry from the returns made by 146 towns only, and it is probable that if the actual total for the whole country could be arrived at, it would be approximately double the figures given here, while the fact that building costs are steadily decreasing means that the actual cube volume or area of buildings erected has increased even more. The paucity of official statistics available makes these last estimates extremely rough ; surely there is scope here for useful work by some statutory body ? Could not the R.I.B.A., for instance, in conjunction with chambers of commerce and the widely distributed members of allied societies, prepare reliable statistics of the value of all types of building carried out during the year and the amount of work done by architects ? " Dwelling houses " is a good enough sub-head, but " all buildings " includes everything from town halls to the smallest factory extension.

From the national point of view, however, the figures are extremely satisfactory, but are they a cause for any great rejoicing on the part of architects—does the increase in the total amount of " all buildings " mean that there is so much more work for architects to do ? Unfortunately, and obviously, it can mean nothing of the kind. For town halls, churches, cinemas, theatres and all public buildings of any importance an architect is nearly always responsible, and for the 20 millions of plans passed last year apart from dwelling houses, the architect may be responsible for more than the generally accepted American figure of 35 per cent. It is on the ordinary straightforward dwelling house, on which 62 out of 83 million pounds (75 per cent.) were spent in 1933, that the architect seems to be losing so heavily. The highest area for dwelling houses last year was Outer London, with some £17 million, most of which represents work by speculative builders and the various housing societies, firms which, with a few notable exceptions, are notoriously opposed to architects and all their works. It is these influences, coupled with the penny-wise householder who buys a set of blueprints for 10s. 6d. from the enterprising " Home " magazines, which bring the architects' work down to probably something like 5 per cent. of the total amount of building. *Thus 95 per cent. of the housing work carried out in this country is done without architects.*

What does this mean ? It means that housing—the real architectural *planning* problem of the century—is being carried on almost entirely *without architects*. Architects, the men who, as Sir Raymond Unwin said recently, are best qualified by their training to apply the principles of planning and design to the whole of life, are, save for a few exceptions, kept strictly outside the real building work of the nation.

It is an extraordinary situation, and the loss to the architect is the least serious thing. The loss to the nation is incalculable—every year so much more building than last year, so much more to be added to the great unplanned.

Why is it ? The answer is that the building of houses can be carried on quite comfortably without architects, but that it is generally bad building. And the architect is the only person who knows that it is bad, or not as good as it could be. It is his job—and this is where he has failed—to tell the world, not how bad the building is, but how much better it could be. This, under present conditions, is *not* a matter of art, but of business.

No architectural body has yet realized, or, if it has done so, attempted to put into practice the idea that the architect of today must *sell* his services, not because his services may make buildings look nicer, but because they make them more convenient, more comfortable, and cheaper.

We believe that the architect's great problem in this epoch is to make clear to the public that his services are essential purely for these material advantages. No job as yet undertaken by any architectural body can compare in importance with this. Ways and means may have been discussed, but nothing has been done. Is the R.I.B.A. going to do it ? Is the Public Relations Committee going to do it ? Will MARS do it ? We contend that the profession should be given a clear lead on this question.

The Architects' Journal
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London

NOTES & TOPICS

THE NEW SLUM DICTATOR

THERE is no further news, as I write, of what *The Daily Express* calls the New Slum Dictator, but it has been known for some time that "something was going on" inside the Cabinet.

*

Will the new Dictator have a new department to control, or will he merely take over the existing housing department of the Ministry of Health? Will he be a person—or a committee? Does this mean a National Housing Board? What will happen to Sir Hilton Young?

*

By the time these words are published the cat may be out of the bag. Whatever happens, one thing is clear. Every day the Government is waking up a little bit more on the question of housing.

ART IN INDUSTRY AT THE ACADEMY

The Royal Academy Exhibition of British Art in Industry, 1935, has now secured the help of a number of architects and designers to work under the generalship of Sir Edwin Lutyens and Mr. Arthur J. Davis.

*

It would help to clarify the present feelings of uncertainty if the Academy would make some announcement of what their policy is to be in their dealings with industry.

*

Is the exhibition to be really *high class*? Or is it to show the products of industry which can be expected to appeal to that middle class of person upon which so much of the future is to depend? And is it bold enough to lead taste? Or is there indeed anything between leadership and failure when we are about this business of exhibitions? I think not.

SIR ARCHIBALD BLOMFIELD'S NEW BOOK

I have just been handed Sir Reginald Blomfield's fighting reply to the modern school of architecture aptly named *Modernismus: A Study*. As Sir Reginald is a man far less easily shaken in his beliefs than others of my elders who have publicly announced their suspicion that there might quite easily be grains of sense in the heads of rowdy youth, I look forward to his attack, while I brace myself for reply. And how much I admire his courage. What weapons is he going to employ? I hope it will be a frontal attack.

THE BRITISH INDUSTRIES FAIR

Stimulated by the review, which recently appeared in this JOURNAL, of the B.I.F. at Castle Bromwich, I went up there to see for myself. I arrived hoping to find that the obloquy had been exaggerated.

*

Outside a grossly over-grown Dutch barn (only with the sides filled in) I saw a welter of cranes, pile drivers, pipes, steam rollers, lamp posts, road signs, traffic signals, looking like a deserted corner of the Yukon after the "rush" had finished and nobody had bothered to clear away.

*

"Why," thought I, "can they not be tidy in the storage of builder's plant?" Then I saw that everything was labelled. These were the "outside exhibits." So I went inside the barn.

*

I will not attempt to describe the horrifying, fantastic confusion which greeted me. Not only was there no plan of any kind for the lay-out of the stalls, but there seemed to be no attempt to realize that serial numbering of exhibits loses much of its value if the method of doling out the numbers is without logic.

*

Armed with catalogue, with names and numbers clearly set down, I lost myself within a few seconds, and finally emerged broken spirited, broken hearted and fully understanding why foreigners don't buy more British. Some of the things exhibited are no doubt very good; some are unquestionably excellent; but you can't *find* them.

*

But fair's fair (if I may be allowed the double pun) and I counted seven stands which had high merit, but most of which were obscured by surrounding bestiality.

*

Imperial Chemical Industries were responsible for four (designed, I believe, by John B. Surman). Emberton's Tube Products, Ltd., was good. Robert Jordan's complicated display for Chance Brothers scored on site as well as on able design and use of material.

*

The Daily Mail behaves decently at Olympia; the B.I.F. there this year shows at least a vast improvement; the Advertising Exhibition is always cohesive and well thought

S. D. Meadowes, F.R.I.B.A., F.S.I., who has been appointed to the post of Principal Architect in the Office of the Commissioners of Crown Lands.

out. Cannot the Birmingham Chamber of Commerce do likewise ?—even if it has to be done by a committee instead of one man.

*

I am going to look into this matter.

THE BIRMINGHAM A.A.

At last week's annual dinner of the Birmingham Architectural Association, the president, Mr. W. T. Benslyn, made some remarks which may well be taken to heart by every architect and architectural body throughout the country.

*

He said, for example, that the professions are tending more and more to act as corporate bodies, making increasingly greater contribution to government and social organization, and that for this reason an architectural body must not be merely a learned society.

*

That is very true indeed. And it is because the architectural profession has in the past looked upon itself as " learned " that so much truth lay in Mr. Stanley Hamp's subsequent statement that architects are very largely to blame for bad housing, both speculative and municipal.

*

After the " staircase " joke (and excepting, possibly, the " larder-on-the-south-side " joke) there is nothing which the layman likes to say more than that architects are " not business men."

*

Many architects still pride themselves on this. But there is a leaven working, and it is not too much to hope that the profession will before long stimulate the same public trust and respect which is already granted to medicine and the law.

THE CALL TO WORK

The bugle stirs the soldier into his daily round. Its notes " put a jerk " into life, to borrow a sergeant-majorish phrase, and quicken the blood, not unpleasantly. But industry's call to work is grimly different.

Those mechanized screams, those mastodonic grunts, that call the worker to clock-in at the factory, that announce his " elevenses," his lunch hour and his release at the end of the day : by what earless barbarian were they devised ?

*

Why are they used when men have invented and perfected that lovely sound-making instrument : the bell ? Whenever I have been at a factory I have usually managed to introduce the subject of bells, and have been treated coldly for suggesting such a pleasant solution for marking the passage of time.

*

" It wouldn't be understood," is a reply I've been given more than once. It happens to have been understood at sea on ships for some centuries ; but I have at last found a factory where bells are used to call people to work.

*

It was perhaps appropriate that my discovery should have been made at a great ironworks, where smiths are engaged upon the production not only of miles of iron fencing, but upon hand-wrought architectural metalwork of a high order. It was at the factory of Bayliss, Jones and Bayliss in Wolverhampton that for the first time I heard bells instead of hooters.

A NEW BOOKSHOP

On Friday last I looked in at the private view of the new bookshop opened by Messrs. Hannington and Rutherford, at 9 Bloomsbury Street, W.C.1.

*

Both the principals are old employees of Batsford's, Mr. Hannington having been with them for 41 years and Miss Rutherford for 15 years, so that, I imagine, what they do not know about old and new books on architecture, decoration, furniture, costume and all the fine and applied arts is not knowledge.

*

This shop will surely be a mecca for the bibliophile. Amongst the rare books I saw were a first edition of Hepplewhite's *Cabinet Maker's and Upholsterer's Guide*, in its original binding, a second edition of Sheraton's *Drawing Book*, a first edition of Chippendale's *Gentleman's and Cabinet Makers' Director*, and also the rare French issue of the latter's third and better edition.

NORAH MCGUINESS

Another exhibition—of a different sort—that everyone in London ought to see is Norah McGuiness's at the Zwemmer Gallery, Litchfield Street. Miss McGuiness's highest price for a picture is twenty guineas and the majority are eight. Are they worth it ? They are. I can see Miss McGuiness's prices soaring up in the not far distant future.

*

Trees in Kew Gardens moved me deeply. All that anyone has ever felt about Kew is in that picture. I prefer to put it like that. Miss McGuiness's brush stroke has a dark majestic strength which automatically produces the remark " so unusual in a woman." It *is* unusual—in anyone.

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

A Slum Dictator? 306

The Master Sign Makers' Association is about to appoint an Amenities Committee, with the question of disfigurement of buildings by signs as one of its most important objects 316

In certain parts of Africa, the natives use the discarded doors and window frames of the Europeans. There is no doubt that in the future various types of European joinery will play a much bigger part in native hut design 320

Although not an out-and-out modernist I (Sir Giles Gilbert Scott, P.R.I.B.A.) felt that a liner is, perhaps, a legitimate field for modernist expression 334

THE ARCHITECTS' DIARY

Thursday, March 1

L.C.C. GEFFRYE MUSEUM. *At Kingsland Road, Shoreditch, E.2. "Veneers and their Production." By Walter C. Potter.* 7.30 *p.m.*

AUCTIONEERS' AND ESTATE AGENTS' INSTITUTE. *At 29 Lincoln's Inn Fields, W.C.2. "Some Aspects and Problems of Slum Clearance." By Frank Hunt, C.V.O., to be followed by a Discussion.* 7 *p.m.*

Friday, March 2

VICTORIA AND ALBERT MUSEUM. *At South Kensington, S.W.7. William Morris Centenary Exhibition. Until April 18.*

Saturday, March 3

ARCHITECTURAL ASSOCIATION. *At 36 Bedford Square. Exhibition, "The Art of the Theatre." Until March 10.*

Monday, March 5

R.I.B.A. *At 9 Conduit Street, W.1. "Schemes for the Planning of London, Past and Present." By W. R. Davidge, F.R.I.B.A.* 8 *p.m.*

CHARTERED SURVEYORS' INSTITUTION. *At 12 Great George Street, S.W.1. "Recent Developments in Domestic Drainage and Sanitation." By W. H. Scanlon.* 8 *p.m.*

Tuesday, March 6

INSTITUTION OF ELECTRICAL ENGINEERS (*North Midland Centre.*) *At the Hotel Metropole, King Street, Leeds. "Some Aspects of the Electrical Transmission of Power by means of Direct Current at Very High Voltages." By H. Rissik, B.Sc. (Eng.).* 7 *p.m.* (*North-western centre.*) *At The Engineers' Club, 17 Albert Square, Manchester. "Electrical Developments in the U.S.S.R." By A. Monkhouse.* 7 *p.m.*

Wednesday, March 7

R.I.B.A. *At 9 Conduit Street, W.1. "Modern Influences on London Architecture. Pleasure." By G. Grey Wornum, F.R.I.B.A.* 6 *p.m.*

UNIVERSITY OF LONDON. *At University College, Gower Street, W.C.1. "The New Architecture in Sweden, 2." By F. Mesterton.* 5.30 *p.m.*

ARCHITECTURE CLUB. *At the Architectural Association, 36 Bedford Square, W.C.1. "Modern Churches" Supper-Discussion.* 7.30 *p.m.*

ROYAL SOCIETY OF ARTS. *At John Street, Adelphi, W.C. "Electric Discharge Lamps." By J. W. Ryde.* 8 *p.m. Institution of Heating and Ventilating Engineers. At the Home Office Industrial Museum, Horseferry Road, S.W.1. "The Prevention of Vibration and Noise in Heating and Ventilating Systems." By Robert B. Grey, A.M.I.Mech.E., M.Inst.P.T.* 7 *p.m.*

L.C.C. CENTRAL SCHOOL OF ARTS AND CRAFTS. *At Southampton Row, W.C.1. "English Mediæval Architecture—8. The English Home." By Sir Banister Fletcher, F.S.A., PP.R.I.B.A.* 8 *p.m.*

ROYAL ACADEMY EXHIBITION OF BRITISH ART IN INDUSTRY, 1935

Following is a list of architects and decorators who have already been invited to assist in the arrangement of cubicles and rooms at the Royal Academy Exhibition of British Art in Industry, to be held during the first three months of 1935 :—Mrs. Darcy Braddell and Messrs. H. C. Bradshaw, F.R.I.B.A. ; R. A. Duncan, A.R.I.B.A. ; Oliver Hill, F.R.I.B.A., ; Robert Lutyens, F.I.A.A. ; Raymond McGrath, A.R.I.B.A. ; Edward Maufe, F.R.I.B.A. ; Oswald Milne, F.R.I.B.A. ; Howard Robertson, F.R.I.B.A. ; Rex Whistler and G. Grey Wornum, F.R.I.B.A. The following architects and display experts have been invited by various Advisory Committees to arrange the display of wares in their sections :—Furnishing Fabrics Section : Mr. Percy Staynes. Glassware Section : Mr. E. Maxwell Fry, A.R.I.B.A. Gold and Silver Section and Jewellery : Mr. John Grey. Leatherware Section : Mr. John Grey. Other names have still to be added to the above list.

In connection with the exhibition, a meeting took place at the Royal Academy on February 21, between Sir Edwin Lutyens, R.A., who, with Mr. Arthur J. Davis, A.R.A., F.R.I.B.A., is responsible for the general planning of the exhibition, and some of the above architects and display experts. It was pointed out that while maintaining the necessary unity of appearance of the whole exhibition, full scope would be afforded for individual treatment of rooms and cubicles. It was arranged that the various architects should collaborate with the industries concerned in their particular parts of the exhibition, so that the articles finally shown will be the products of the industry of this country.

£720,000 EXPENDITURE ON LANCASHIRE'S MENTAL HOSPITALS

Schemes for extending the Brockhall Mental Defectives' Institute at a cost of £522,000 and for additional accommodation, which may cost £200,000 at the five county mental hospitals, were approved by the Lancashire Mental Hospitals Board at Preston last week.

LIVERPOOL ARCHITECTURAL SOCIETY

The annual dinner of the Liverpool Architectural Society was held in the Adelphi Hotel, Liverpool, last week. Mr. Leonard Barnish, F.R.I.B.A. (President) occupied the chair.

The public, Mr. Barnish said, were not getting the best architectural service available. Many local authorities on Merseyside allowed the local surveyor to dispense architecture. Indeed, he sometimes dispensed with it altogether. Sir Thomas White, leader of the Liverpool City Council, had recently aroused interest when he spoke on the co-ordination of certain public services on Merseyside. "I would like to ask him to consider the co-ordination of a few services appertaining to architecture. Think of the officials in Liverpool who deal with some branch of building. Then think of the Town Planning Act and the Town and Country Planning Act, that are practically inoperative, with speculative houses springing up in diabolical confusion. Think of our out-of-date bye-laws for houses, sanitation and roads.

"Is there anybody whose job it is to encourage the best or even to safeguard existing amenities? Is there any official at present on the staff who would accept this responsibility? Liverpool has made an enormous stride in municipal housing under Mr. L. H. Keay. But why should not the city lead in other architectural matters? I suggest a Director of Architecture—at a salary something like the water engineer's—given the job of organizing machinery that will deal adequately with the growth of our suburbs and the appearance of our city. The city treasurer would get back his salary in increased rateable values."

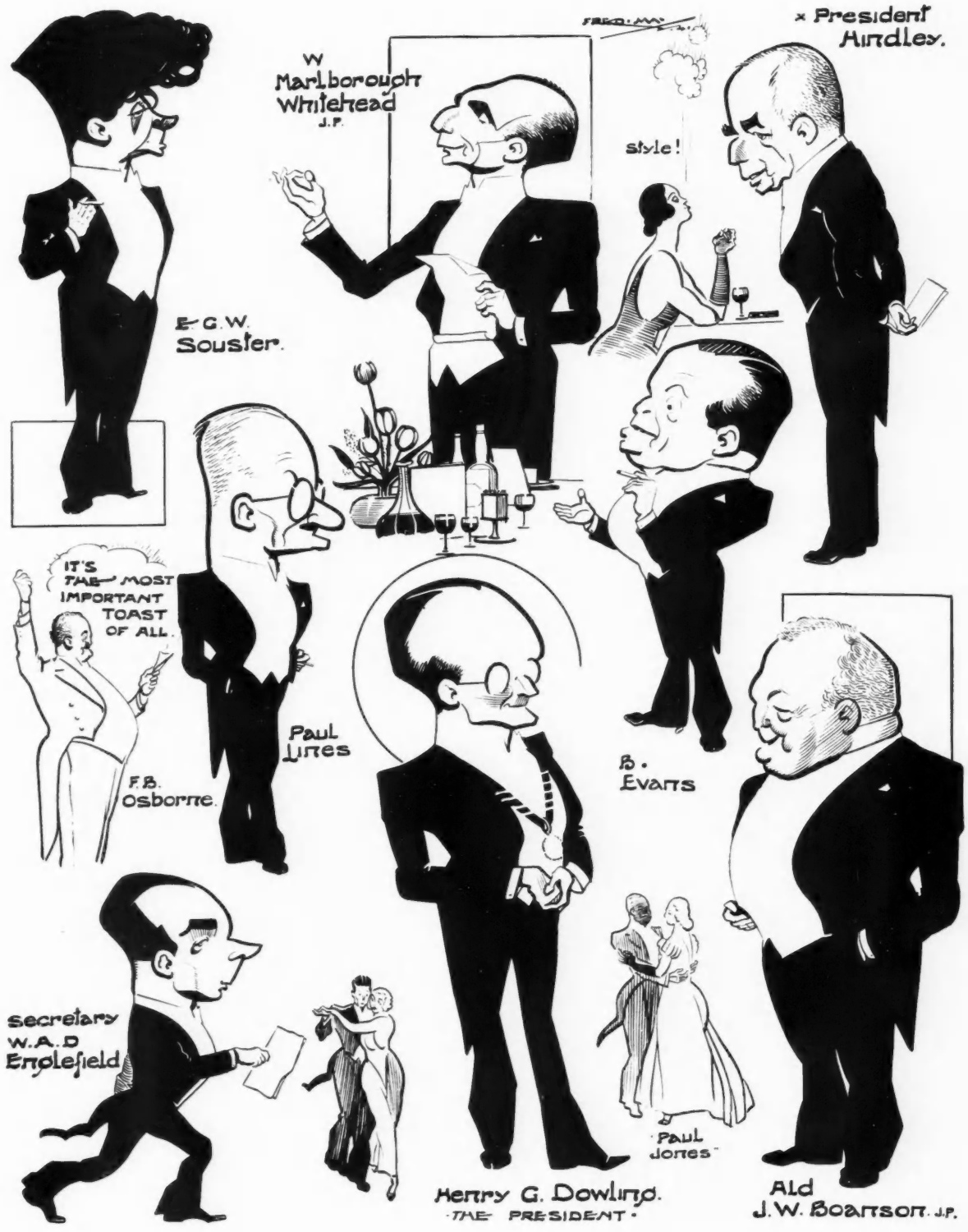
Other speakers included : Sir Giles Gilbert Scott, P.R.I.B.A. ; Sir Arnold Thornely, F.R.I.B.A. ; Dr. H. J. W. Hetherington, M.A., J.P. ; Councillor G. A. Strong (the Lord Mayor) ; Major Gilbert W. Fraser, M.C., F.R.I.B.A. ; Mr. Maurice Webster (the Lord Mayor of Bootle) ; and Mr. J. R. Adamson, F.R.I.B.A.

During the evening Mr. Barnish made a presentation on behalf of the members of the Society to Sir Arnold Thornely, F.R.I.B.A., a past-president of the Society, in recognition of his work in designing the Parliament House of Northern Ireland. The presentation took the form of a bronze model of the group—Britannia and two lions—which surmounts the portico of the new Parliament House.

ROME SCHOLARSHIP IN ARCHITECTURE, 1934

The Faculty of Architecture of the British School at Rome have admitted the following candidates to the competition for the Rome Scholarship in Architecture, 1934 :—H. B. Allsopp, B.ARCH. (Liverpool University) ; H. Bennett, A.R.I.B.A. (Manchester University) ; A. Bullen (Liverpool University) ; H. H. Castle (Leeds College of Art) ; T. Clokey (Liverpool University) ; G. H. Crockett (London University) ; W. W. Fisk (Architectural Association) ; M. G. Gilling (Liverpool University) ; R. Hartley (Liverpool University) ; R. A. Macartney (Architectural Association) ; F. A. C. Maunder (Armstrong College, Durham University) ; E. Mayorcas, A.R.I.B.A. (Architectural Association) ; A. Reiach (Edinburgh College of Art) ; S. W. J. Smith

INSTITUTE OF BRITISH DECORATORS



Some of the members and guests present at the annual dinner and dance of the Incorporated Institute of British Decorators, held at the Trocadero Restaurant, Piccadilly, on Monday last. The above drawings are by Fred May.

(Royal Academy School) ; and H. Tayler (Architectural Association).

The result of the competition will be announced about the middle of June.

NORTH BRITISH ARCHITECTURAL STUDENTS' CONGRESS

The first meetings of the new North British Architectural Students' Congress were held in Manchester on Friday last. About seventy delegates were present to represent the Northern schools and universities and received an official welcome from Mr. J. R. Adamson (President of the Manchester Society of Architects), at the evening session, which was held in the University Union.

The delegates assembled at the University School of Architecture in the afternoon, and then attended the opening of an exhibition of architectural drawings of nineteenth-century Manchester in the Whitworth Gallery. The exhibition was opened by Mr. C. Gustave Agate.

The evening session was devoted to a symposium upon the subject : " That the profession has fallen behind the economic requirements of the age."

Mr. T. W. Kennedy (Glasgow) led the discussion by a demand for " co-relative thinking." Mr. Kennedy said he doubted whether there was an office in the country capable of undertaking the whole direction of a big public work. As he saw it, an architectural revolution was about to take place. After it was over architects would control the structure of every building in the country. The R.I.B.A. would then represent three sorts of function, that of the designer, the constructor, and the economic expert, " who will be consciously evolved within the next twenty years, and will have the closest contacts with Parliament, with chambers of commerce and with the press." Architects would practise in a group system, as in an atelier. Here the co-relative thinking would be done.

THE BUILDING INDUSTRIES NATIONAL COUNCIL

At a meeting of the Building Industries National Council, held on February 26, the following resolution was passed unanimously :—" That the Building Industries National Council regret the action of the Government in limiting the assistance to be given from central funds for the purpose of meeting the acknowledged grave and urgent need for improved water supply in rural areas to £1,000,000 in England and Wales, and £137,500 in Scotland."

INCORPORATED INSTITUTE OF BRITISH DECORATORS

Mr. Henry Dowling, speaking at the annual dinner and dance of the above Institute, held at the Trocadero Restaurant, on Monday last, said : " I believe the full task of developing the English designer will not be efficiently met until those in the schools and we outside realize that the schools can only work toward the improvement of standards as they are developed in the stress of practical competition. The bridge to connect the schools and industry must be built out from both sides if it is to meet in the middle."

ANNOUNCEMENT

Messrs. Banks, Carden and Gray have formed a partnership, and are practising at 1c King Street, St. James's, S.W.1. Telephone No. : Whitehall 6634.

OBITUARY

We regret to record the death of Mr. Herbert Kendall, F.R.I.B.A., of Poole. He was 55 years old, and carried on business as an architect and surveyor in Poole for 35 years, and was surveyor to the Salisbury Diocese and surveyor to Poole Harbour Board. He was responsible for a great number of improvements and developments of the harbour.

Mr. Kendall was the architect responsible for the Cornelia Hospital, Poole, and his work also included the design of a number of hotels in the district.

R. I. B. A.

THE COMPETITION BETWEEN STUDENTS OF FRENCH AND BRITISH SCHOOLS

The competition between students of the schools of architecture in the United Kingdom recognized for exemption from the R.I.B.A. Final Examination and students of the Ecole des Beaux-Arts, Paris, has now been held. The programme for the competition was that set by the Ecole des Beaux-Arts, Paris, for the Eustache-Rougevin Prize. The British schools held internal school competitions on the programme, and each school sent the scheme judged best by the School Jury to the R.I.B.A. Twelve schemes were, therefore, considered by the Jury appointed jointly by the Chairman of the R.I.B.A. Board of Architectural Education and the Franco-British Union of Architects. The Jury was composed as follows :—Messrs. W. H. Ansell, M.C., F.R.I.B.A. (Chairman of the Board of Architectural Education) ; Henry M. Fletcher, M.A., F.R.I.B.A. (Vice-President, Franco-British Union of Architects) ; A. H. Moberly, M.A., F.R.I.B.A. (Vice-Chairman of the Board of Architectural Education) ; A. J. Davis, A.R.A., F.R.I.B.A. ; H. Chalton Bradshaw, F.R.I.B.A. ; Louis de Soissons, F.R.I.B.A.

The Medal for the scheme placed first (on this occasion presented by Mr. Arthur J. Davis, A.R.A., F.R.I.B.A.), was awarded to Mr. G. A. Crockett, Student R.I.B.A., of the Architectural Atelier of the University of London.

The twelve schemes are now on exhibition in the Ecole des Beaux-Arts, Paris. The British schemes, together with a selection of the French schemes, will be on exhibition in in the R.I.B.A. Galleries from March 7 to 14.

The subject set for the competition this year for the Eustache-Rougevin Prize was " A Monument Commemorating the Success of a Nation in the Olympic Games."

COMPETITION NEWS

THE ALEXANDER THOMSON TRAVELLING STUDENTSHIP

The competition for the above Studentship is open to Students of Architecture between the ages of 19 and 28 years, residing in the United Kingdom. Copies of the Conditions may be obtained on application. Mr. William MacLean, Secretary, Glasgow Institute of Architects, 21, West George Street, Glasgow, C.2.

Competitions Open

March 17.—Sending-in Day. Limited Competition for municipal buildings, etc., for the Stoke Newington Borough Council. (Twenty-eight firms of architects have been selected to submit designs.) Assessor : Sir Edwin Lutyens, R.A., P.I.A.A.S. Premiums : £250, £100 and £50. Full particulars were published in the *A.J.* for January 25 last.

March 26.—Sending-in Day. Façade in grey Cornish granite, for the Cornish Quarry Masters' Association. Open to all architects, architects' assistants, and architectural students. Assessors : C. Lovett Gill, F.R.I.B.A., Professor A. B. Knapp-Fisher, F.R.I.B.A., and Howard Robertson, F.R.I.B.A. Also, two members of the Cornish Quarry Masters' Association. Premium : £50. The design, etc., is to be sent to the Secretary, Architectural Association, 34-36 Bedford Square, W.C.1, by Monday, March 26. Full particulars of the competition may be obtained from the Secretary of the A.A.

THIS ARSHETECTURE

" The Crown, in seeking a unity of architecture when the street was rebuilt, made the mistake of confusing monotony with unity, and there were not enough diverse elements to enliven the architecture or to reduce its rather chilly grandeur to the more human, occupied and appealing appearance so necessary to a great shopping centre.

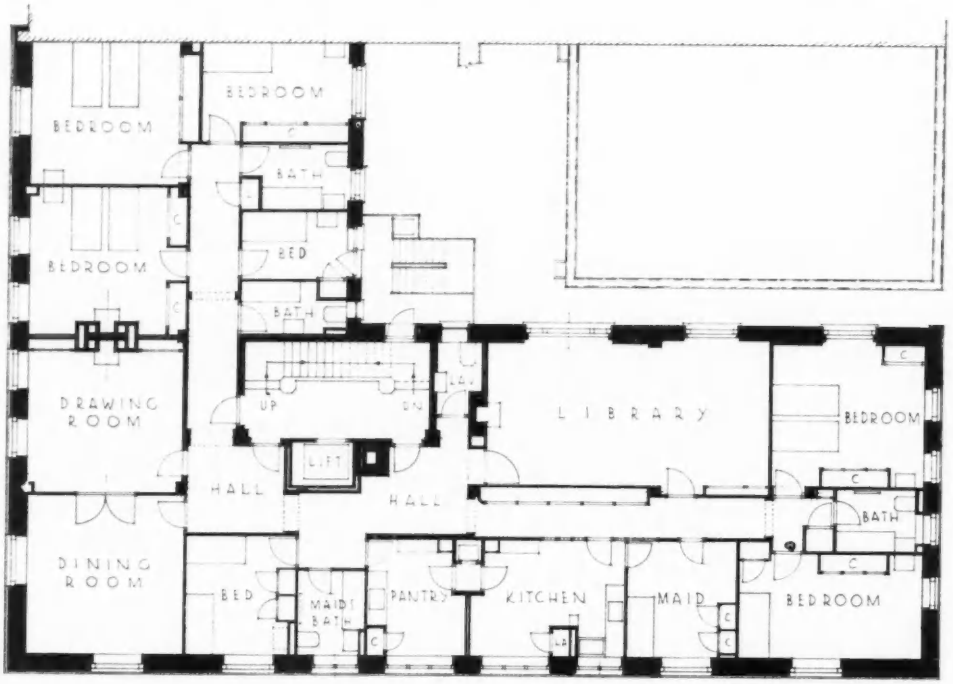
" This is now being rapidly altered. The monotony has been broken up by new and diversified shop fronts which recapture the old intimacy, by tasteful electric signs in positions that had not previously been permitted, by various lighting devices inspiring warmth into the drab stone, and by external and internal floodlighting of whole buildings."—From the Annual Report of the Regent Street Shopkeepers' Association (FROM *The Evening Standard* for February 20.)

FLATS IN LOWNDES SQUARE, W.

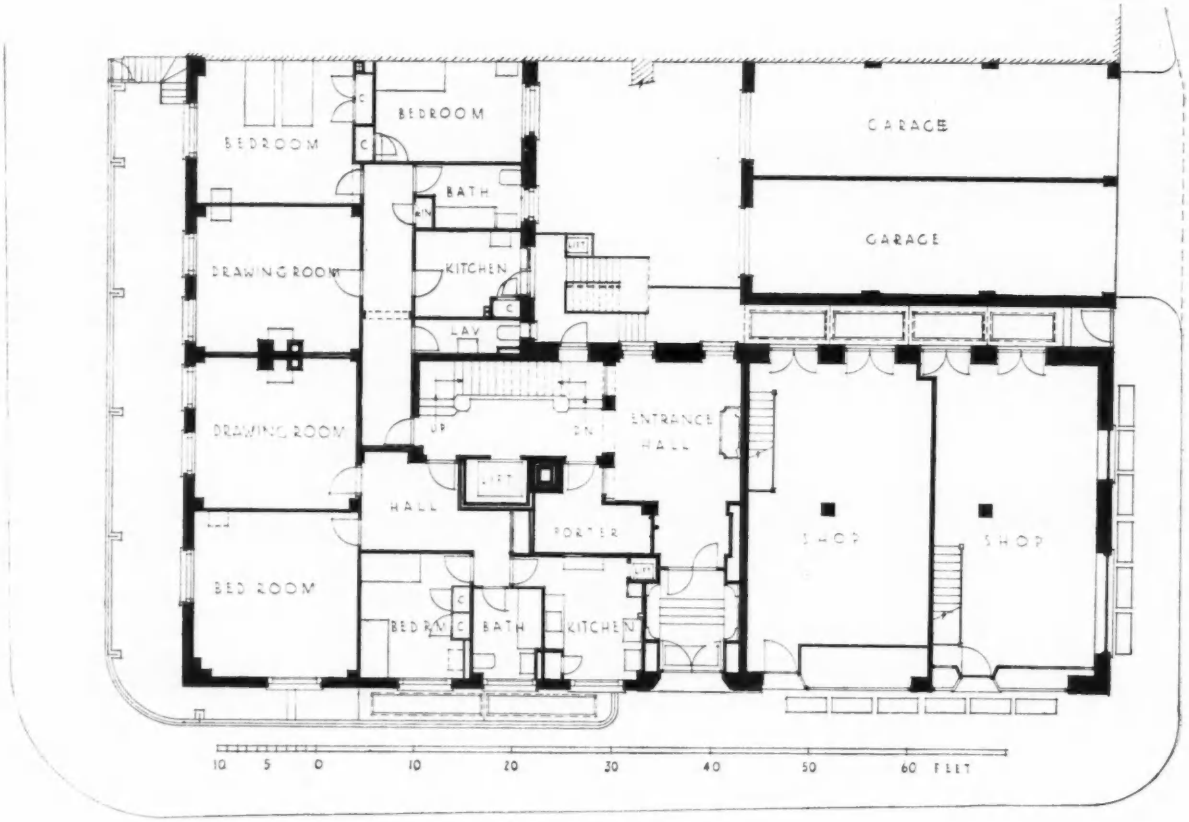
This scheme, when completed, will consist of several blocks, containing, in all, nearly one hundred flats. There are thirteen in the block already built. The photograph reproduced above shows the principal elevation to Lowndes Square. The side elevation, of which a photograph is given on page 313, faces Harriet Street. The base as far as the first floor cills is carried out in Portland stone, the remainder in a special warm grey-brown 2 in. textured brick. Interest is given to the brickwork by vertical fluting in the piers, which are deeply recessed and arched over.

DESIGNED BY MESSRS. JOSEPH

FLATS IN LOWNDES SQUARE, W.:



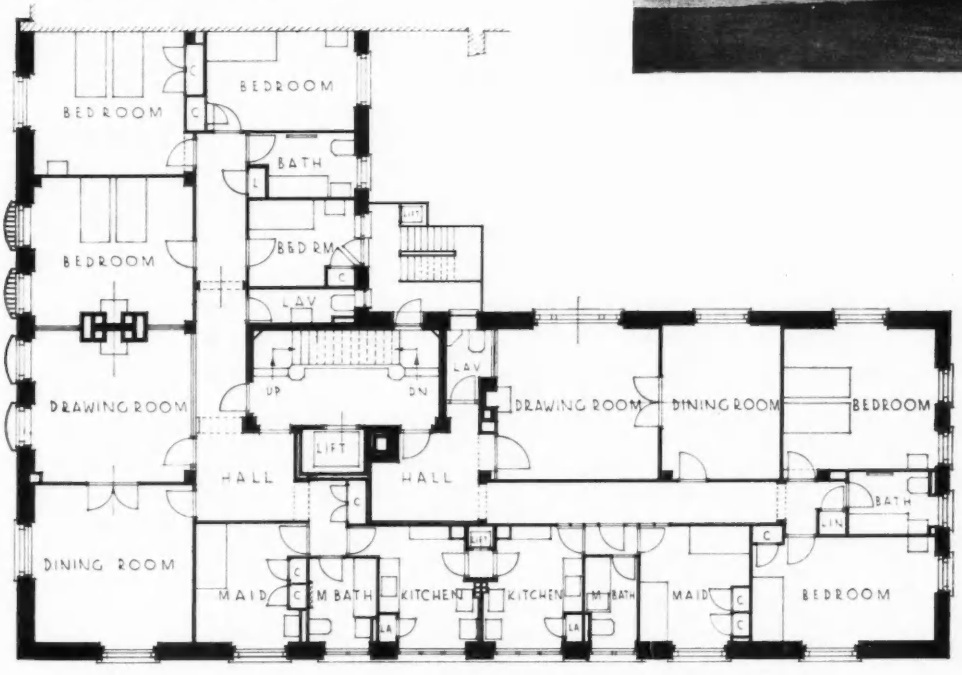
FIRST FLOOR PLAN



GROUND FLOOR PLAN

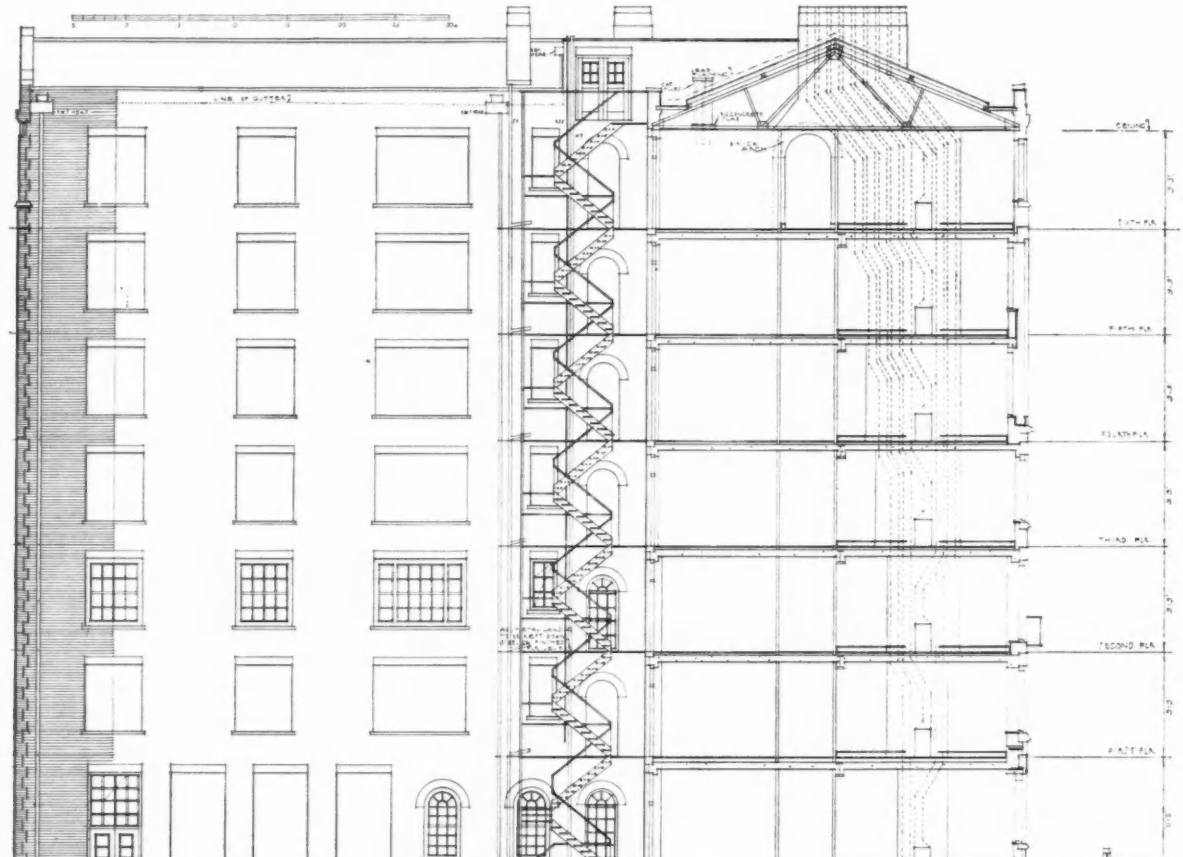
DESIGNED BY MESSRS. JOSEPH

The planning of the floors is flexible so that, whilst three flats to a floor is normal, the re arrangement of one partition would provide two flats to a floor, and the demolition of a second partition would convert an entire floor into a large single flat. By such an arrangement it is possible to discover the type of flat in demand at the present time in the Lowndes Square area. The first, second and third floors contain one, two and three flats, respectively. The photographs show: Above: The main entrance hall. Right: The elevation to Harriet Street.



SECOND FLOOR PLAN

FLATS IN LOWNDES SQUARE, W.



SECTION A—A

Noise transmission from flat to flat is prevented by sound-proof walls built from two brick shells separated by a 2 in. cavity. This is packed with insulating material. Insulating paper is laid under the flooring.

Steel framing extends only to the first floor. It is used below this level in order that the ground floor flats may be converted into shops if, at some future date, the ban on shops in Lowndes Square is lifted. There are at present three shops on the Harriet Street side.

DESIGNED BY MESSRS. JOSEPH

LETTERS FROM READERS

IAN MACALISTER
(Secretary of the R.I.B.A.)
R. S. WILTSHERE, F.R.I.B.A.
RAYMOND WALKER
J.B.
ALFRED W. BEUTTELL
(Immediate Past President of the Master Sign Makers' Association)
AMBROSE E. APPELBE, M.A., LL.B.
(Hon. Secretary of the Anti-Noise League)
HARRY BARRETT
ASSISTANTS
W. R. BOUSFIELD
(Director of Bousfield's Ltd.)
JOHN C. TICKLE, F.R.I.B.A.

The Admission of Foreign Architects to Practice in England

SIR,—It has appeared to the Council that a misapprehension exists regarding the attitude of the R.I.B.A. towards the question of admitting foreign architects to practise in this country. This matter has received the serious consideration of the Council, and in December last a letter was sent to the Ministry of Labour defining the Council's attitude. The following are extracts from the letter in question :—

"The Minister will be aware of the serious state of depression through which the building industry is still passing, and the consequent lack of employment for architects at the present time, and while my Council feel that it is for the Minister to consider whether the architectural profession should be treated in any way differently from any other profession or trade in regard to the admission of foreign architects to practise in this country, they are of opinion that the admission of foreign architects should be limited to those with special qualifications, who are in a position to establish themselves in independent practice.

"My Council desire me to point out to the Minister that all members of the Royal Institute are governed by certain regulations of conduct and etiquette which are laid down in the Code of Professional Practice. My Council are of opinion that it is most desirable that any foreign architect permitted to practise in this country should be required to conform to the rules which govern the practice of all British architects of standing. My Council understand that under the Aliens Order, 1920, any person entering Great Britain can be required to give such undertaking as the Minister may require, and they would suggest that foreign architects should only be admitted on condition that they observe and conform to the terms of the Code of Professional Practice laid down by the Royal Institute."

IAN MACALISTER

The Bexhill Competition

SIR,—If 230 architects are willing to enter for an open competition, not to mention a further 200 who did not complete their schemes for some reason, but were willing to compete, isn't Mr. Wesley Douglas rather a lone figure? After all, if people are willing to compete, they are presumably willing to face any cost incurred; there is no compulsion anywhere.

Does Mr. Wesley Douglas, in his desire not to exaggerate, suggest the actual expenditure in hard cash by the architects competing (excluding the promoters' expenses) amounted to £21,600? I seem to remember recently seeing a statement by a winning competitor that his actual expenses were about £5.

Before you can charge the probable cost of a competition, with the competitor's time, you must be sure he could have earned this money elsewhere if he had not used his time competing.

After all, does it matter whether there are two competitors or two hundred; the individual losers in each case are in just the same position: they have nothing for their labour or expenditure.

R. S. WILTSHERE

Registration

SIR,—If the unattached feel they are capable of looking after their own cause, what is Mr. Randall Wells's use on the Council and Committees of Abingdon Street?

I did not vote for Mr. Wells myself, because he gave me *not the slightest help* on matters very gravely concerning the A.R.C.U.K. and Registered Architects of all parties. In fact, my last letter to him of November 10, 1933, still remains unanswered!

I have no grievance about the number of "Registered and Chartered Architects"; I number many among my personal friends. I believe, however, that Registration should be divorced from commercial influence: to be explicit, Registration should not be used as a lever to induce architects to join one professional body, or to force them to leave another, for the sake of the financial progress (by subscriptions) of any particular body.

Those architects who remember the panic methods of the R.I.B.A. on the formation of the Institute of Registered Architects, must have been impressed with the rapidity with which Major Barnes rushed into print as chairman of the Registration Council, although at that time he had *no authority* to express an opinion on behalf of his Council. Moreover, what authority had the Council to issue a confirmatory circular with a refusal to recognize the Institute of Registered Architects? If new architectural societies spring up, it is only just that they be recognized, and provided their numbers justify recognition in terms of the Act, what right have the A.R.C.U.K. to prohibit representation?

The Draft Regulations under Section 13 of the Act that were submitted on December 19 last, for approval of the Privy Council, seek to substitute a quorum of three for the eight representatives appointed in the Act. Two of the original eight were to have been appointed by the President of the Law Society; if the present draft goes through an architect who has been alleged to have been guilty of "disgraceful" conduct may be examined by three architects! Thus the whole purpose of a wise provision in the Act will be circumvented.

It is so much easier to strike names off the Register if the architect is unattached, for there is no provision in the draft that will enable him to have one member of the Discipline Committee appointed on his behalf, though all the bodies referred to have the right to nominate one person to this Committee, should the person undergoing examination be a member of such body.

What has Mr. Wells been doing about this? Why did he not see that unattached architects were warned of the presentation of this draft; are they all expected to read *The London Gazette?* Unattached architects who did not send in representations to the Privy Council before February 26 are too late to make protest.

Already a Committee, styling itself "Professional Purposes Committee," is in operation before it has received the approval of the Privy Council. Mr. Wells is apparently unwilling to disclose the personnel of this Committee, though Mr. Haynes, of the R.I.B.A., is its Clerk.

Mr. Wells may possibly have heard that my circular has produced quite a little support, for which I am very grateful; but there is no reason for him to be unduly alarmed—I shall most probably not be elected. After all, I did not have more than one nomination as a candidate.

RAYMOND WALKER

Gentleman

SIR,—Having just read in *The Times* that our small friend, Dr. Goebbels, has been making some remarks about government by gentlemen, while in Santiago it has been decided that the term "English gentlemen" has universal application as an epithet of approbation, it gives me great patriotic pride to imagine the Reich Minister of Propaganda greeting his colleagues, General Goering and Captain Roehm, approvingly with the expression, "English gentlemen," while, in Santiago, architects look at their blue-prints (Paris Exhibition, '25) and ask them-

selves, "Is it the work of an English gentleman?"

I recall, however, a most unfortunate incident which occurred shortly after reading the President of the R.I.B.A.'s remarks on the subject. I had been invited to the studio of a friend to view some recently completed elevations for a competition. The drawings were exhibited to me with pride. "Very fine," I remarked, "magnificent," and then, wishing to bestow the highest superlative, I remembered the words of the President.

"It looks," I said, "like the work of an English gentleman." Whereat my friend became greatly, and very ungentlemanlikely, incensed, being, in fact, of the female sex, and her husband, moreover, also an architect.

I realize, of course, that this is not necessarily devastating criticism, but I would suggest, in view of the necessity of sustaining the President's reputation for gallantry, and in generous recognition of the less unpleasant-looking members of our profession, that in future we ask ourselves, "Is it the work of English *ladies* and gentlemen?"

J. B.

Advertising on Building Façades

SIR,—I enclose a copy of a letter which I have written to the Royal Institute of British Architects on the subject of the amelioration of advertising upon building façades.

The letter is the result of conversations on this matter which have taken place between the Master Sign Makers' Association and the Royal Institute of British Architects, with the kind assistance of Sir Lawrence Chubb, Secretary of the Scapa Society.

ALFRED W. BEUTTELL

The Secretary,
Royal Institute of British Architects,
9 Conduit Street, W.1.

February 20, 1934

DEAR SIR,—I understand that the Royal Institute of British Architects have under general consideration the question of disfigurement of buildings by signs.

My Association would be glad if it could be made known that it is equally concerned with this problem and is anxious to co-operate with other representative organizations to bring about conditions whereby signs may be affixed to buildings in a more acceptable manner.

My Association is in fact about to appoint an Amenities Committee, with this question as one of its most important objects. Sign-makers will themselves do everything possible to improve the æsthetic appearance of their signs, but they believe that the desired results may be greatly enhanced both as to time and effect by architects themselves.

Commercial or functional announcements are necessary on most modern buildings, unless they be of a purely residential character. If the architect, whilst realizing this fact, fails to provide for it in his plans of the building, then such announcements as the occupier may desire to make have to be designed and fixed extraneously to the building and its architecture after it has passed from the architect's control. The result is too obvious for comment, and this Association would indeed be glad and most grateful if the Royal Institute of British Architects would consider the possibility of recommending to its members that they should consult with their principals at the outset with regard to the announcements, signs or advertisements which are likely to be required, and that they should endeavour to provide at least the settings for them in their designs, so that when the building is put into use the one shall harmonize with the other.

If this principle were adopted by architects generally, I can visualize the time when the streets of our cities will present an appearance vastly different and more pleasing to the public eye than they do at this time.—Yours faithfully,

ALFRED W. BEUTTELL
Immediate Past President Master Sign Makers' Association

Noise

SIR,—I am pleased to see there has been some correspondence with regard to the quietness in the city of Berlin. There are, no doubt, several causes contributing to this. Berlin has, for many years, had very reasonable regulations with regard to the noise of traffic. Paris shows signs of excelling in this direction, however, for police regulations have recently been passed forbidding hooting of any sort at night. It is hoped that a similar regulation may be tried experimentally in London, for not only does it enable inhabitants to obtain the requisite amount of sleep and so increase general efficiency and prevent neurasthenic conditions, but statistics show that in Paris the number of night accidents has actually been reduced.

The movement against noise in this country is now being organized by the Anti-Noise League, of which I am Honorary Secretary, and any of your readers who are interested, as they must be from their experience of the reduction in the value of house property on account of noise, are asked to communicate with me and join the League.

AMBROSE E. APPELBE

SIR,—Herbert Spencer stated that one criterion of man's intellect is the horror he has of all useless noises.

Returning from a country where motor cars are comfortable, efficien and therefore *quiet*, I am able, by this standard, to sum up the intellectual capacity of only too great a number of this kingdom's inhabitants by the popularity of the uncomfortable, ugly and childishly noisy little cars with which the owners delude themselves into a sense of power and "sportiness."

As one living near a main road and therefore frequently awakened—as I suppose are many others—in the early hours by the thunder of the exhaust of someone's tin car, I lie and wonder, as I court sleep again, why the police really don't do something about preserving that peace which is supposedly their great concern. Why don't they? Do tell!

HARRY BARRETT

Working Details: Perforated Sheets

SIR,—We appreciate very much the JOURNAL's latest innovation of Working Details, perforated for filing. Having in the past torn out the greater part of the paper, both plates and articles, to file for future reference, we would suggest that the perforating idea be carried still further.

Architects generally, and students in particular, would benefit considerably if the whole JOURNAL were treated in like manner, thus enabling them to file neatly the pages under their various headings.

ASSISTANTS

[*There are, of course, a number of difficulties in the way of producing a completely "rationalized" paper—rationalized, that is, for filing. We are grateful to our correspondents for the suggestion.* —ED., *A.J.*]

Bakelite on Plywood

SIR,—As manufacturers of the "BkL" board (bakelite on plywood), which is, so far as we know, the only *guaranteed* board of its kind on the market, we hope you will allow us a small space in which to comment upon the remarks of Mr. F. R. S. Yorke, A.R.I.B.A., under the heading of "Trade Notes" in your issue for February 8.

On the question of warp we may say that this is a subject which is claiming our attention at the present moment, and is a defect which is of some seriousness. It is not generally realized, however, that the tendency for the board to warp is *increased* in proportion to the thickness of the plywood used, that is, of course, unless the board is veneered both sides, which, as stated in your notes, is costly. If architects and buyers would realize that there is much less possibility of a ¼ in. bakelite faced plywood warping than a ¾ in., there would be much less heard about this vexed question.

We are not altogether in agreement with your remark that the tendency of manufacturers to reproduce the figuring of natural woods in the bakelite veneer is "unreasonable." Manufacturers must cater for the public demand and, although an imitation walnut may be anathema to an architect, it finds favour with a

very large section of the public. Nevertheless, we are aware that a bakelite faced plywood in natural colours, of which you state there is a "splendid range" would meet both demands and be popular with both public and architects alike. We have yet to find this "splendid range" of plain colours, and if the author of your notes can put us in touch with manufacturers of bakelite laminated sheet of equal quality to the material we are now using, viz. one which will stand up to our advertised conditions: "spirit proof, heat proof, burning cigarette proof," we shall be delighted to include these colours in our much despised range of imitation wood finishes. So far we have been unsuccessful in finding any manufacturer who can supply plain colours of a quality suitable for our "BkL" board.

W. R. BOUSFIELD
(Director, Bousfields, Ltd.)

Economic Housing

SIR,—In your issue for January 25 Astragal referred to the cost of cottages in the Newmarket Rural District. It would be interesting to learn if the sum of £226 given as the cost includes the actual value of labour and materials, plus overheads and something for the builder's own time.

I should also like to know if any of the Building Centre prize cottages have been built, and, if so, what is the actual cost, as distinct from any contract.

JOHN C. TICKLE

ASTRAGAL WRITES :—

Following is the letter from the Town Clerk of the Newmarket R.D.C., on which I founded the cost of cottages in the Newmarket Rural District, referred to by your correspondent.

Council Offices,
White Lodge,
Exning Road,
Newmarket.
3/1/1934

DEAR SIR,—I have now had an opportunity of looking up some information for you with regard to the 120 houses recently built by the Newmarket Rural District Council under the provisions of the Housing (Rural Authorities) Act, 1931.

These houses are spread about the district, and numbers of them have been built in 11 of the 22 parishes comprised therein. There are two types, both of which are based upon plans supplied by the Ministry of Health with certain modifications: type 1 plan being for a southerly aspect and type 5 plan for a northerly aspect. Copies of plans for both types are sent herewith.

The accomodation in both types consists of :—

	Type 1	Type 5
GROUND FLOOR—		
Living room ..	15 0×12 0	15 10½×11 6
Scullery	11 0× 8 0	9 9½× 8 3
Pantry, coals and E.C. (detached)		
FIRST FLOOR—		
Bedroom ..	15 0× 9 10	12 6 ×11 7½
,, ..	10 6× 9 6	11 6 × 8 4½
,, ..	8 6× 7 3	8 5 × 7 3

EXTERNAL WALLS.—The external walls are constructed with 9 in. solid brickwork, with a tile creasing consisting of two courses of flat tiles projecting about two inches from the face of the wall at the level of the top of the ground floor windows. From ground level to this tile creasing the external walls are faced with Phorpres rustic Fletton bricks: above the tile creasing they are faced with cement rendering and shingle dashing.

ROOF.—All roofs to main buildings have hipped ends and are covered with flat sand-faced concrete tiles made by the Marley Tile Co., Ltd., Leighton Buzzard, Beds. The roofs have a pitch of 42 degrees.

FOUNDATIONS.—On sites with a clay subsoil and on sites where there is the least doubt about the stability of the subsoil, the foundation concrete to all 9-in. walls is reinforced with four ⅜-in. steel rods.

COST.—Thirty-six of these cottages were erected at an all-in building cost of £249 per house. This price includes fencing and footpaths, and, in fact, everything except cost of land and water supply. The total cost of the 120 houses, including water supply, is £31,990, or £266 per house. The houses have chiefly been erected in blocks of four, but there are four blocks of six and four pairs.

RENT.—The rent is 3s. per week exclusive of rates, which in this district come to another 1s. per week. The contribution of the District Council towards the scheme is limited to £1 per house; but as a matter of fact the rents and Exchequer grant are almost sufficient to cover the maintenance and the interest on and repayment of loans. Consequently the charge to the rates is practically nil.

GENERALLY.—The tenants are all very pleased with the new houses, but if anything they prefer the type No. 1 (southern aspect). The provision of these 120 non-parlour houses brings up the total of Council houses erected in this district to 480.—Yours faithfully,

T. H. BROWN

I understand that several of the Building Centre prize cottages have been built in various parts of the country, at an average price of £450 per pair.

ASTRAGAL

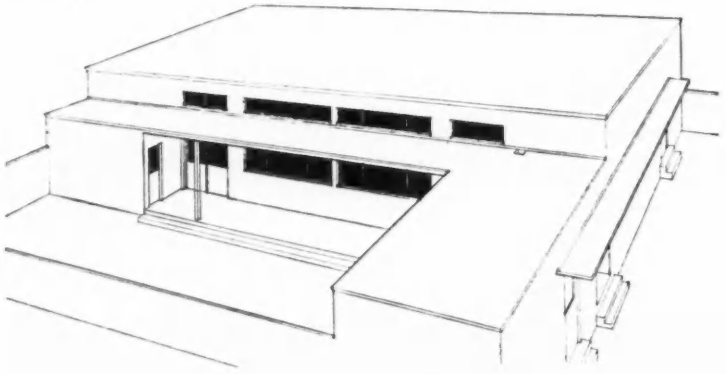
NEW SNOWDON SUMMIT HOTEL

A drawing, by Clough Williams-Ellis, of the proposed new station building and restaurant near the summit of Snowdon, to replace the present group of timber and corrugated iron hutments. The architect states that "it is intended to have the new station and restaurant in service this summer, though it may well be another year before the further accommodation is added that will permit of the removal of the existing buildings from the actual peak. The walls of the building will be largely of glass, because of the view; the necessary supports of the flat roof, which forms an extra and much-needed terrace, are of steel and concrete, the roof itself being of reinforced hollow tiles covered with asphalt. The perspective sketch shows how the building would appear to the pilot of an aeroplane flying just below the summit of the westward side. To anyone walking up from that side the upper works of the building, which are set back, would probably not be visible at all, while from the ascents on the other side of the mountain nothing whatever will be seen of it until the top is reached."

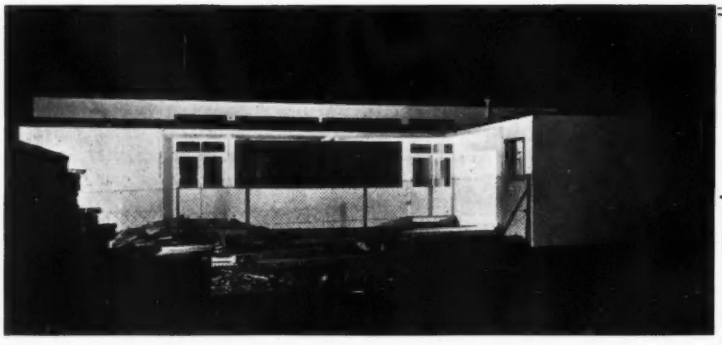
THE ARCHITECTURE CLUB

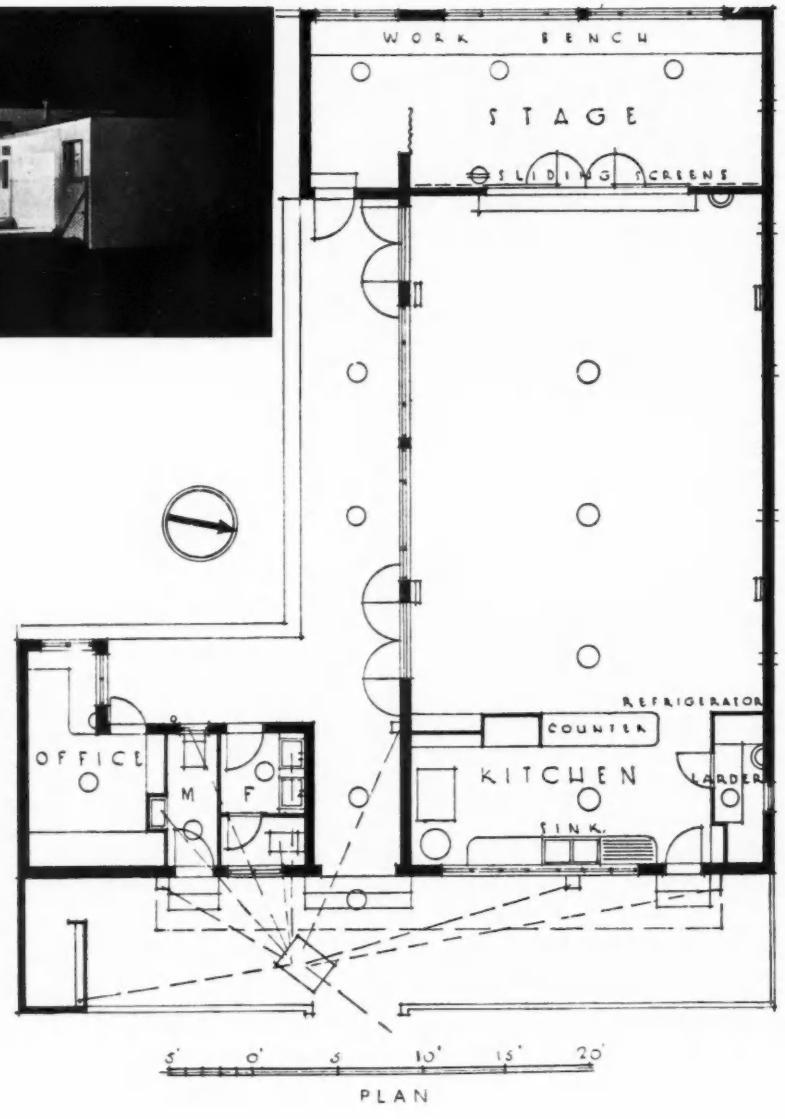
The following meetings have been arranged by the Architecture Club: Tuesday, March 6. Supper. Discussion at the Architectural Association. 34 Bedford Square, W.C., at 7.30 p.m. Topic: "Modern Churches." Thursday, April 12. Supper. Discussion at the A.A., 7.30 p.m. Topic: "Street Furniture and Street Advertising." Thursday, May 31. Dinner at the Savoy Hotel. 7.30 for 7.45 p.m. Topic. "Slum Clearance."

THE SECOND FEATHERS CLUB,



DESIGNED BY WELLS COATES AND PLEYDELL-BOUVERIE





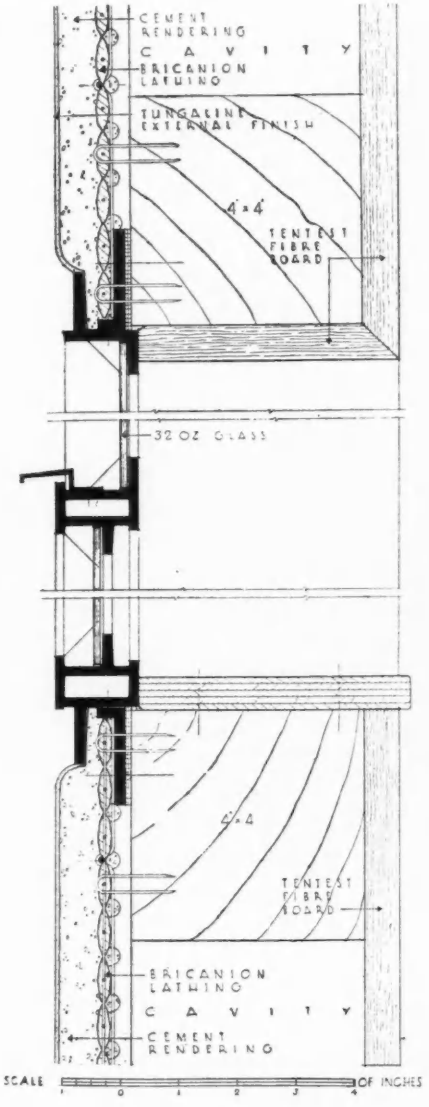
This is the second of a series of clubs, started by H.R.H. the Prince of Wales, to assist unemployed men and women in slum areas.

The work to the interior was carried out by the unemployed members of the club. A great deal of the material was supplied free.

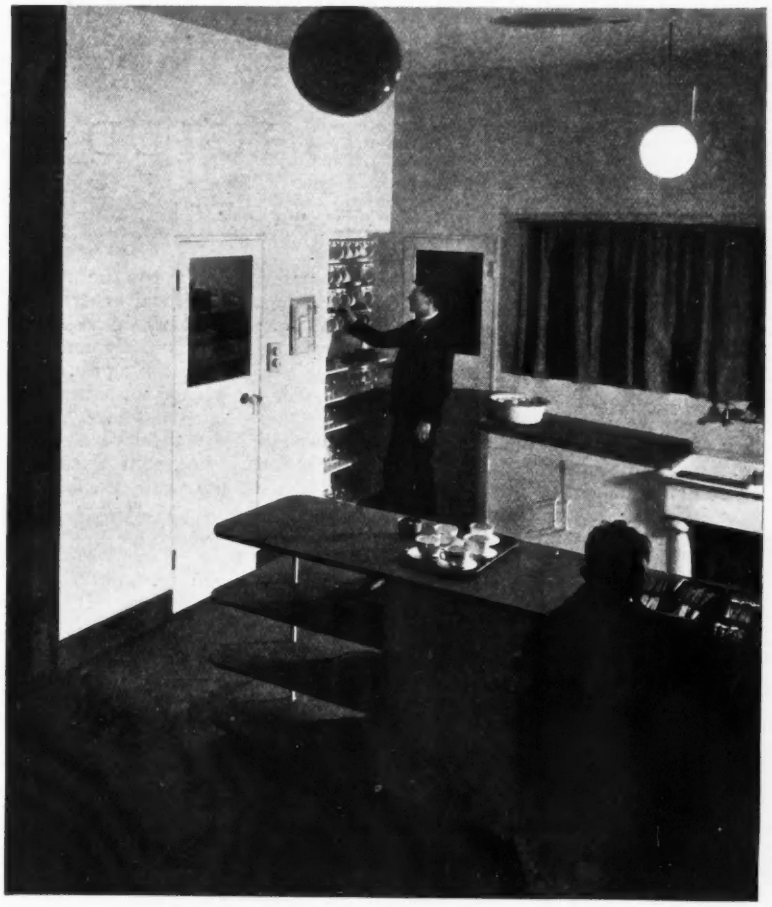
Work benches and classes in carpentry and shoe mending are arranged for the men; sewing classes, etc., for the women.

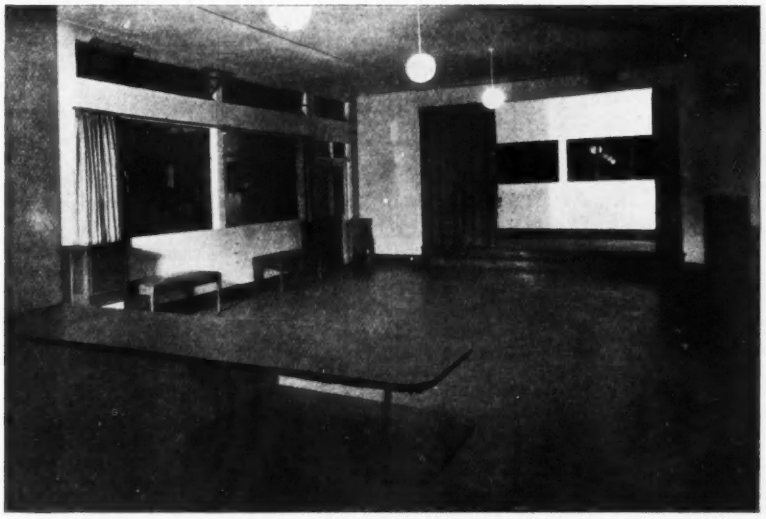
The members of the club pay 1d. per week subscription and small sums for food.

NORLAND GARDENS, SHEPHERD'S BUSH, W.



Typical section through external **wall** *and window.*





The photographs show: Above: A corner of the kitchen. Below: The hall, looking towards the stage.

THE AFRICAN NATIVE AS ARCHITECT-BUILDER

[BY W. L. SPEIGHT]

IN many parts of Africa the native hut builder has, in recent years, been inspired by the houses he sees in European areas, and he has altered his hut building methods accordingly. But some races appear unchanging as the desert; they continue to build after the fashion of their ancestors. Among such peoples are the Bushmen, whose homes consist of huts made from light branches, formed into a shape roughly circular, with about a third of the front cut away to provide an entrance. The ends of the branches are sharpened and forced into the ground, and the bent-over portion is tied to the other branches, which are covered by a poor sort of thatch, made by heaping clumps of straw upon the structure.

The tukuls of the natives on the banks of the Blue Nile are always built roof first, and the size of the roof naturally determines the size of the hut. It consists of reeds and grass closely plaited, and at times it is possible for long strings of this material to be made and worked into the roof. It is circular in shape, and when completed is measured so that a circle of corresponding size may be drawn upon the ground.

The five-foot uprights of the new hut are fixed at marked spots within this circle. At the top the uprights are forked, and the local expert is usually called in to satisfy himself that the forks are set accurately and that the roof is ready for hoisting up. When the men in the village have been suitably entertained, they all take hold of the roof and hoist it on to the uprights, and when it has been placed securely in position the walls are formed from an interlacement of long reeds, cut at the marshes or from the banks of the river.

In the barren parts of Tanganyika Territory, where water is scarce and the ground is so sandy that trees will not grow upon it, the natives build huts of clay and straw. This is a region of large huts, generally of dimensions beyond those of native huts in other regions.

These huts are so low that one must half crawl into them. The highest rarely exceeds four feet, and the area of the floor space varies from 25 square feet to 50 or 60 square feet. There is only one door and there are no windows, and, as domestic animals—pigs and fowls—also live in the house, it is neither comfortable nor hygienic. In this region of raging whirlwinds, the natives hold their roofs in position by weighting them with large stones. When the melons are cut, they also are rolled on to the roofs, and in their way afford stability whilst they are ripening.

The Zulu builds a beehive hut, the framework of which is composed of flexible branches or saplings, driven into the ground and then bent over to form hoops. The height of these hoops increases towards the middle of the hut. Thinner branches are interlaced between the main supports, and the whole structure is covered thickly with reeds and grasses which, properly placed, provide a weather-proof thatch. These huts are not often of standing height, and the entrance is so small and low that ingress and egress must be made by crawling.

In the Southern Rhodesia mining regions the natives live in "compounds," where the huts are often built by the labourers to designs drawn up by mine managers. Some of these huts are square or oblong, but a circular shape is generally favoured. Some are built of brick; others of reeds. They may have corrugated iron or tiled roofs, but reed thatch is preferred. These huts are arranged in long, regular lines, which is not the native custom, for the native abhors straight lines.

In the Congo and along the Guinea coast rectangular houses are common, but in other parts of West Africa a round type of dwelling is more usual. In most West African houses much use is made of mud, which may be made into a sort of wattle and daub mixture, or built up as thick walling, without any form of support or reinforcement.

Sometimes in West Africa the natives build huts with thin and almost straight walls, framed by heavy posts driven into the ground. The African has yet to learn how to make bricks, even of mud.

The natives at the northern borders of Kenya Colony have a fairly wide range of ideas for hut designs, most of which are picturesque. In this region bamboo and long grass are plentiful. The bamboos are woven together in various designs to form walls of attractive patterns. Settlers in this part of Africa declare they know a tribe by the pattern of the hut walls, for each tribe weaves the bamboo in its own way. Now and again European fittings like doors or window frames are fixed into these huts, but the practice is not so widespread as in South Africa, in certain parts of which it is said the natives use the discarded doors and window frames of the Europeans. There is no doubt that in the future various types of European joinery will play a much bigger part in native hut design.

The conical hut is probably doomed, for its very shape restricts its size, and in certain parts of Africa, even today, this seems to be regarded as a serious

A native village, Rhodesia.

A typical hut built by the Zulus.

drawback. The man of importance, who believes in having several wives, must build several conical-shaped huts to house them, but if he belongs to a tribe in which the square-shaped hut is usual, only one hut is necessary to serve all his domestic needs.

Almost everywhere in the Rhodesias the natives put up conical mud huts with grass roofs, but sometimes they make the walls of leaves and branches, which they render weatherproof by plastering with mud on the inside. The huts in which the mealies and other requirements are stored are often little more than open shelters—roofs supported by a series of poles.

In Uganda the native huts are designed to keep the occupants cool in the hottest weather. They are raised a foot or two from the ground, and are surrounded by a wide verandah, formed by bringing down the eaves and supporting them on posts. The roof consists of a series of layers of thick thatch run up to a long roof-tree. The mud wall of the hut is built only to a height of about three feet, except at the rear, where it is continued to the roof. The rear portion forms the sleeping apartment, and the forepart an open living room. Occasionally papyrus provides the roofing material, for which purpose it is well adapted. Variations of this type of hut are found in many parts of the Sudan and along the Nile.

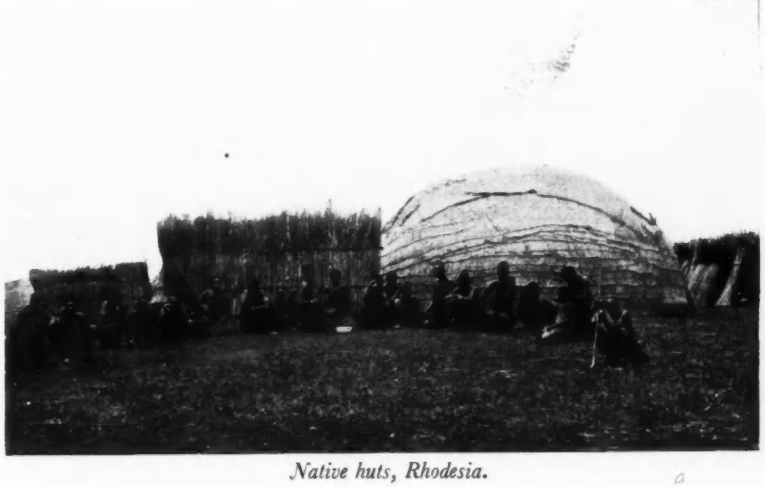
Natives are generally fond of lighting fires in their huts, and they do not appear to care whether the smoke finds its way out or not. This practice becomes most unpleasant in the Congo region, where the huts are of ant-hill type. They are made of long grass, and in most of them the roof is continued downwards over the door, so that when the occupants are inside the hut can be closed. When the occupants are comfortably settled a fire will be lighted, but the close atmosphere so produced does not worry the natives.

At Iringa, a growing native village, the people have advanced to the stage of dividing their square houses by partitions of mud. These houses have walls of mud and sticks, and their flat roofs are made from grass. It is a notably dry district, otherwise such houses might not be a success. They have no windows, but wooden doors of European manufacture have been sold largely in the village, though they do not always fit well into the native-made frames. Some of these frames are of mud, but others are of roughly hewn timber. Some of the doors swing at a crazy angle, but as the native joiner learns his business he will attend to such matters, and in time the doors of Iringa will probably fit into their frames, and all frames be constructed of timber.

Most of the shops and stores in Iringa are owned and managed by natives, and the bulk of the merchandise stocked consists of salt, beads, cloth goods, tobacco and cigarettes. The shops are generally small, and many of them consist of mud platforms built under the small grass balconies of the huts. From Iringa to Dodoma one passes over several rivers, and some long stretches of dusty plain. Dodoma is a growing town, apparently larger than Iringa, and a number of its shops are in Indian hands. Sometimes the African and the Asiatic co-operate, for some of the stores are jointly owned. Long thin saplings are used principally for building houses in this town, and many of them have the appearance of large cages of really ingenious construction.

Mbilwe, the chief village of the Bavendas, is built in irregular clusters of huts on a rising hill slope. These huts have plaster walls, which are gaily coloured and ornamented. The roofs are thatched and rise to a spire point, an unusual architectural characteristic in native areas.

The Waziba, from west of Lake Victoria, make reed and grass huts. They commence by fastening the ends of the long reeds together. Rods are prepared and bent into circular shapes of gradually diminishing diameters. The reeds are secured to these rods, and as the structure grows, so more reeds and rods are worked into it. In the end a pointed, basket-like hut is produced, and before it can be entered a door must be cut in one side. When the door has been widened to the customary limits, a small verandah is built around it, for the Waziba does not favour the hut with an unprotected entrance. This hut is usually about eighteen feet high, and may be up to a score of feet in breadth. In some families it is even customary to partition the hut, but such an arrangement is not usual. The hut is secured to the ground by burying the ends of the reeds in the earth.



Native huts, Rhodesia.

Art and Industry

Following are some extracts from a paper entitled "Collaboration between Manufacturers and Artists," read by Mr. John de la Valette (Hon. Organizing Secretary, Royal Academy Exhibition of British Art in Industry, 1935), at a meeting of the Royal Society of Arts last week.

What are the practical problems which industry has to investigate and deal with on its artistic side?

The first is the organization of exhibitions both at home and abroad. The usual course of events, when exhibitions arise, is for them to be

organized by a collection of well-intentioned people, who are usually called in at the very latest moment, and who, immediately after the exhibition is over, disband themselves, thus leaving their successors on a future occasion without the benefit of their experience and information. Clearly, if there were standing committees within different industries, or groups of related industries, to deal with exhibition problems as soon as they arise, much time would be saved in mere organization which could be used towards active preparation.

But exhibitions are only one means of displaying the products of industry. An even more important medium for bringing them to the public notice is found in the shops. Great as have been the strides made in shop window display in recent years, it cannot be said that these are always as effective as they might be. Another point for these committees to study would be the improvement of the window displays of their respective wares.

Then there is the equally vital question of improving the artistic qualities of the goods themselves, and, to that end, drafting artists into the various industries and establishing a close and workable relationship within each concern between the artistic, technical, and commercial members of the staff. At the present moment this subject is being studied by the Royal Society of Arts, which, I believe, proposes shortly to approach the Royal Academy and the Royal Institute of British Architects, in the hope of being able to put forward a scheme which might allow scope both to industry and artists generally to be brought together on helpful lines. If such a scheme materializes, it would, of course, be open to all artists, irrespective of any societies to which they might or might not belong.

There is full justification for setting up a permanent organization enabling industry to consider its artistic concerns regularly, just as it considers in a coherent and permanent manner its technical, commercial, labour and other interests.

The basis of the organization should lie within the industries concerned. If they do not realize the value to themselves of an organization to cope with the problems indicated, no dictation by outside interests will make them see it, and no spoon-feeding by well-intentioned outsiders will avail.

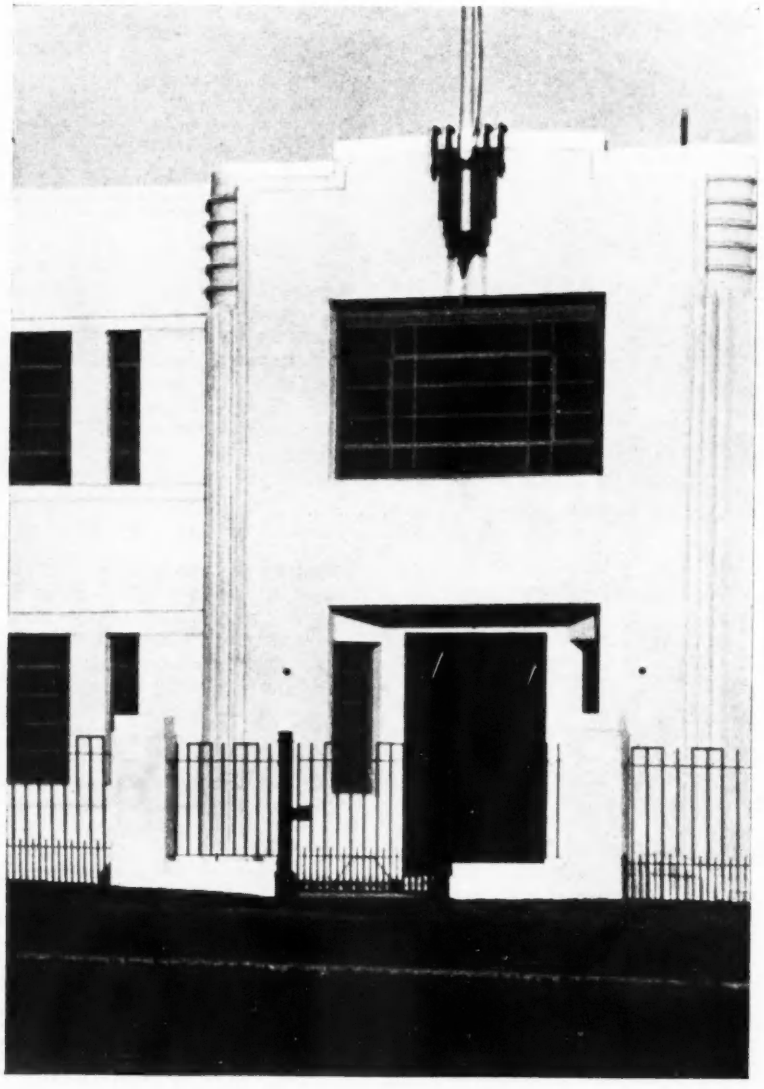
Let me make a suggestion in response to the question which may be put, as to how one should go about it to start so all-embracing an organization.

In reality that is perfectly simple, for, thanks to this Royal Academy Exhibition of British Art in Industry, the points of contact exist everywhere, and nuclei from which to start. On the industrial side you have the Industrial Arts Committee of the Federation of British Industries and the Industrial Advisory Committees for the Royal Academy Exhibition, which are already mutually in touch and which could easily take the initiative for perfecting themselves in the direction indicated.

On the art side, the Executive Committee of the same Exhibition shows that there exists close co-operation between the Royal Academy, the Royal Institute of British Architects, and the Royal Society of British Sculptors, with the Royal Society of Arts as a valuable link between art and industry, and perhaps as a suitable body to take the initiative in bringing them together. Consultation between the industrial committees and the art world is hereby made easy. And if the generous spirit in which these four Royal Societies of artists have fostered the inclusion of the younger elements among artists and architects in connection with their present Exhibition is any indication, they may be expected also in an undertaking of such national importance to give effect to the same broad views.

As for the introduction of the official elements, the Board of Trade's recently formed Council of Industrial Art should provide a convenient point of contact.

FACTORY IN



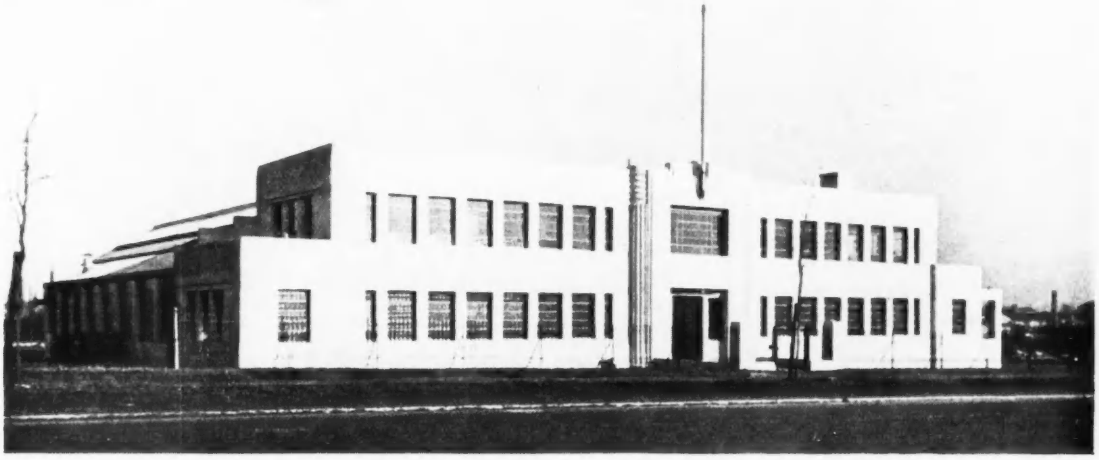
DESIGNED BY
SIR ASTON
WEBB AND SON
AND H. A. DAWSON

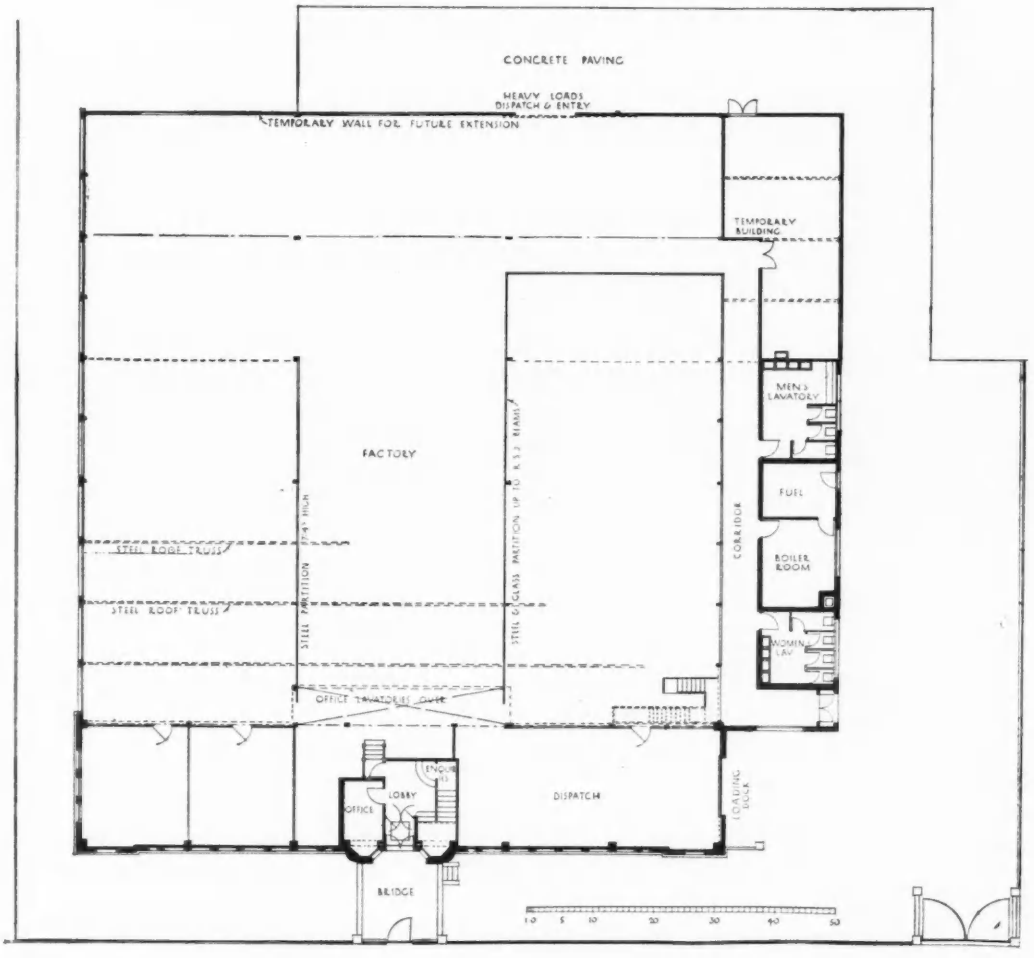
This factory, for O. & S. Bearings, Ltd., is a steel framed structure filled in with brick. It is rendered externally with a waterproofing compound of a light cream colour and has steel windows, a flat asphalt roof and an artificial stone coping. In the factory the floors are of granolithic laid in 10 ft. squares and reinforced to support machinery. Each machine is driven independently without shafting, and weighs approximately five tons. Heating is by air units, without radiators. Hollow-tile floors are laid at first floor level.

The roof has been designed especially to exclude dust. Tongued and grooved boarding has been laid on the purlins, covered with felt paper and finished with corrugated asbestos sheeting. Where roof glazing exists it is of patent construction. Pressed steel partitions divide up the factory and the w.c. accommodation.

The factory and the lavatory block was completed and handed over to the client in nine weeks, the complete building being erected in fourteen weeks. Future extensions have been allowed for in planning the building.

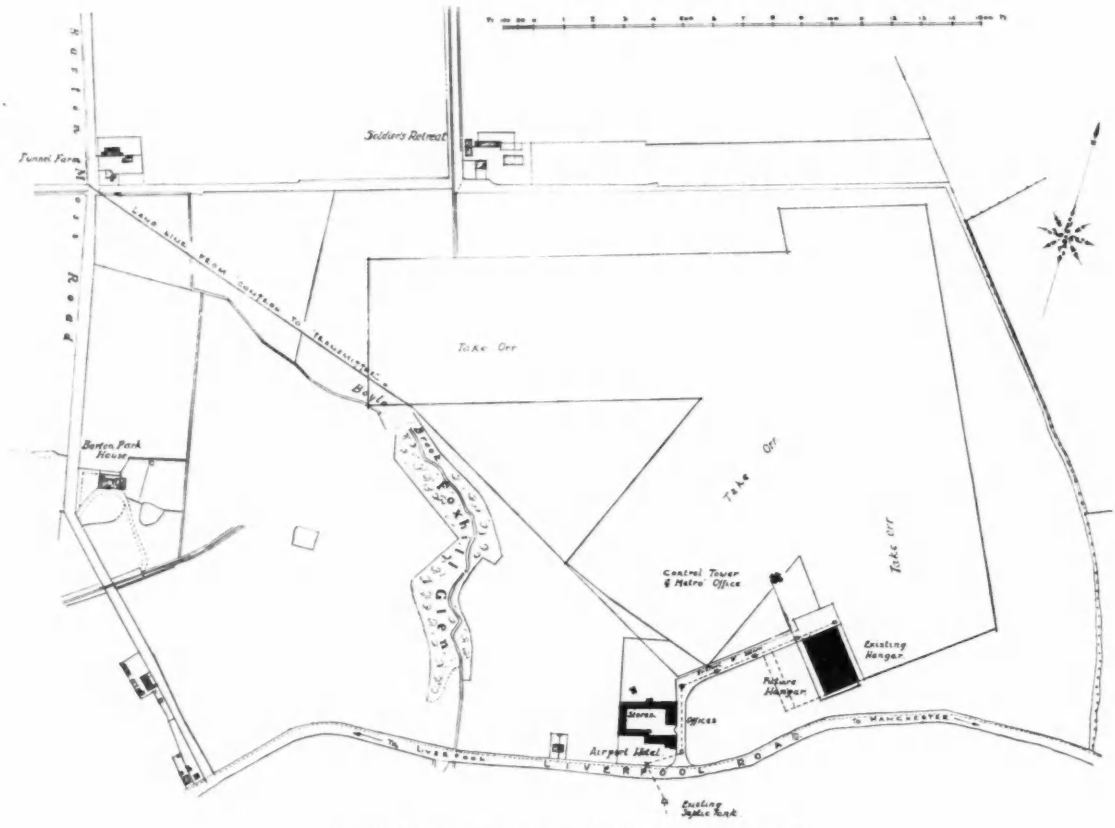
WESTERN AVENUE, PARK ROYAL





GROUND FLOOR PLAN

CONTROL TOWER AND METEOROLOGICAL



LAY-OUT PLAN OF THE AIRPORT

The prevailing wind varies from west to south-west.

This building has been erected at the Manchester Airport to control the arrival and departure of aircraft, give pilots their position whilst in flight in cases of fog and night flying, and prepare weather reports and charts for the use of aircraft pilots.

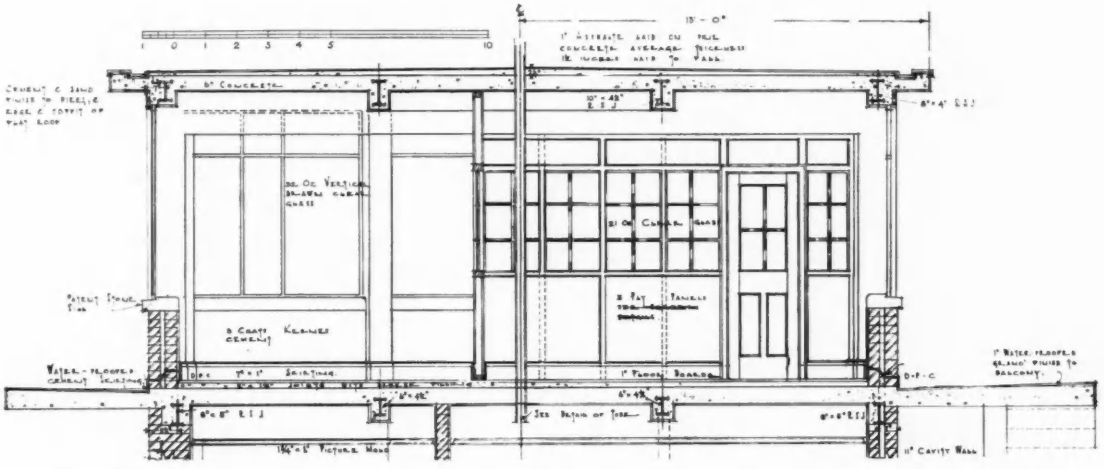
The control room is on the third floor, and is a glass enclosed octagonal room with a clear unobstructed view of the whole of the landing area; the wireless operator's cabin is on this floor, directly under the wireless receiving mast from which a "lead in" is taken. Messages are received on this aerial and also despatched from the same cabin through the transmission station which is three-quarters of a mile away, the connection being made by means of a land line.

On the second floor is the chief wireless officer's private office, wireless battery charging room, etc.

The whole of the first floor is occupied by the meteorological department, connection being made to their instruments on the top of the mast by means of a tube which is run down the centre of the building; access is provided direct on to the observation flats, from which balloons are despatched twice a day, and their rate of travel checked at different altitudes by means of a theodolite, for which concrete stands have been provided.

DESIGNED BY HENRY PRICE; ERECTED

OFFICE, MANCHESTER AIRPORT

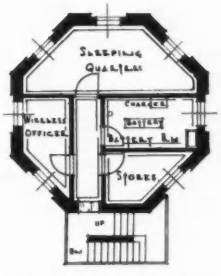


SECTION THROUGH THE CONTROL ROOM ON THE THIRD FLOOR

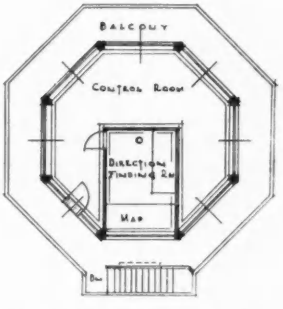
In the projecting wings on the ground floor, with their exits facing the landing area, are the garages for the fire engine, ambulance and ground maintenance machines, etc.

The whole of the building is heated by electricity, and intercommunication between the departments is by means of a pneumatic dispatch tube; the staircase has been placed on the outside of the tower to give an unobstructed view of the landing area from the control room.

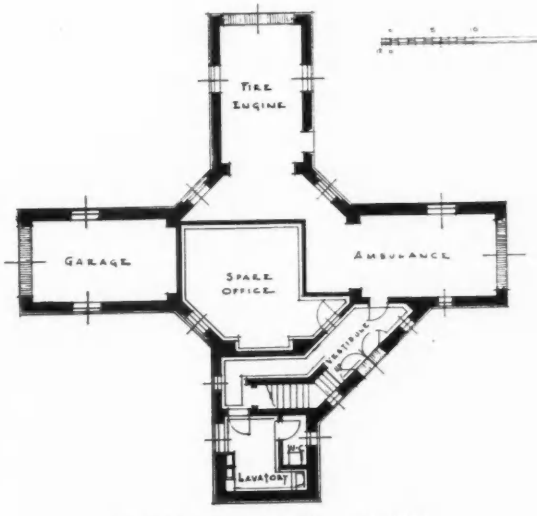
The building was designed by Mr. Henry Price, A.R.I.B.A., the late City Architect, and erected under the supervision of G. Noel Hill, A.R.I.B.A., the present City Architect.



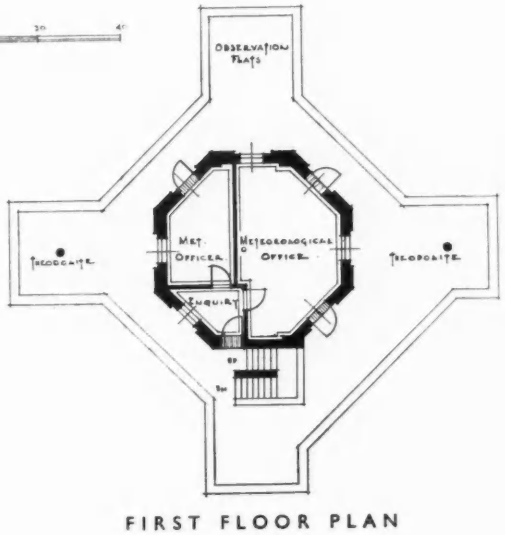
SECOND FLOOR PLAN



THIRD FLOOR PLAN



GROUND FLOOR PLAN



FIRST FLOOR PLAN

UNDER THE SUPERVISION OF G. NOEL HILL

L I T E R A T U R E

LIBRARY BUILDINGS

Library Buildings, their Heating, Lighting and Decoration: papers read at the 55th Annual Conference of the Library Association. Edited by R. D. Hilton Smith, F.L.A. London: The Library Association. Price 4s. 6d. net.

LIBRARIANS, poor things, like architects, boy scouts, policemen and parents, are expected to know something about everything, and just occasionally their great erudition rushes to the head in a torrent of conference speeches. So at Bournemouth, in 1932, when the Library Association held its annual conference, every one talked architecture, and, as is usual when laymen discuss technical affairs, not a few of the speakers were of the opinion that they were cannily putting the architectural profession "on the spot," and telling them a thing or two about this, that, and the other. The papers which were read to the conference excited so much interest at the time that it has been thought worth while to bring them up to date and to reprint them in book form.

The volume, which has now appeared in a gay orange cover that pleasantly belies the seriousness of its contents, on which is a title which is definitely bigger in its implications than the subjects of the papers warrant, contains five papers on various aspects of the architectural equipment of libraries, each followed by a digest of the discussions which ensued, and a reprint of the Report on the Artificial Lighting of Libraries issued by the Library Association and the Illuminating Engineering Society's Joint Committee.

To the architect the book should be of interest, since it gives the opinions of clients, many of whom have studied the subjects which they discuss with more than amateur thoroughness; but the amateur will out, and, even when expressed with conviction and by librarians, amateur opinions remain amateur opinions, based generally on hearsay or experience in two or three cases. They are unduly dogmatic, and savour too often of special pleading to have authority, for the client who has himself organized the redecoration or lighting or heating of a library is naturally disposed to favour what he has done. The same generalization can, we know, equally well be applied to architects, but with both architects and librarians the tendency to dogmatize is generally in inverse ratio to experience. This can be seen from papers in the book, in which two undoubted experts, Mr. H. A. Gold, architect of the new buildings for the National Central Library and the Library Association, and Mr. H. Lingard, of the Lighting Service Bureau, carefully avoid being too cocksure, and both treat their subjects in a manner appropriate to their audiences, descriptively and historically. It is a pity that Mr. Gold was not given an opportunity to talk on some subject more fundamental to good library design than hygienic wall surfaces; his experience in solving two library building problems of unusual difficulty qualifies him to speak with authority.

The most interesting of the three papers by librarians is that by Mr. R. D. Hilton Smith, the editor of the volume on Natural Lighting. Mr. Hilton Smith particularly advocates the adoption of an open plan without any but the most essential partitions, and he will, we are sure, find most architects supporting him in his desire for clear open spaces and good windows. Unhappily, some form of partitioning is frequently necessary to avoid interference of one department with another, so that Mr. Hilton Smith's ideal can seldom be reached. The *sight*, as well as the sound of continual movement in a lending or children's department can be most disturbing to the peace of a reference library, and solid partitions are the only things that can give adequate seclusion. Where glazed partitions are necessary, we heartily support Mr. Hilton Smith's dislike of the usual ponderous small paned variety; let them be, as one of the contributors to the discussion suggested, single sheets of plate glass—used as Mies van der Rohe uses glass in his houses. But when we feel at one moment that Mr. Hilton Smith might make a sympathetic client for Mies van der Rohe or his English counterpart, our hopes are dashed when we read later on that "dormer windows are delightful, especially if they are executed with some refinement of detail in the craftsmanship." It is only a short step from this casual opinion that dormers or any other architectural feature are delightful to the conviction that dormers, or whatever they may be, are essential; and we get columns wherever we go executed with refinement of detail in the craftsmanship.

But Mr. Hilton Smith's paper is, on the whole, constructive and interesting, and so is Mr. Lamb's paper on interior decoration; we are made to feel that any library in Mr. Lamb's charge, even if it leaves the architect's hands as a monument of gloom, will soon have the utmost done to it to make it comfortable and colourful.

The paper printed first in the book, on methods of heating in relation to economy of maintenance, by Mr. S. A. Pitt, should, one feels, have been the best of the bunch, but it fails to live up to its apparent ambitions to be a technical paper of great value, for the obvious reason that its author is a librarian and not a heating engineer; and yet, because of its scientific pretentions it deals overmuch with technical details that are known to every one seriously concerned with the subject, and avoids discussion of much that might have been of interest to a lay audience. Almost all the most useful part of the paper contains a series of calculations of relative costs of electric, gas, coal, coke and oil heating, expressed in terms of B.T. units per one penny. The weakness of such purely statistical assessments is that they omit such essentials to a true comparison as overhead charges for labour and accommodation and ease of working; but these are things that Mr. Pitt considers in the earlier part of the paper.

We have only made passing reference to the valuable report on Artificial Lighting from the I.E.S. and L.A. Joint Committee, which is here published in a book for the first time. This, more than the papers, makes the book one which architects should do well to examine. Even if we rather discount its professional value to architects, the book is certainly of great interest as showing how alive the librarians of the country are to the importance of architectural values.

Publications Received

An Outline of English Painting. By R. H. WILENSKI. London: Faber and Faber. Price 2s. net.

British Masters. By HORACE SHIPP. London: Sampson, Low and Marston Co., Ltd. Price 6s. net.

An Introduction to English Painting. By John Rothenstein. London: Cassell. Price 10s. 6d. net.

Modern Shopfront Construction. By TREVOR PARRY. London: Technical Press, Ltd. Price 5s. net.

Architects' and Builders' Pocket Price Book. London: E. and F. N. Spon, Ltd. Price 5s. net.

Byzantine Architecture and Decoration. By J. ARNOTT HAMILTON. London: B. T. Batsford, Ltd. Price 18s. net.

Ancient Architecture. A Commentary in Verse. By CHESTER H. JONES. London: B. T. Batsford, Ltd. Price 15s. net.

Eighteenth Century Architecture in S. Africa. By G. E. PEARSE. London: B. T. Batsford, Ltd. Price 18s. net.

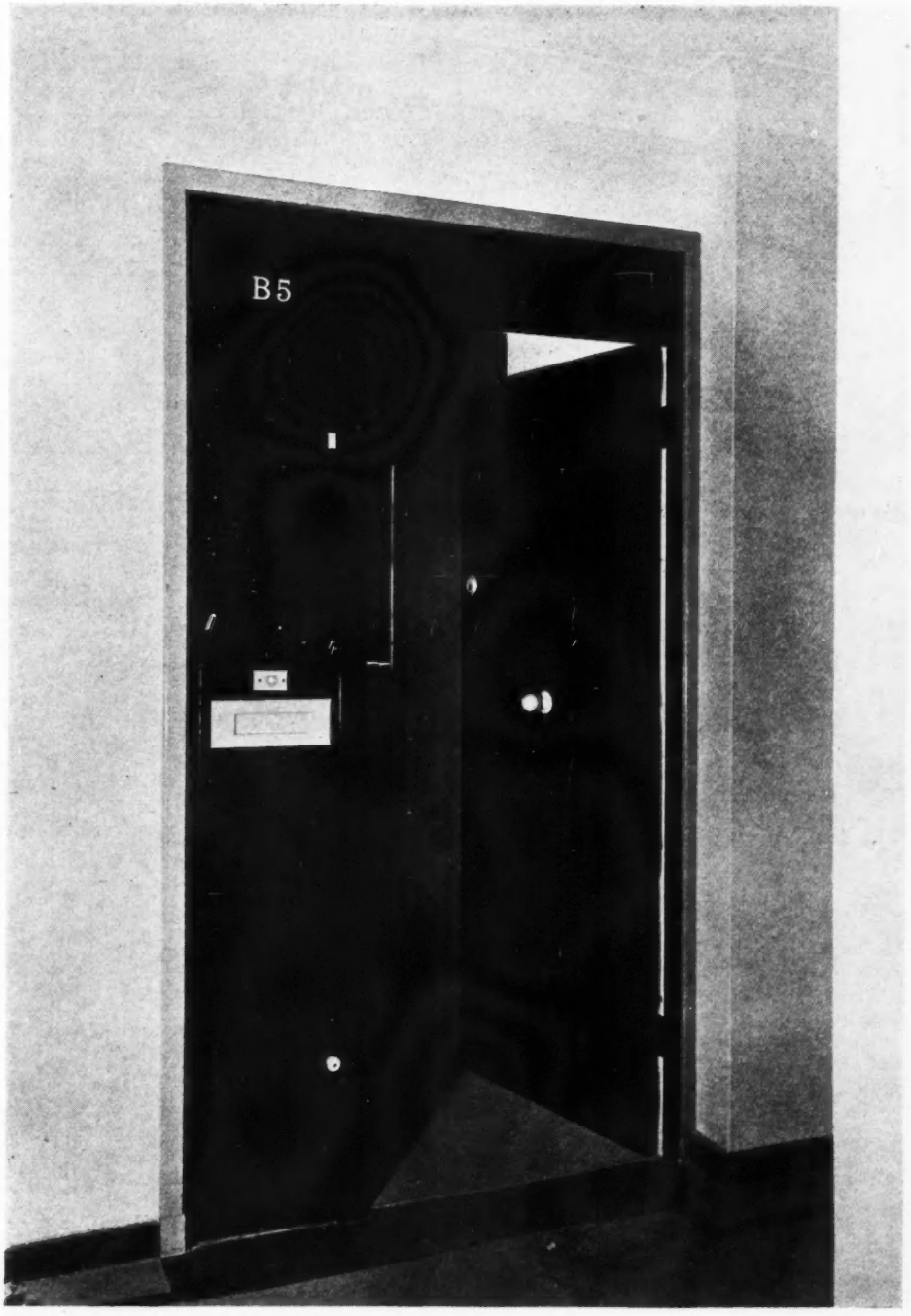
Specification, 1934. London: Architectural Press. Price 10s. 6d. net.

City of Birmingham Handbook, 1934. Birmingham: Birmingham Information Bureau.

Southwark Housing Association, Ltd. 2nd booklet.

WORKING DETAILS : 9

ENTRANCE DOORS • FLATS IN CHELSEA • G. KAY GREEN



Details of the entrance doors to flats in Sloane Avenue Mansions are illustrated on page 10 of this series, and the photograph above shows a representative door from the corridor. They are of solid laminated construction, finished on the outside in polished mahogany and on the inside in polished oak; on alternate doors the architraves and door furniture are coloured apple green or orange red.

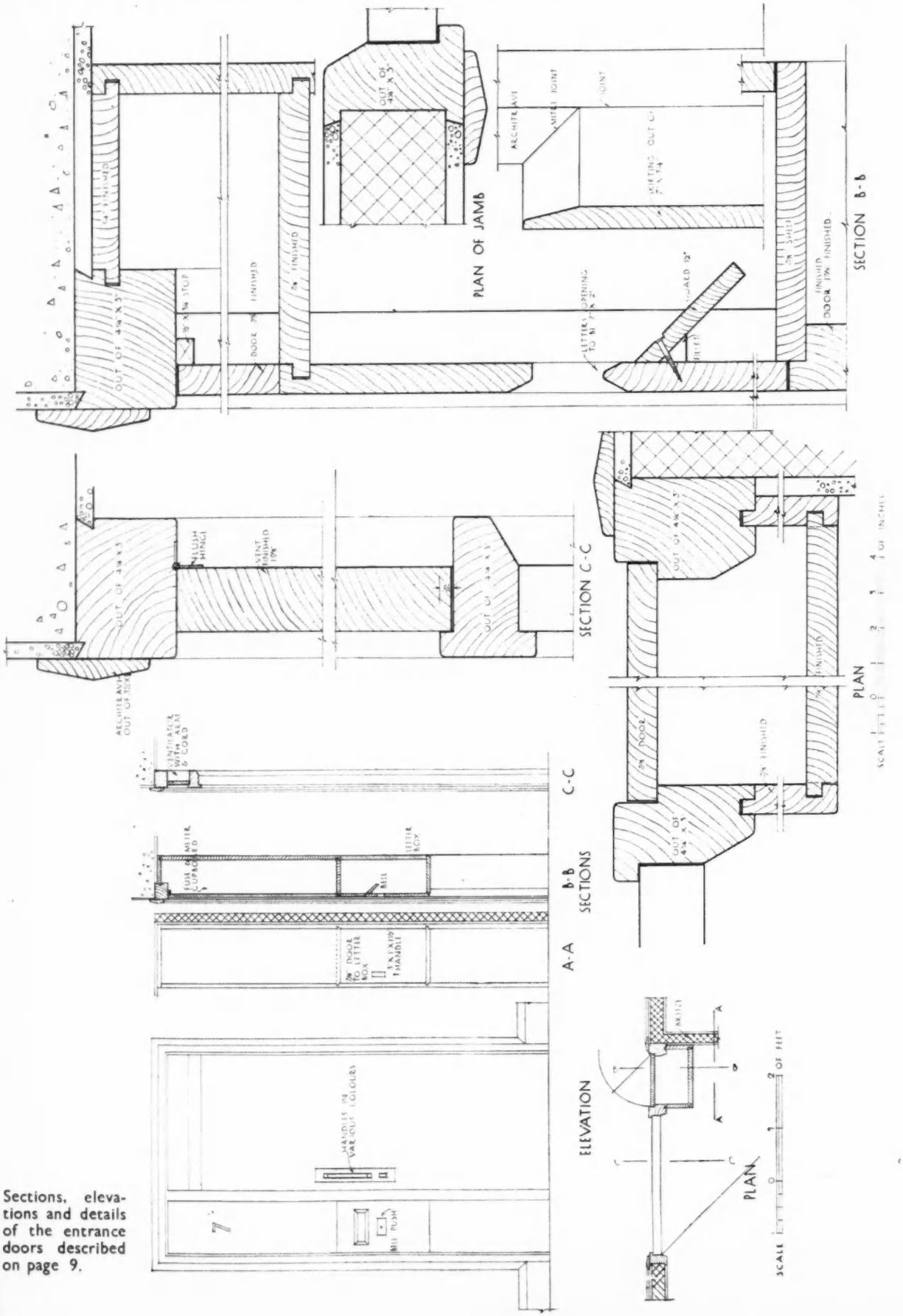
The fitment at the side is designed to be especially convenient for tenants who are absent from the flats all day. At the top access is provided from the corridor to the electric supply company's meters, which can thus be inspected without entering the flat. There is a large letter box below, and beneath this a small door through which the dust-bin can be withdrawn by the porter for emptying. Parcels delivered during the day can also be put inside the flat through this access door as it is fitted with a special latch which can only be manipulated on the corridor side by the porter.

The flats were designed for the Central London Property Trust Ltd., and were illustrated in this Journal for January 11 last.

FILING REFERENCE:

WORKING DETAILS : 10

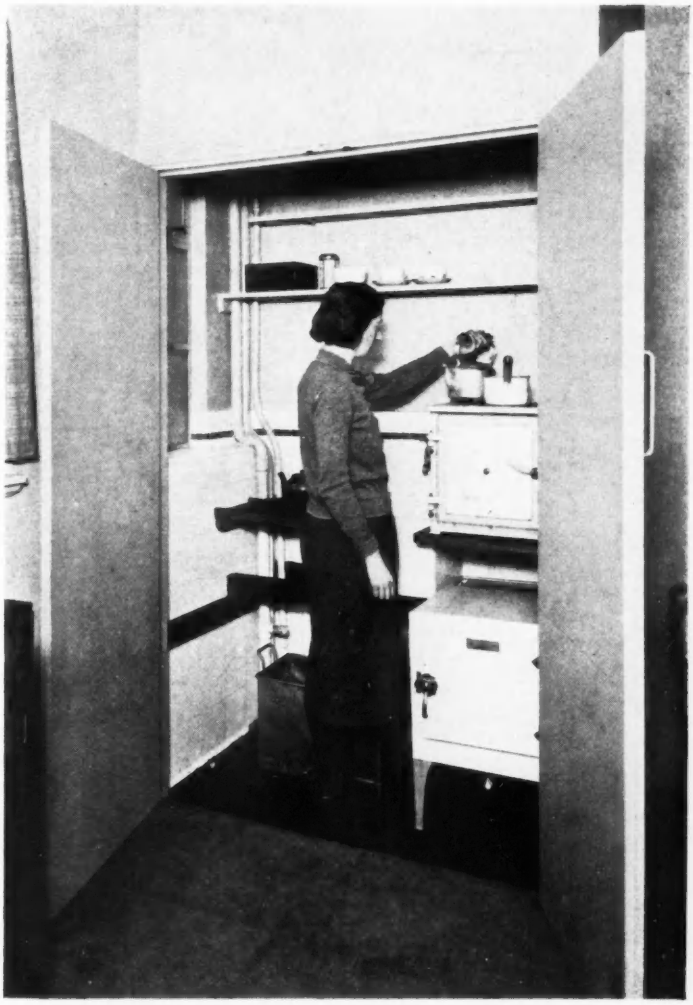
ENTRANCE DOORS • FLATS IN CHELSEA • G. KAY GREEN



Sections, elevations and details of the entrance doors described on page 9.

WORKING DETAILS : II

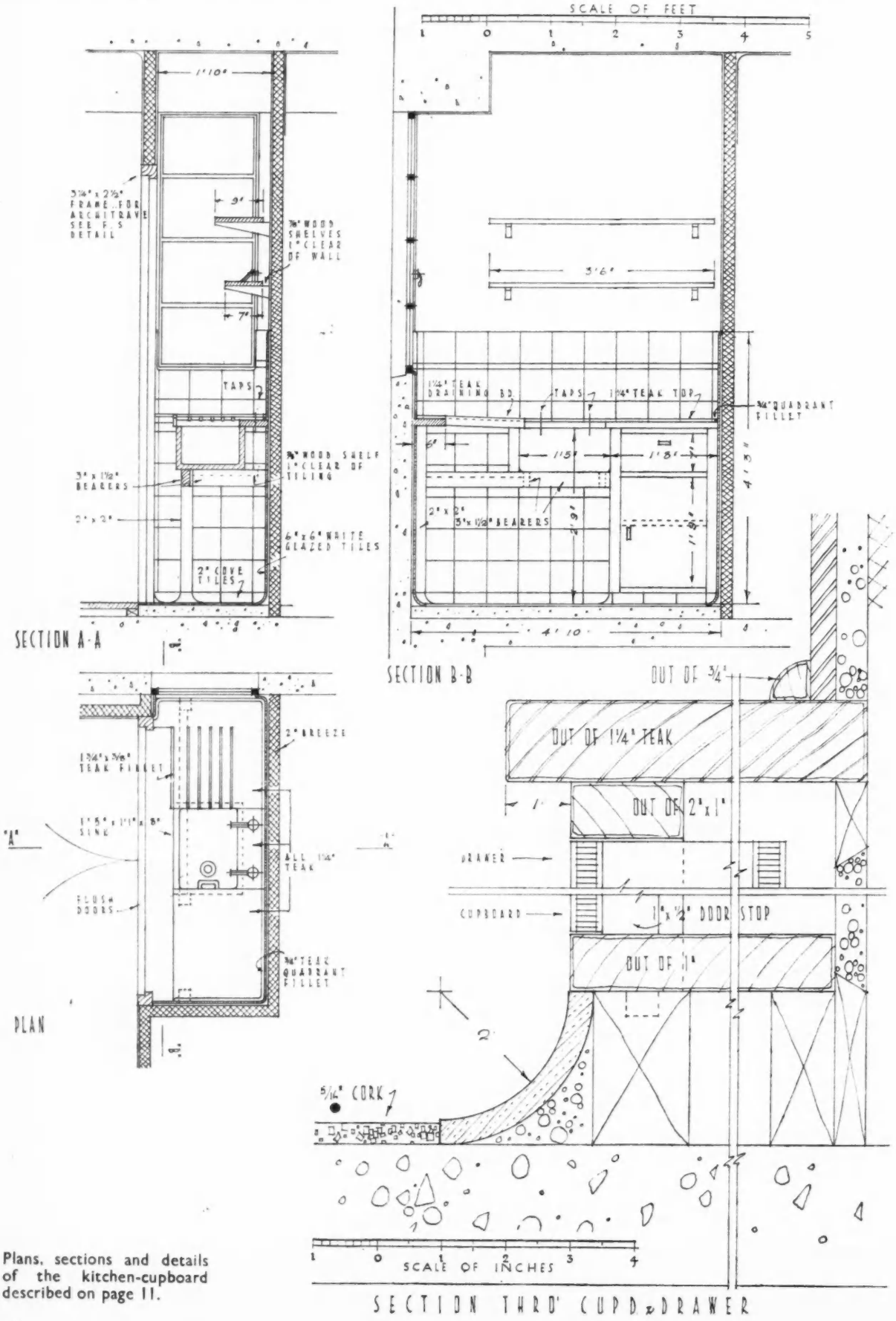
KITCHEN-CUPBOARD • FLATS IN CHELSEA • G. KAY GREEN



A general view of the kitchen-cupboard to a single roomed flat, details of which appear on page 12 of this series. The dust-bin should be noted as it is of a special size designed to pass through the access door by the entrance into the corridor. The electric stove and kettle are hired from the local electric supply company, and an additional electric point is provided to allow for the installation of a refrigerator. There is also a gas point so that tenants who prefer it may have a gas instead of an electric cooker.

WORKING DETAILS : 12

KITCHEN-CUPBOARD • FLATS IN CHELSEA • G. KAY GREEN



Plans, sections and details of the kitchen-cupboard described on page 11.

IN THAT CONTINGENCY

The following abstracts of inquiries represent a number of those recently submitted to the Building Research Station. The information given in the replies quoted is based on available knowledge. It has to be borne in mind that further scientific investigations may in the course of time indicate directions in which the replies might be supplemented or modified. Moreover, the replies relate to the specific subject of each inquiry, and are not necessarily suitable for application to all similar problems. [Crown Copyright Reserved.]

The Provision of a Damproof Course in a Reinforced Concrete Building

¶ *A FIRM of reinforced concrete engineers wished for an expression of opinion on the necessity for the provision of a damp-proof course of the traditional type in a proposed reinforced concrete building. The local authority in whose area the building was to be erected had called for a damp-proof course at ground level, which would be required to pass through columns and panel walls alike, in exactly the same manner as would be necessary in a traditional brick or masonry structure. Whilst the difficulty could be overcome by adopting somewhat unconventional modifications in design, it was felt that this course was quite unnecessary, and that the rigid application of the bye-law was needlessly restrictive in the case of a building of the type proposed, since, in fact, such buildings have been erected elsewhere without the traditional type of damp-proof course, and have given every satisfaction.*

So far as the Station is aware, it is not the normal practice to treat reinforced concrete structures in the same manner as traditional brick and masonry buildings. In view of the fact that both structure and materials are usually widely dissimilar, it would hardly be reasonable to apply regulations drawn up for the older forms of construction to the more recent developments in reinforced concrete.

The position as regards damp-proofing is probably analogous to that of the structural stability of such buildings. Those building regulations which were drafted in terms of traditional methods and materials would be unreasonably restrictive if rigidly applied to reinforced concrete structures. In fact, the usual requirement of local bye-laws has merely been that the work shall be so designed as to secure due stability, recognizing that reinforced concrete is a highly specialized branch of engineering and, in an important building, will not be used except under the supervision of specialist engineers.

It seems to us that damp-proofing would usually be treated in the same manner, pending the issue of an authoritative "Code of Practice" for damp exclusion in the particular type of structure under consideration.

Whilst the provision of the traditional type of damp-proof course is inexpedient and unnecessary in the case of many reinforced concrete structures, it is obvious that the exclusion of ground moisture is a problem which must be considered, and the actual manner in which this is to be accomplished, and whether or not the concrete itself is adequate, will depend upon the particular conditions and requirements in each case. It is impossible to lay down any general recommendation applicable to all possible types of structure, on all kinds of sites and environments.

Use of Proprietary Plasters on Expanded Metal Lathing

¶ *AN architect enquired whether there are any particular reasons which render certain proprietary plasters unsuitable for use on expanded metal lathing. He mentioned two well-known particular proprietary plasters in this connection.*

Though some hydrated limes are sold under proprietary names, the majority of "patent" plasters on the market are calcium sulphate plasters prepared by the calcination of gypsum. These may be of two classes: (*a*) Anhydrous accelerated; and (*b*) plaster of paris (hemihydrate). The anhydrous plasters may again be of several types:—

1. Natural anhydrite, accelerated.
2. Hard burnt, acid accelerated.
3. ,, ,, neutral accelerated.
4. ,, ,, alkaline accelerated.

The effect on metal lathing will depend on the class and type of plaster used. An acid-accelerated type of plaster, for instance, may be highly corrosive, though with all gypsum plasters some danger of corrosion must exist unless they are heavily gauged with lime which neutralizes the acidity and protects the metal. Lime is, however, incompatible with certain plasters, and the advice of the manufacturers of the plaster should always be sought before adding lime.

Of the particular plasters mentioned one is of Class (*a*), Type (4), and is therefore less corrosive than, for instance, Type (2); the other we believe to be of Class (*a*), Type (3), though we have no absolute evidence to this effect. As a general rule we should suggest that a neat gypsum plaster should not be applied direct to metal lathing, though if it is mixed with a considerable proportion of lime this will effectively prevent corrosion for a long period. Unless, therefore, a guarantee is given by the manufacturer that the particular plaster is non-corrosive, it is always advisable to protect metal lathing when a calcium sulphate plaster is used. This may be done by applying a thick wash of Portland cement slurry or, better still, by using a cement-sand mix or a lime-cement-sand mix for the first coat of the plasterwork.

The enquiry emphasizes the need for a clear understanding on the part of the user of the actual nature of the material he is specifying. The practice of marketing plasters under proprietary names, with no indication of their type or composition, is to be deplored since there is then no possibility of ensuring that they are intelligently used, or that the materials they are associated with are compatible.

Pattern Staining on Plaster

¶ *ARCHITECTS wished for advice upon two cases of pattern staining which had occurred on large domed ceilings. In one case there was a pattern of light lines on a dark background and in the other case a pattern of dark lines on a light background. The buildings were inspected.*

The staining of plastered ceilings so that the lines of the supporting members show as a pattern on the under surface of the ceiling is a common trouble. Owing to differences in thermal conductivity, heat flows at different rates through different parts of a ceiling, and the staining occurs by the preferential deposition of dust particles on colder areas. As it is the difference in temperature between the room below the ceiling and the space over the ceiling which causes heat to flow through the plaster, it follows that the worst cases of staining will occur in positions where there is a constantly heated room below a cold space, such as a poorly insulated roof space. In such positions the trouble can be overcome if the rate of flow through all parts of the ceiling can be made uniform.

The first case inspected in this instance was that of a large domed ceiling to a recreation room in a hospital. This room was kept at a constant temperature of about 62° F. Above the ceiling was a large roof space varying in height from about 4-13 ft. covered only with torched slates. The ceiling itself was constructed of gypsum plaster $\frac{3}{8}$ in. thick, reinforced by a canvas backing stretched between wood bearers which formed panels about 1 ft. 6 in. square. The wood bearers were hung from the steel structure of the dome by ropes, but otherwise were not in contact with the steel.

The conditions, therefore, were very bad. There was a constant heat flow from a hot room to a very cold roof space and there was a considerable difference in thermal conductivity between the areas of thin gypsum plaster and those backed with wood bearers. The result was that the ceiling was covered with a very heavily marked pattern of light lines corresponding with the wood bearers, on a dark background where the greater heat loss through the thin gypsum plaster had caused a very much greater deposition of dust particles.

Two methods of treatment appeared to be possible: (1) to heat the roof space up to the same temperature as the room below, which would prevent any heat flow through the ceiling; (2) to endeavour to even up the rate of flow throughout by lagging the back of the ceiling between the wood bearers with a heat insulating material. The first idea may be dismissed as being impracticable in this instance owing to the very large roof space which would be difficult to heat evenly and would, in any event, necessitate a considerable increase in heat supply. The second method of lagging the upper

surface of the ceiling was therefore suggested.

Unfortunately, although the cause of such pattern staining has been established and although there is no doubt that efficient lagging will remedy the trouble, there are at present insufficient data available from actual jobs for any definite recommendations to be made as to the amount of insulation which is likely to be necessary in any particular case. In the present instance it was thought that as a very large area of ceiling had to be treated it would be advisable to experiment with a small trial piece before treating the whole area. It was suggested that three small areas of ceilings should be cleaned and that one of these should be left untreated, one should be lagged with 1 in. of slag wool and one with 2 in. of slag wool. As there were some months of the winter left, during which the room would be hotter than the roof space, it was hoped that this trial would give sufficient data by the end of the winter to enable the necessary amount of insulating material to be estimated.

The second case of staining had occurred on a similar domed ceiling. In this instance, however, the ceiling was lime plaster, ¾ in. thick, on metal lathing, which was in direct contact with the steel roof members. The room below was a banking hall and therefore always fairly warm, and the roof space above was similar to the other example. The staining in this case was not nearly as bad but, unlike the previous example, took the form of dark lines on a light background, the lines following the position of the steel roof members. This was due to the ceiling being in direct contact with the steel which, being a good heat conductor, caused the plaster immediately below to become cooler than the remainder of the ceiling and therefore led to deposition of dust in dark lines on these cooler portions.

The fact that, here, the plaster was thicker and that it was a lime plaster, which has a higher thermal resistance than gypsum plaster, made the staining far less serious than in the other example.

The correct treatment would be to cover the back and sides of the steel roof members with sufficient lagging to reduce the rate of heat flow through them to the same order as the rate of flow through the plaster alone.

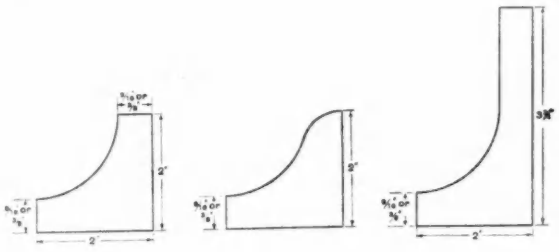
The subject of pattern staining is dealt with in detail in Building Research Bulletin No. 10, *The Prevention of Pattern Staining of Plasters* (H.M Stationery Office, price 4d. net).

Manufacturers' Items.

A firm specializing in inexpensive modern furniture has been founded under the name of Jacob, and is opening showrooms this week at 55 Curzon Street, W. 1. Architects are cordially invited to call.

English Mediæval Architecture

Sir Banister Fletcher, PP.R.I.B.A., will, on Wednesday next, at 6 p.m., deliver a fully illustrated lantern lecture on "The Architecture of the Tower of London" at the L.C.C. Central School of Arts and Crafts, Southampton Row, W.C. This will be followed on the succeeding Wednesday by a lecture on "The English Home."



TRADE NOTES

[*BY F. R. S. YORKE, A. R. I. B. A.*]

Cork

A new development of cork tile flooring is a covering for staircase risers and treads. Ordinary flooring cork ¾ in. thick is used generally for tread and riser, but the material used to form the 1 in. to 1½ in. thick nosing is highly compressed.

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The cork provides a finish that is noiseless, non-slippery, easily cleaned, and pleasant in appearance. The staircase finish costs about 3s. 6d. per foot run, for riser and tread including nosing.

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I understand cork tile flooring in various thicknesses, laid complete and polished, is now obtainable at the following prices, including cutting to waste, borders, etc.

	Price per yard super in London		
	5/16 in.	⅜ in.	½ in.
	s. d.	s. d.	s. d.
50 yards super ...	10 6	11 6	13 6
100 " " ...	10 0	11 0	13 0
500 " " ...	9 3	10 3	12 3

A 3/16 in. thick tile is made for wall panelling, shop window bottoms, and similar places where wear is slight.

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Coved angle finishes, taking the place of skirtings, are made in cork, in sizes governed by the standard thickness of cork floor tiles. Typical sections through these skirtings are shown in the diagram at the head of these notes.

Paint for Cement

The Second Feathers Club, designed by Wells Coates and Pleydell Bouverie (and illustrated on pages 318-319 of this issue) is constructed with a wood frame, faced internally with Tentest compressed fibre board, and externally with rendering applied over Bricanion lathing.

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The rendering is painted with Tungaline, a material developed by Sissons Bros. for application on cement surfaces, to which ordinary oil paints do not provide a permanent finish. The ingredients used in its manufacture are carefully selected and tested to resist acids and alkalis that normally cause rapid disintegration of surfacing materials applied to cement.

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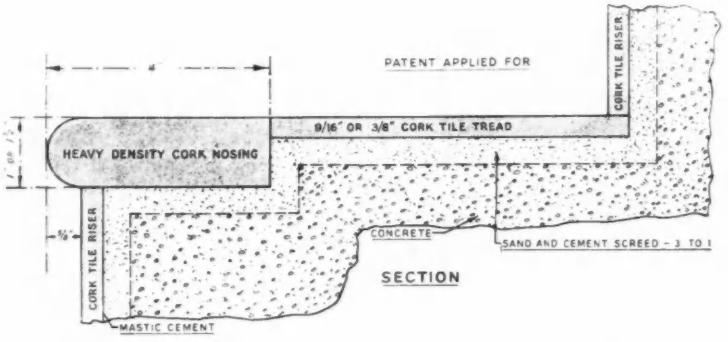
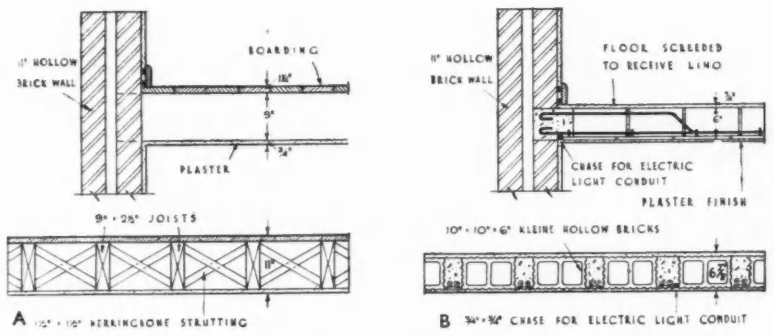
Tungaline is made as a flat finish for concrete and cement wall surfaces, and as a glossy finish for concrete and cement floors; in each case, it is supplied in a range of eight colours. It is claimed to be extremely durable and to afford protection from weather, since its surface is impervious to moisture. It is suggested that



Standard cork staircase finish, now obtainable from cork manufacturers.



Comparative diagrams, showing thicknesses of A: normal wood joist floor; B: hollow block floor in a small dwelling house.

added durability on exposed buildings is obtained if a first coat of glossy Tungaline, thinned by the addition of 1 pint of turpentine to 1 gallon of paint, is followed by a coat of flat finish.

Hollow Brick Floors for Houses

It has probably occurred to most architects at one time or another, that the hollow brick floor has several advantages over the more usual timber joist for use in simple domestic work. It is fire- and water-proof, and has a high degree of sound resistance, whilst there is, of course, no possibility of dry rot, a point which should not be overlooked in these days of low-grade imported timber. Against hollow brick floors, however, there has always been the question of cost, not always analysed, but generally assumed to be greater than that of timber joists.

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The Kleine Company has now explored this question of cost very thoroughly, and their figures, published in a booklet entitled *The All-Brick House*, show that the differences in cost are much less than one might imagine: terrace-type houses in blocks of four showing a difference of only £3 15s. per house in favour of timber, whilst a detached house shows an actual saving of 19s. 2d. where hollow tile floors are used, owing to the fact that linoleum was laid direct on the cement and sand screeding, thus saving the cost of a boarded surface. These figures are all based on the assumption that not less than 50 houses are built at one time.

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There is an additional saving, due to a reduction in the overall height of the building, for floors of hollow tile are only a little more than half the depth of timber joists for the same span and there is a definite saving in quantity of brickwork. This has been allowed in arriving at the above figures, and appears as "omissions" in the accompanying priced bill of quantities, on which the saving for the detached house are based.

PRICED BILLS OF QUANTITIES FOR HOUSE OF DETACHED TYPE

TIMBER FLOORS

QUANTITY	ITEM	@	£ s. d.
6′ cube	1 : 2 : 4 concrete in reinforced lintols (steel and temporary boarding measured separately) ..	1/3	0 7 6
5′ super	Ditto 6″ thick to form slab over cooker space (centering measured separately)	7d.	0 2 11
43′ super	Temporary boarding to sides and soffites of concrete lintols	4d.	0 14 4
5′ super	Ditto to soffite of concrete slab over cooker space in small quantities ..	4d.	0 1 8
11′ cube	Fir in plate (4″ × 2″)	4/–	2 4 0
12′ cube	Fir framed in floors (7″ × 2″)	4/–	2 8 0
95′ cube	Ditto .. (9″ × 2½″)	4/–	19 0 0
25′ cube	Fir framed in flat roof (7″ × 2″)	4/–	5 0 0
4′ cube	Ditto in trimmers (7″ × 3″)	4/–	0 16 0
2 squares 70′ super	1″ rough deal boarding with firrings to falls and fix on flat roof joists and prepare to receive asphalt and include layer of felt	37/–	4 19 11
80′ run	1½″ × 1½″ Herring-bone strutting to floor joists at 14″ centres (measured over joists)	3d.	1 0 0
7 squares 30′ super	1½″ deal tongued and grooved flooring in batten widths, clean off at completion and include for all straight cutting and waste ..	45/–	16 8 6
109 yds. super	Lathe, plaster and set on ceilings	3/2	17 5 2
1 qtr. 7 lb.	In ½″ diameter mild steel rods as reinforcement in lintols	20/–	0 6 3
1 cwt. 1 qtr. 14 lb.	In 4″ × 1½″ Rolled Steel Joists cut to lengths and embedded in concrete lintol or slab	15/–	1 0 8
	Net cost of Timber Floors		£71 14 11

KLEINE FLOORS

QUANTITY	ITEM	@	£ s. d.
65 yds. super	4½″ Kleine Floor laid complete, including all necessary reinforcement and centering	10/6	34 2 6
55 yds. super	6″ Ditto	11/3	30 18 9
58′ run	Extra over Kleine Floor for forming chases for electric light conduits	1½d.	0 7 3
33′ run	Ditto for reinforcing over window openings ..	3d.	0 8 3
81 yds. super	3 : 1 sand cement screeding to floors ¾″ thickness, surface left to receive linoleum	1/6	6 1 6
109 yds. super	Single coat plaster to soffite of Kleine Floor ..	1/–	5 9 0
			£77 7 3
	OMISSIONS		
49′ super	Reduced common brickwork	2/–	4 18 0
20′ super	Half brick wall in common brickwork	1/–	1 0 0
3½ yds. super	Extra for forming 2″ cavity	1/–	0 3 6
40′ super	Extra over common brickwork for facings ..	3d.	0 10 0
			£6 11 6
			£77 7 3
	Deduct omissions ..		6 11 6
	Net cost of Kleine Floors		£70 15 9

IN PARLIAMENT

[BY OUR SPECIAL REPRESENTATIVE]

Housing

Earl Winterton asked the Prime Minister when the Housing Bill would be introduced; and if arrangements would be made to allow a reasonable interval between the printing and presentation of the Bill and its Second Reading, in view of the importance of the questions likely to be involved in it.

Mr. MacDonald said it was not yet possible to fix a date for the introduction of this Bill. He appreciated the point raised in the second part of the question, and could assure his hon. friend that it would not be overlooked.

Mr. Touche asked what was the general nature and extent of the schemes for slum clearance proposed by the Dorking urban district council.

Sir Hilton Young said that the council had submitted a programme which they hoped to complete by the end of the year 1935 for the demolition of nine slum areas comprising 78 houses.

Mr. Mitcheson asked the Chancellor of the Exchequer if his attention had been drawn to the hindrance to house building due to the assessment to income tax of unrealized profits in those cases where the builder guaranteed the repayment of a portion of the advance by building societies to purchasers; and whether he would take steps to remove this menace to house building.

Mr. Chamberlain said that the computation of the profits of builders for income tax purposes was made on precisely the same principles as applied to other traders and he saw no justification for the proposed departure from these principles in favour of a particular trade. It was, however, recognized that there might be cases in which, as a result of the system of guarantees to building societies, the builder's available funds were insufficient to enable payment to be made at the due date of the full amount of the income tax charged. Arrangements to meet such cases had been made by the Commissioners of Inland Revenue after consultation with the National Federation of House Builders.

Mr. Boulton asked the Minister of Health if he was aware of the growing anxiety of owners of working-class property owing to the indiscriminate methods being adopted in some cases for the demolition of houses that, in the opinion of experts, were capable of reconditioning; and, owing to the hardships that were being occasioned by such methods, would he now consider giving

local authorities more definite guidance as to their responsibilities to owners and the necessity for more generous consideration of payment of compensation.

Sir Hilton Young said that the demolition of houses undertaken under demolition orders or slum clearance schemes was not in fact indiscriminate. The owner of any house on which a demolition order was made had an appeal against the order to a judge of the County Court, and the owner of property in a clearance area had the right to lodge an objection and to appear at a public inquiry before an inspector who was a professional man and gave careful considerations to any representations, including suggestions for reconditioning, which were made before him. The conditions of compensation were laid down by Statute in the Housing Act, 1930, and the circular letters already issued to local authorities gave the necessary information as to their application.

Major Nathan asked for the names of the nine rural district councils in England and Wales which had made arrangements with private builders for the erection of working-class dwellings to be let under Section 2 of the Housing (Financial Provisions) Act, 1933; and also the total number of houses involved in such arrangements.

Sir Hilton Young said that the nine rural district councils were Barrow-on-Soar, Cheadle, Congleton, Lichfield, Rotherham, Rugby, Wallingford, Wantage and Winchester, and the number of houses involved was 701.

Major Nathan asked the Minister of Health whether he was aware that, according to the report of the valuer to the London County Council, more than 200,000 persons made application for housing accommodation to that council during the financial year 1932-33; and what action he was taking to secure that adequate housing schemes were put in hand to deal with the present shortage of houses in the administrative county area.

Sir Hilton Young said that the report referred to showed that 100,000 persons called at the Central Estate Office of the County Council and that 109,000 persons (not necessarily exclusive of these 100,000) made enquiries by letter. As regarded the second part of the question, the needs of the county area must be met partly by provision outside the county and, during the year ended September 30 last, more than 57,000 new dwellings were provided in the Metropolitan Police District.

SOCIETIES AND INSTITUTIONS

HAMPSHIRE AND ISLE OF WIGHT ARCHITECTURAL ASSOCIATION

The fourth annual dinner of the Hampshire and Isle of Wight Architectural Association was held recently at Southampton. Colonel R. F. Gutteridge, T.D., F.R.I.B.A. (President), occupied the chair.

The toast of "The Local Government Authorities of Hampshire and the Isle of Wight" was proposed by the President and responded to by the Mayor of Southampton (Councillor W. D. Buck).

Sir Giles Gilbert Scott, R.A., P.R.I.B.A., responding to the toast of "The Hampshire and Isle of Wight Architectural Association," (proposed by Mr. J. S. Furley), said a point he would like to refer to was the subject of shipping design, which had been raised following the revival of the work on the new Cunarder. There had been an agitation in some architectural papers that it should be modernist in design rather than traditional or a reproduction of period designs. Although not an out-and-out modernist, he was still in sympathy with certain phases of modernist design, and he did feel that there was a great deal to be said for treating a machine like a liner as a machine, rather than one of the stately homes of England. He felt that a liner was, perhaps, a legitimate field for modernist expression, provided it was comfortable, and should look functional even if it were not. The main essentials of it was that it should look functional, but was not; but, as long as it looked it, the artist was satisfied.

Other speakers included: Mr. Ingalton Sanders, F.R.I.B.A.; Mr. Adrian J. Sharp, L.R.I.B.A.; Col. Cox (President of the Southern Counties Federation of Building Trades Employers); Mr. C. J. Beer (President of the Southampton and District Building Trades Employers' Association); the Very Rev. the Dean of Winchester, and Principal Vickers.

During the evening, Sir Giles Gilbert Scott (on behalf of the Association), presented to Mr. Ingalton Sanders, who had been President of the branch for the past two years, a replica of the presidential badge as a memento of his period of office.

SOUTH WALES INSTITUTE OF ARCHITECTS

At the invitation of the Executive Committee of the South Wales Institute of Architects (Central Branch) members of the Institute attended a tea and discussion meeting at the Dorothy Café, St. Mary Street, Cardiff, on February 20. Mr. John Williamson, A.R.I.B.A., presided.

The subject before the meeting was "The Preparation of a Set of Competition Drawings," and Mr. Percy Thomas, O.B.E., F.R.I.B.A., opened with an informal address in which, with the assistance of a collection of sketch designs, he gave those present much useful advice based on his varied and successful experience in competition work.

After an interesting discussion, in which many of those present took part, a vote of thanks to Mr. Percy Thomas was proposed by Lieut.-Col. Fawckner, F.R.I.B.A., President of the South Wales Institute of Architects, seconded by Mr. T. Alwyn Lloyd, F.R.I.B.A.

Under the auspices of the South Wales Institute of Architects (Central Branch) and the Institute of Builders (South Wales Branch) a lecture on "The Art of the Bridge Builder" was given at the Engineers' Institute, Park Place, Cardiff, on Thursday, February 15, by Mr. G. H. Jack, F.R.I.B.A., M.INST.C.E., F.S.A.

Mr. Jack not only dealt with the historical development of the bridge from early times to the present day, but also gave an interesting account of bridge preservation and widening. He showed numerous examples in which old bridges had been reconditioned and widened and the amenities preserved and at the same time economies effected. Mr. Jack's lecture was illustrated by a large number of slides and by a film showing the pulling down and re-building of a bridge.

A vote of thanks was proposed and seconded by Professor Norman Thomas, M.A., D.PHIL., A.R.I.B.A., and by Mr. A. G. Lynham, F.R.I.B.A., respectively.

THE BUILDINGS ILLUSTRATED

Sub-Contractors' List

Following are the names of the general contractors and some of the sub-contractors for the buildings illustrated in this issue.

Block of Flats, 43, Lowndes Square, S.W.1 (pages 311-314). General contractors, Higgs and Hill, Ltd. Sub-contractors: H. Sabey & Co., Ltd., demolition; Ragusa Asphalte Paving Co., Ltd., dampcourses; London Brick Co. and Forders, Ltd., bricks and partitions; Tuckers, Ltd., bricks; South Western Stone Co., stone; Shaws Glazed Brick Co., faience cills and copings; Dorman Long & Co., Ltd., structural steel; A. Goldstein & Co., glass; Horsley Smith & Co., wood flooring; Caxton Floors, patent flooring; J. H. Nicholson, central heating, boilers; Bratt Colbran, stoves; Gas, Light and Coke Co., gas fixtures; F. H. Wheeler, electric wiring, bells; Plumbing Guild, plumbing; Jn. Bolding and Sons and W. N. Froy and Sons, sanitary fittings; N. F. Ramsay & Co., Ltd., door furniture, window furniture, metalwork; General Post Office, telephones; Educational Supply Co., folding gates; F. A. Norris, iron staircases; Plastering, Ltd., plaster; Rippers, joinery; Carter & Co., Ltd., tiles; Waygood-Otis, Ltd., lifts; Crittall Manufacturing Co., casements.

Second Feathers Club, Norland Gardens, W. (pages 318-319). General contractor, George Barker. Sub-contractors: J. H. Hawes, cupboard handles; Sissons Bros., Tungaline; Art Pavements and Decorations, Ltd., terrazzo kitchen table slab; Wm. Harland and Son, paint; Bells Heat Appliances, Ltd., Aga cooker and utensils; Electrolux, Ltd., refrigerator; Turners Asbestos Cement Co., asbestos sheeting; Tentest Fibre Board Co., Tentest building board; Parker, Winder and Achurch, fencing; George Jennings (Lambeth), Ltd., sanitary fittings; A. Cripps and Son, doors; Gas Light and Coke Co., gas apparatus installed and first quarter rental and consumption; Best and Lloyd, lighting fittings (cost price); Pilkington Bros, glass (nominal charge); Adamite Co., Ltd., Bricanion (reduced charge); C. E. Welstead, windows (big reduction); Ragusa Asphalte Paving Co., asphalt (big reduction). All the above work was presented free of charge, except where otherwise stated.

Factory at Park Royal (pages 322-323). General contractors, Dove Bros., Ltd. Sub-contractors: Caxton Floors, Ltd., first floor and roof; Stuart's Granolithic Co., Ltd., factory floor and artificial stone; British Reinforced Concrete Co., Ltd., reinforcement to floors; James Gibbons, Ltd., steel windows; Mellowes & Co., Ltd., roof glazing; Roneo, Ltd., pressed steel partitions; J. Jeffreys & Co., Ltd., heating; George Jennings (Lambeth) Ltd., sanitary fittings; Plastering, Ltd., cement rendering in Cullamix.

Control Tower, Manchester Airport (pages 324-325). General contractors, G. and J. Seddon, Ltd. Sub-contractors: Jas. E. Norris & Co., Ltd., constructional steelwork; Fearnley and Sons, Ltd., joinery; J. Valentine and Sons, slating; Charles Bell, Ltd., painting; Morrison, Ingram & Co., sanitary fittings; Doodson and Bain, Ltd., metal windows and railings; W. Macfarlane & Co., cast iron window panels; E. M. Evans and Sons, Ltd., electric lighting and heating; Concrete Unit Co., Ltd., patent stone; Sturtevant Engineering Co., dispatch tubes.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILE RADIUS)

ACTON. *Additions to Isolation Hospital.* The Corporation has included £8,550 in estimates for the provision of a new administrative block at the Isolation Hospital, and £10,500 for the erection of a cubicle ward.

ACTON. *Houses.* The Corporation has decided that £150,000 be included in the estimated expenditure on working-class houses during the next five years.

The Corporation has approved the following plans: Alterations and additions to Haberdashers' Askes School, Creffield Road, by N. D. Sheffield; 36 houses, at Park View, owned by F. W. Ferris, Ltd.

EALING. *Houses, Shops and Flats.* Plans passed by the Corporation: Two houses, Russell Road, for Hayes Bridge Estate Co., Ltd.; 24 houses, Langdale Gardens, for Messrs. R. Lanchester and Sons; 84 flats, Shelley Avenue, for Home Counties Builders, Ltd.; eight houses, Coniston Avenue, for Mr. A. E. Murdoch; nine houses, Western Avenue, for London and Provincial Building Co.; six houses, Ingram Way, for Messrs. Bostock and Hollins; four shops and flats, The Broadway, for Messrs. Davies and Knight; two bungalows, Eastmead Avenue, for Messrs. Sutton and Sons; 10 shops and flats, Greenford Road, for Messrs. Hillier, Parker, May and Rowder.; two houses, Ealing Road, for Mr. H. P. Healy; five shops, Broadway, for Messrs. Hall-Jones and Partners; three houses, Baronsmead, for Messrs. J. Atherton & Co.; three houses, Hanger Lane, for Messrs. Haymills, Ltd.; factory, Aintree Road, for Messrs. Percy Bilton, Ltd.; factory, Park Avenue, for Mr. F. E. Simpkins; block of flats, Windmill Road and Gumleigh Road, for Mr. H. A. Steel; nine shops and flats, Greenford Road, for Mr. H. G. Summer; 98 flats, Haven Green, for Mr. F. Byford; factory, Coronation Road, for Sir A. Gibb and Partners.

The Corporation has purchased five acres at Cow Lane for the erection of about 50 houses.

HILL END. *Extensions to Hospital.* The Herts. C.C. is to undertake further works and extensions at the Hill End Mental Hospital at a total estimated net cost of £27,556.

ISLINGTON. *Switchgear Buildings.* The B.C. has appointed Mr. E. C. P. Monson as architect for switchgear buildings, to be erected at an estimated cost of £12,500, at the power station.

POPLAR. *Houses.* The Isle of Dogs Housing Society, Ltd., is to develop land at Janet Street by the erection of 64 houses with 222 rooms, and one small shop.

ST. PANCRAS. *Clearance and Reconstruction.* The B.C. is to clear and reconstruct the Ferdinand Place area, at a cost of £75,000.

SANDERSTEAD. *Houses.* Plans passed: 310 houses, Westfield estate, Limpsfield Road, for Messrs. J. Gerrard and Sons, Ltd.

WOODFORD. *Houses.* Plans passed by the U.D.C.: Eight houses, Princes Avenue; 86 houses, Milkwell estate; 21 houses, Canfield Road; 18 houses, Waltham Road.

SOUTHERN COUNTIES

BRIGHTON. *Houses.* Plans passed by the Corporation: Four houses, Braeside Avenue, for Ladies Mile Estate, Ltd.; eight houses, Friar Road, Patcham, for Mr. C. W. Parkes; six houses, Varndean Gardens, Patcham, for Mr. H. Nixon; two houses, Valley Drive estate, for Mr. T. R. Braybon; two houses, Marine Drive, Rottingdean, for Mr. F. E. Turley; 30 houses, Carden Avenue estate, for Messrs. Braybons, Ltd.

BRIGHTON. *Retaining Wall.* The Corporation has approved in principle the construction of a market near Woburn Place, and decided to construct a retaining wall on the eastern side of the proposed market, at an estimated cost of between £8,000 and £9,000.

GILLINGHAM. *Library.* The Corporation is to provide a library at a cost of £10,000.

HASTINGS. *Aerodrome.* The Corporation has had a report by Messrs. Norman, Muntz and Dawbarn, air consultants, regarding the development of the Pebsham estate for a civic aerodrome, and recommends proceeding with the scheme at a total cost of £40,000.

HASTINGS. *Promenade Improvements.* The Corporation proposes further promenade improvements at a cost of £11,000.

SOUTH-WESTERN COUNTIES

PAIGNTON. *Houses and Shops.* Plans passed by the U.D.C.: Three shops, Esplanade, for Paignton Club Committee; shop, Torquay Road, for Mr. J. Somerville; shops, Sands Lane, for Mr. S. G. Boultwood; six bungalows, Luscombe Road, for Messrs. Lewis and Back; 10 houses, Knapp Park Road, for Mr. G. G. Berry; two bungalows, Dunstone Park Road, for Mr. J. Maunder; two shops, Torquay Road, for Mrs. F. Spry; 15 houses, Barnfield Road, for Mr. F. J. Underhay.

EASTERN COUNTIES

LOWESTOFT. *Houses.* Plans passed by the Corporation: Two houses, Blackheath Road, for Mr. D. E. Wells; four houses, Sands Lane, for Messrs. Gaze and Sons; three bungalows, Kirkley Run, for Mr. S. Leeper; six houses, Wilson Road, for Mr. P. C. Easey; three houses, May Road, for Mr. H. Parker; 20 houses, Oulton Hall estate, for Mr. S. A. Weller.

LOWESTOFT. *Electricity Showrooms.* The Corporation has approved plans for the erection of electricity showrooms in London Road at a cost of £8,500.

MIDLAND COUNTIES

CORBY. *Houses* The Northants C.C. reports in favour of guaranteeing advances made by a building society to Messrs. Stewarts and Lloyds, Ltd., in respect of the erection of 800 houses at Corby.

KIDDERMINSTER. *Houses.* The Corporation is seeking sanction to borrow £12,580 for the erection of 40 houses on the Broadwaters estate. Plans passed: 12 houses, Blount Terrace, for Mr. E. W. Perks; three houses, Somerleyton Avenue, for Towers Wilson & Co.; two houses, Holman Street, for Mrs. Austin; seven houses, Chester Road, for Mr. J. T. Briggs; conversion into two houses, Leswell House, Leswell Lane, for Messrs. Thomas and Son; five houses, Stourbridge Road, for Mr. C. J. Shakespeare.

SEDGLEY. *Houses.* Plans passed by the Urban District Council: Six houses in Rosemary Crescent; two by Messrs. A. A. and A. L. Moore, and four by Messrs. Timmins and Davies; two houses in Honor Avenue, by Messrs. Washbourne Bros.; two houses in Ward Road, two houses in Tipton Road, by Mr. S. F. Pope; two houses in Dudley Road, by Mr. G. Sheldon; two houses, in Vale Street, by Mr. C. L. Tack.

SUTTON COLDFIELD. *Town Planning Scheme.* The Corporation has decided to prepare a town planning scheme in respect of land in the Tudor Hill district. The Corporation Town Planning Committee has received a plan showing the proposed development of the Edge Hill estate, and reports that it was proposed to erect approximately 270 houses on the estate of approximately 62 acres.

NORTHERN COUNTIES

BARROW-IN-FURNESS. *Houses.* The Corporation is to prepare plans for the erection of 500 houses in two years. Plans passed: Five houses, Poplar Grove, for Mr. J. F. Butler; two shops and houses, Roose Road, for Mr. A. Ingham; 26 houses, Ancaster Street, for Messrs. F. Barrow & Co.; two houses, Carlton Avenue, for Mr. W. Hull.

CHORLEY. *Clearance Scheme.* The Corporation has agreed that approximately 80 houses and other buildings should be dealt with in areas to be declared clearance areas: nine houses should be closed or demolished; 20 closed; and 75 repaired by their owners.

ECCLES. *Branch Library, etc.* The Corporation has approved plans of a joint branch library, reading rooms, public conveniences and shelter (with an adjoining two-story house for the caretakers of the premises) to be erected at the junction of Parrin Lane and Worsley Road, Winton.

LEEDS. *Extensions to Infirmary.* The Governors of the General Infirmary are appealing for £250,000 for extensions to be carried out.

SCARBOROUGH. *Houses.* The Corporation is to consider laying out part of the Northstead playing fields for housing purposes, and may possibly use land on the west side of the Scarborough and Whitby railway line for further houses.

STOCKTON-ON-TEES. *Houses.* The Corporation has approved the following plans: Two houses, in Bishopton Avenue, by Mr. T. Wintersgill; 36 houses, in Derwent Street, and 24 houses, in blocks of four, in Thornton Grove, Derwent Street and Brinkburn Road, by Messrs. Lane Fox & Co.; two houses, Darlington Road, Hartburn, by Messrs. W. Cowan and Son; two houses, at Station Road, Norton, by Mr. G. F. Walker; Estate planning at Norton Hill, by Messrs. Lane Fox & Co., 25 High St.

SCOTLAND

GLASGOW. *Baths and Wash-house.* The Corporation has approved plans for filtration plant in North Woodside baths and wash-house at an estimated cost of £2,500, and is to reconstruct the baths and wash-houses establishment, inclusive of the cost of installing filtration plant at a cost of £19,500.

GLASGOW. *Tenements.* The Corporation has approved a lay-out plan of the site of the Old Anderston foundry, showing provisions for the erection of 80 houses and a lay-out plan showing proposals to build three-storey tenements, containing 63 houses, at Syriam Street, Springburn.

GLASGOW. *Houses, Shops, etc.* Plans passed by the Corporation: Pavilion and lay-out of ground, Springburn, for Petershill Football Club; shops, Allander Street, Possilpark, for Mr. Felix M'Court; church, Sunnylaw Street, for Christian Brethren; houses, Wedderlea Drive, Cardonald, for Glasgow Estates Development Co.; two shops, Duke Street, for Messrs. James Parker, Ltd.

The Corporation has purchased a site at Bilsland Drive, where the Housing Director reports that 300 houses can be erected.

The Corporation has leased land at Clarkston to Messrs. John Lawrence (Glasgow), Ltd., for the erection of houses at a value of not less than £500 each.

WALES

CARDIFF. *Building Sites.* The Corporation has leased building sites as follow: Five in Waungron Road, to Mr. H. Boobyer; 12 in Fairwater Grove to Mr. Osborne V. Webb; one in Cowbridge Road to Messrs. William Hill and Sons; one in Tweedsmeir Road, for a social hall, to the Tremorfa Welfare Association.

CARDIFF. *Reservoir Scheme.* The Corporation recommends a scheme for the utilisation of water from Llwynon Reservoir, including alterations, etc., to farms; provision of workmen's houses; installation of filters, etc.; at an estimated cost of £74,000.

The scheme includes:

The installation of "Final" filters at Llwynon Reservoir to deal with four million gallons per day from that reservoir, estimated cost, £12,000.

A 90 h.p. oil engine and pump, connections, filter and engine house, etc., estimated cost £5,000.

The laying of a main from Lockwith Reservoir to Grand Avenue, Ely, estimated cost £14,000.

Alterations to farms and other works for prevention of pollution on the Lower Catchment area, and the erection of workmen's houses at Llwynon, together with roads, drains and sewage disposal, estimated cost £16,000.

The altering and covering of Penylan Reservoir to supply an intermediate level zone, estimated cost £10,000.

The conversion of Cantref "Roughing" filters into "Final" filters, estimated cost £12,000.

The alteration of Rhiwbina sand filters, which would be abandoned, into a service reservoir, estimated cost £5,000.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I s. d.	II s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A_1	Abergavenny ..	S Wales & M.	1 5	1 0½
A_3	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1½
A_3	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1½
A	Airdrie ..	Scotland	*1 5½	1 1½
C	Aldeburgh ..	E. Counties	1 1½	10½
A	Altrincham ..	N.W. Counties	1 5½	1 1½
B_3	Appleby ..	N.W. Counties	1 2	10½
A	Ashton-under-Lyne	N.W. Counties	1 5½	1 1½
A_3	Atherstone ..	Mid. Counties	1 4	1 0
B_2	Aylesbury ..	S. Counties	1 2½	11
B_1	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_3	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1½
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow ..	N.W. Counties	1 5½	1 1½
A	Barry ..	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke ..	S.W. Counties	1 3	11½
A_2	Bath	S.W. Counties	1 4½	1 0½
A	Batley ..	Yorkshire	1 5½	1 1½
A_2	Bedford ..	E. Counties	1 4½	1 0½
A_2	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_3	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	*1 7	1 2½
A	Birmingham	Mid. Counties	1 5½	1 1½
A_1	Bishop Auckland	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1½
A	Blackpool ..	N.W. Counties	1 5½	1 1½
A	Blyth ..	N.E. Coast	1 5½	1 1½
B_1	Bognor ..	S. Counties	1 3	11½
A	Bolton ..	N.W. Counties	1 5½	1 1½
A_3	Boston ..	Mid. Counties	1 4	1 0
A_3	Bournemouth ..	S. Counties	1 4	1 0
B_2	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1½
A_1	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M.	1 5½	1 1½
B_1	Bridgwater ..	S.W. Counties	1 3	11½
A_1	Bridlington ..	Yorkshire	1 5	1 0½
A	Brighouse ..	Yorkshire	1 5½	1 1½
A_3	Brighton ..	S. Counties	1 4	1 0
A	Bristol ..	S.W. Counties	1 5½	1 1½
B_2	Brixham ..	S.W. Counties	1 2½	11
A_2	Bromsgrove ..	Mid. Counties	1 4½	1 0½
B_3	Bromyard ..	Mid. Counties	1 2	10½
A	Burnley ..	N.W. Counties	1 5½	1 1½
A	Burslem ..	Mid. Counties	1 5½	1 1½
A	Burton-on-Trent	Mid. Counties	1 5½	1 1½
A	Bury ..	N.W. Counties	1 5½	1 1½
A_1	Buxton ..	N.W. Counties	1 5	1 0½
A_1	CAMBRIDGE	E. Counties	1 5	1 0½
B_1	Canterbury ..	S. Counties	1 3	11½
A	Cardiff ..	S. Wales & M.	1 5½	1 1½
A	Carlisle ..	N.W. Counties	1 5½	1 1½
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Carnforth ..	N.W. Counties	1 5½	1 1½
A	Castleford ..	Yorkshire	1 5½	1 1½
B	Chatham ..	S. Counties	1 3½	11½
A_3	Chelmsford ..	E. Counties	1 4	1 0
A_1	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester ..	N.W. Counties	1 5½	1 1½
A	Chesterfield ..	Mid. Counties	1 5½	1 1½
B_1	Chichester ..	S. Counties	1 3	11½
A	Chorley ..	N.W. Counties	1 5½	1 1½
B_1	Cirencester ..	S. Counties	1 3	11½
A	Clitheroe ..	N.W. Counties	1 5½	1 1½
A	Clydebank ..	Scotland	1 5½	1 1½
A	Coalville ..	Mid. Counties	1 5½	1 1½
A_3	Colchester ..	E. Counties	1 4	1 0
A	Colne ..	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_1	Consett ..	N.E. Coast	1 5	1 0½
A_2	Conway ..	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1½
A_2	Crewe	N.W. Counties	1 4½	1 0½
A_3	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1½
A	Darwen ..	N.W. Counties	1 5½	1 1½
B_1	Deal	S. Counties	1 3	11½
A_3	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby ..	Mid. Counties	1 5½	1 1½
A	Dewsbury ..	Yorkshire	1 5½	1 1½
B	Didcot ..	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1½
B_2	Dorchester ..	S.W. Counties	1 2½	11
A_3	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley ..	Mid. Counties	1 5½	1 1½
A	Dundee ..	Scotland	1 5½	1 1½
A	Durham ..	N.E. Coast	1 5½	1 1½
A_2	EASTBOURNE	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1½
A_1	E. Glamorganshire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter ..	S.W. Counties	*1 4½	1 0½
B	Exmouth ..	S.W. Counties	1 3½	11½
A_3	FELIXSTOWE	E. Counties	1 4	1 0
A_3	Filey	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1½
B_1	Folkestone ..	S. Counties	1 3	11½
A	Frodsham ..	N.W. Counties	1 5½	1 1½
B_2	Frome	S.W. Counties	1 2½	11
A	GATESHEAD	N.E. Coast	1 5½	1 1½
B	Gillingham ..	S. Counties	1 3½	11½
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole	Yorkshire	1 4½	1 0½
A_2	Gosport	S. Counties	1 4½	1 0½
A_3	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0½
A	Greenock ..	Scotland	*1 5½	1 1½
A	Grimsby ..	Yorkshire	1 5½	1 1½
B	Guildford ..	S. Counties	1 3½	11½
A	HALIFAX ..	Yorkshire	1 5½	1 1½
A	Hanley ..	Mid. Counties	1 5½	1 1½
A	Harrogate ..	Yorkshire	1 5½	1 1½
A	Hartlepools ..	N.E. Coast	1 5½	1 1½
B	Harwich ..	E. Counties	1 3½	11½
B_1	Hastings ..	S. Counties	1 3	11½
A_2	Hatfield ..	S. Counties	1 4½	1 0½
B	Hereford ..	S.W. Counties	1 3½	11½
A_2	Hertford ..	E. Counties	1 4½	1 0½
A	Heysham ..	N.W. Counties	1 5½	1 1½
A	Howden ..	N.E. Coast	1 5½	1 1½
A	Huddersfield ..	Yorkshire	1 5½	1 1½
A	Hull ..	Yorkshire	1 5½	1 1½
A	ILKLEY ..	Yorkshire	1 5½	1 1½
A	Immingham ..	Mid. Counties	1 5½	1 1½
A_2	Ipswich ..	E. Counties	1 4½	1 0½
B_3	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1½
A	KEIGHLEY ..	Yorkshire	1 5½	1 1½
B	Kendal ..	N.W. Counties	1 3½	11½
B	Keswick ..	N.W. Counties	1 3½	11½
A_2	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster	Mid. Counties	1 4½	1 0½
B_1	King's Lynn ..	E. Counties	1 3	11½
A	LANCASTER ..	N.W. Counties	1 5½	1 1½
A_1	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester ..	Mid. Counties	1 5½	1 1½
A	Leigh	N.W. Counties	1 5½	1 1½
B_3	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln	Mid. Counties	1 5½	1 1½
	Liverpool ..	N.W. Counties	*1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly ..	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12-15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1½
A	Loughborough	Mid. Counties	1 5½	1 1½
A_3	Luton	E. Counties	1 4	1 0
A	Lytham ..	N.W. Counties	1 5½	1 1½
A_1	MACCLESFIELD	N.W. Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11½
A_3	Malvern ..	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1½
A	Mansfield ..	Mid. Counties	1 5½	1 1½
B_1	Margate ..	S. Counties	1 3	11½
A	Matlock ..	Mid. Counties	1 4	1 0
A_1	Merthyr ..	S. Wales & M.	1 5	1 0½
A	Middesbrough	N.E. Coast	1 5½	1 1½
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth ..	S. Wales & M.	1 2½	11
	& S. and E. Glamorganshire			
A	Morecambe ..	N.W. Counties	1 5½	1 1½
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson	N.W. Counties	1 5½	1 1½
A	Newcastle ..	N.E. Coast	1 5½	1 1½
A	Newport ..	S. Wales & M.	1 5½	1 1½
A	Normanton ..	Yorkshire	1 5½	1 1½
A	Northampton	Mid. Counties	1 5½	1 1½
A	North Staffs ..	Mid. Counties	1 5½	1 1½
A	North Shields ..	N.E. Coast	1 5½	1 1½
A_1	Norwich ..	E. Counties	1 5	1 0½
A	Nottingham ..	Mid. Counties	1 5½	1 1½
A	Nuneaton ..	Mid. Counties	1 5½	1 1½
A_2	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham ..	N.W. Counties	1 5½	1 1½
A_3	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford ..	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	*1 5½	1 1½
B_3	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth ..	Scotland	*1 5½	1 1½
A_2	Peterborough ..	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	*1 5½	1 1½
A	Pontefract ..	Yorkshire	1 5½	1 1½
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_2	Portsmouth ..	S. Counties	1 4½	1 0½
A	Preston ..	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate ..	S. Counties	1 3½	11½
A_3	Retford ..	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A_3	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1½
B	Rochester ..	S. Counties	1 3½	11½
A_1	Ruabon ..	N.W. Counties	1 5	1 0½
A	Rugby ..	Mid. Counties	1 5½	1 1½
A_2	Rugeley ..	Mid. Counties	1 4½	1 0½
A	Runcorn ..	N.W. Counties	1 5½	1 1½
A_1	ST. ALBANS ..	E. Counties	1 5	1 0½
A	St. Helens ..	N.W. Counties	1 5½	1 1½
B_2	Salisbury ..	S.W. Counties	1 2½	11
A_1	Scarborough ..	Yorkshire	1 5	1 0½
A	Scunthorpe ..	Mid. Counties	1 5½	1 1½
A	Sheffield ..	Yorkshire	1 5½	1 1½
A	Shipley ..	Yorkshire	1 5½	1 1½
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton ..	Yorkshire	1 4½	1 0½
A_2	Slough ..	S. Counties	1 4½	1 0½
A_1	Solihull ..	Mid. Counties	1 5	1 0½
A_2	Southampton ..	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport ..	N.W. Counties	1 5½	1 1½
A	S. Shields ..	N.E. Coast	1 5½	1 1½
A_1	Stafford ..	Mid. Counties	1 5	1 0½
A	Stockport ..	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud ..	S.W. Counties	1 3½	11½
A	Sunderland ..	N.E. Coast	1 5½	1 1½
A	Swadlincote ..	Mid. Counties	1 5½	1 1½
A	Swansea ..	S. Wales & M.	1 5½	1 1½
A_3	Swindon ..	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton ..	S.W. Counties	1 3½	11½
A	Teesside Dist. ..	N.E. Counties	1 5½	1 1½
A_3	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1½
A_1	Torquay ..	S.W. Counties	1 5	1 0½
B_2	Truro	S.W. Counties	1 2½	11
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall ..	Mid. Counties	1 5½	1 1½
A	Tyne District ..	N.E. Coast	1 5½	1 1½
A	WAKEFIELD	Yorkshire	1 5½	1 1½
A	Walsall ..	Mid. Counties	1 5½	1 1½
A	Warrington ..	N.W. Counties	1 5½	1 1½
A_1	Warwick ..	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid. Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby ..	Yorkshire	1 4½	1 0½
A	Widnes ..	N.W. Counties	1 5½	1 1½
A	Wigan	N.W. Counties	1 5½	1 1½
B	Winchester ..	S. Counties	1 3½	11½
A_2	Windsor ..	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_3	Worksop ..	Yorkshire	1 4	1 0
A_1	Wrexham ..	N.W. Counties	1 5	1 0½
A_3	Wycombe ..	S. Counties	1 4	1 0
B_2	YARMOUTH ..	E. Counties	1 3	11½
B_1	Yeovil	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	1 1½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	£ s. d.
Bricklayer . . . . per hour	1 7
Carpenter . . . . ,,	1 7
Joiner . . . . ,,	1 7
Machinist . . . . ,,	1 8
Mason (Banker) . . . . ,,	1 7
,, (Fixer) . . . . ,,	1 8
Plumber . . . . ,,	1 7
Painter . . . . ,,	1 6
Paperhanger . . . . ,,	1 6
Glazier . . . . ,,	1 7
Slater . . . . ,,	1 7
Scaffolder . . . . ,,	1 3
Timberman . . . . ,,	1 3
Navvy . . . . ,,	1 2½
General Labourer . . . . ,,	1 2½
Lorryman . . . . ,,	1 5
Crane Driver . . . . ,,	1 6
Watchman . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£ s. d.
Grey Stone Lime . . . . per ton	2 2 0
Blue Lias Lime . . . . ,,	1 16 6
Hydrated Lime . . . . ,,	3 0 9
Portland Cement . . . . ,,	2 6 0
Rapid Hardening Cement . . . ,,	2 13 6
White Portland Cement . . . ,,	8 15 0
Thames Ballast . . . . per Y.C.	6 3
¾" Crushed Ballast . . . ,,	6 9
Building Sand . . . . ,,	7 3
Washed Sand . . . . ,,	8 3
2" Broken Brick . . . . ,,	8 0
¾" ,, ,, ... ,,	10 3
Pan Breeze . . . . ,,	6 6
Coke Breeze . . . . ,,	8 9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

	4" s. d.	6" s. d.
Straight Pipes . . per F.R	0 9	1 1
Bends . . . each	1 9	2 6
Taper Bends . . ,,	3 6	5 3
Rest Bends . . ,,	4 3	6 3
Single junctions . . ,,	3 6	5 3
Double . . ,,	4 9	6 6
Straight channels . . per F.R.	1 6	2 6
¾" Channel bends . . each	2 9	4 0
Channel junctions . . ,,	4 6	6 6
Channel tapers . . ,,	2 9	4 0
Yard gullies . . ,,	6 9	8 9
Interceptors . . ,,	16 0	19 6
IRON DRAINS:		
Iron drain pipe . . per F.R.	1 6	2 6
Bends . . each	5 0	10 6
Inspection bends . . ,,	9 0	15 0
Single junctions . . ,,	8 9	18 0
Double junctions . . ,,	13 6	30 0
Lead wool . . lb.	6	—
Gaskin . . ,,	5	—

BRICKLAYER

	£ s. d.
Flettons . . . . per M.	2 18 0
Grooved do. . . . ,,	3 0 0
Phorpres bricks . . . ,,	2 18 0
Stocks, 1st quality . . . ,,	4 11 0
,, 2nd ,, . . . ,,	4 2 6
Blue Bricks, Pressed . . . ,,	8 17 6
,, Wirecuts . . ,,	7 17 6
,, Brindles . . ,,	7 0 0
,, Bullnose . . ,,	9 0 0
Red Sand-faced Facings . . ,,	6 18 6
Red Rubbers for Arches . . ,,	12 0 0
Multicoloured Facings . . ,,	7 10 0
Luton Facings . . . ,,	7 10 0
Phorpres White Facings . . ,,	3 17 3
Phorpres Rustic Facings . . ,,	3 12 3
Midhurst White Facings . . ,,	5 0 0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:	
Stretchers . . . . ,,	21 0 0
Headers . . . . ,,	20 10 0
Bullnose . . . . ,,	27 10 0
Double Stretchers . . . ,,	29 10 0
Double Headers . . . ,,	26 10 0
Glazed Second Quality, *Less* . . ,,	1 0 0
,, Buffs and Creams, *Add* . ,,	2 0 0
,, Other Colours . . ,,	5 10 0
2" Breeze Partition Blocks . . per Y.S.	1 7
2½" ,, ,, ,, . . ,,	1 1½
3" ,, ,, ,, . . ,,	2 1
4" ,, ,, ,, . . ,,	2 6

MASON

The following d/d F.O.R. at Nine Elms:	s. d.
Portland stone, Whitbed . . F.C.	4 4½
,, ,, Basebed . . ,,	4 9
Bath stone . . . . ,,	2 11
York stone . . . . ,,	6 6
,, ,, Sawn templates . . ,,	7 6
,, ,, Paving, 2" . . F.S.	1 8
,, ,, ,, 3" . . ,,	2 6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£ s. d.
24" × 12" Duchesses . . per M.	28 17 6
22" × 12" Marchionesses . ,,	24 10 0
20" × 10" Countesses . . ,,	19 5 0
18" × 10" Viscountesses . ,,	15 10 0
18" × 9" Ladies . . . ,,	13 17 6
Westmorland green (random sizes) . per ton	8 10 0
Old Delabole slates d/d in full truck loads to Nine Elms Station:	
20" × 10" medium grey per 1,000 (actual)	21 11 6
,, green ,, ,,	24 7 4
Best machine roofing tiles . . ,,	4 10 0
Best hand-made do. . . . ,,	5 0 0
Hips and valleys . . . each	9½
,, hand-made . . . ,,	10
Nails, compo . . . lb.	1 4
,, copper . . . ,,	1 6

CARPENTER AND JOINER

	s. d.
Good carcassing timber . . F.C.	2 2
Birch . . . as 1" F.S.	9
Deal, Joiner's . . ,, ,,	5
,, ,, 2nds . . ,, ,,	4
Mahogany, Honduras . . ,, ,,	1 3
,, African . . ,, ,,	1 1
,, Cuban . . ,, ,,	2 6
Oak, plain American . . ,, ,,	1 0
,, Figured ,, . . ,, ,,	1 3
,, Plain Japanese . . ,, ,,	1 2
,, Figured ,, . . ,, ,,	1 5
,, Austrian wainscot . ,, ,,	1 6
,, English . . ,, ,,	1 11
Pine, Yellow . . ,, ,,	1 0
,, Oregon . . ,, ,,	4
,, British Columbian . ,, ,,	4
Teak, Moulmein . . ,, ,,	1 3
,, Burma . . ,, ,,	1 2
Walnut, American . . ,, ,,	2 3
,, French . . ,, ,,	2 3
Whitewood, American . ,, ,,	1 1
Deal floorings, ⅜" . . Sq.	18 6
,, ½" . . ,,	1 1 6
,, 1" . . ,,	1 2 0
,, 1¼" . . ,,	1 5 0
,, 1½" . . ,,	1 10 0
Deal matchings ⅜" . . ,,	14 0
,, ½" . . ,,	15 6
,, 1" . . ,,	1 4 0
Rough boarding ⅞" . . ,,	16 0
,, 1" . . ,,	18 0
,, 1½" . . ,,	1 6 0
Plywood, per ft. sup.	

Thickness	⅜"	½"	⅝"	¾"
Qualities	AA. A. B.	AA. A. B.	AA. A. B.	AA. A. B.
	d. d. d.	d. d. d.	d. d. d.	d. d. d.
Birch	4 3 2	5 4 3	7½ 6 4½	8½ 7 6
Alder	3½ 3 2	5 4 3	6½ 5½ 4½	8 7 6
Gaboon Mahogany	4 3 3	6½ 5½ 4½	9½ 7½ –	1/0½ 10 –
Figured Oak 1 side	8½ 7 –	10 8 –	11½ – –	1/6 – –
Plain Oak 1 side	6½ 6 –	7½ 7 –	9½ – –	1/– – –
Oregon Pine	5 4 –	5½ 5 –	6 – –	– – –

	d.
Scotch glue . . . . lb.	8

SMITH AND FOUNDER

Tubes and Fittings:

(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	⅛"	¼"	½"	¾"	1"	1¼"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10		
Pieces, 12"-23¾" long each	10	1/1	1/11	2/8	4/9		
,, 3"-11¾" long ,,	7	9	1/3	1/8	3/–		
Long screws, 12"-23¾" long ,,	11	1/3	2/2	2/10	5/3		
,, ,, 3"M-¾" long ,,	8	10	1/5	1/11	3/6		
Bends . . . ,,	8	11	1/7½	2/7½	5/2		
Springs not socketed . ,,	5	7	1/1½	1/11½	3/11		
Socket unions . . ,,	2/–	3/–	5/6	6/9	10/–		
Elbows, square . . ,,	10	1/1	1/6	2/2	4/3		
Tees . . . ,,	1/–	1/3	1/10	2/6	5/1		
Crosses . . . ,,	2/2	2/9	4/1	5/6	10/6		
Plain Sockets and nipples ,,	3	4	6	8	1/3		
Diminished sockets . ,,	4	6	9	1/–	2/–		
Flanges . . . ,,	9	1/–	1/4	1/9	2/9		
Caps . . . ,,	3½	5	8	1/–	2/–		
Backnuts . . . ,,	2	3	5	6	1/1		
Iron main cocks . . ,,	1/6	2/3	4/2	5/4	11/6		
,, ,, with brass plugs ,,	—	4/–	7/6	10/–	21/–		

Discounts:

TUBES.	Per cent.		Per cent.
Gas	65	Galvanized gas	52½
Water	61½	,, water	47½
Steam	57½	,, steam	42½
FITTINGS.			
Gas	57½	Galvanized gas	47½
Water	52½	,, water	42½
Steam	47½	,, steam	37½

SMITH AND FOUNDER—*continued*

	s. d.
Rolled steel joists cut to length . . cwt.	10 9
Mild steel reinforcing rods, ⅜" . . ,,	8 6
,, ,, ½" . . ,,	8 3
,, ,, ⅝" . . ,,	8 0
,, ,, ¾" . . ,,	7 6
,, ,, ⅞" . . ,,	7 6
,, ,, 1" . . ,,	7 6
,, ,, 1¼" . . ,,	7 6
,, ,, 1½" . . ,,	7 6

Cast-iron rain-water pipes of ordinary thickness metal .	3" s. d.	4" s. d.
	F.R 8	10
Shoes	each 2 0	3 0
Anti-splash shoes . . . ,, 4 6		8 0
Boots . . . . ,, 3 0		4 6
Bends . . . . ,, 2 7		3 9
,, with access door . . ,, —		6 3
Heads . . . . ,, 4 0		5 0
Swan-necks up to 9" offsets . ,, 3 9		6 0
Plinth bends, 4½" to 6" . ,, 3 9		5 3

Half-round rain-water gutters of ordinary thickness metal .	F.R. 5	6
Stop ends	each 6	6
Angles	,, 1 7	1 11
Obtuse angles	,, 2 0	2 6
Outlets	,, 1 9	2 3

PLUMBER

	£ s. d.
Lead, milled sheets . . . cwt.	1 0 0
,, drawn pipes . . . ,,	17 0
,, soil pipe . . . ,,	1 0 0
,, scrap . . . ,,	10 6
Solder, plumbers' . . . lb.	9½
,, fine do. . . . ,,	1 0
Copper, sheet . . . ,,	8½
,, tubes . . . ,,	11

L.C.C soil and waste pipes:	3"	4"	6"
Plain cast . .	F.R. 1 0	1 2	2 6
Coated . .	,, 1 1	1 3	2 8
Galvanized . .	,, 2 0	2 6	4 6
Holderbats . .	each 3 10	4 0	4 9
Bends . .	,, 3 9	5 3	10 3
Shoes . .	,, 2 10	4 4	9 6
Heads . .	,, 4 8	8 5	12 9

PLASTERER

	£ s. d.
Lime, chalk . . . per ton	2 5 0
Plaster, coarse . . . ,,	2 10 0
,, fine . . . ,,	4 15 0
Hydrated lime . . . ,,	3 0 0
Sirapite . . . ,,	3 6 0
Keene's cement . . . ,,	5 0 0
Sand, washed . . . Y.C.	11 6
Hair . . . . lb.	6
Laths, sawn . . . bundle	2 4
,, rent . . . ,,	3 9
Lath nails . . . lb.	3½

GLAZIER

	s. d.	s. d.
Sheet glass, 21 oz., squares n/e 2 ft.	s. F.S.	2½
,, ,, 26 oz. ,, ,, ,, ,,		3½
Arctic glass, white . . . ,,		7
Cathedral glass, white, dbl.-rolled, plain, hammered, rimpled, waterwite, ,,		6½
¼" Hartley's rough rolled . ,,		7
¼" ,, wired cast . ,,		10
¼" Georgian wired cast . ,,		11
¼" Polished plate, n/e 1 ft. . ,,	†10 to‡1	1
,, ,, 2 . ,,	†1 2 ,, ‡1	4
,, ,, 3 . ,,	†1 8 ,, ‡1	11
,, ,, 4 . ,,	†2 3 ,, ‡2	6
,, ,, 6 . ,,	†2 7 ,, ‡2	9
,, ,, 8 . ,,	†2 9 ,, ‡3	2
,, ,, 12 . ,,	†3 1 ,, ‡3	7
,, ,, 20 . ,,	†3 7 ,, ‡4	2
,, ,, 45 . ,,	†3 11 ,, ‡4	7
,, ,, 65 . ,,	†4 4 ,, ‡4	11
,, ,, 90 . ,,	†4 9 ,, ‡5	5
,, ,, 100 . ,,	†5 0 ,, ‡5	7
Vita glass, sheet, n/e 1 ft. . ,,		1 0
,, ,, ,, ,, 2 . ,,		1 3
,, ,, ,, over 2 . ,,		1 9
,, ,, plate, n/e 1 ft. . ,,		1 6
,, ,, ,, 2 . ,,		3 0
,, ,, ,, 5 . ,,		4 0
,, ,, ,, 7 . ,,		5 0
,, ,, ,, 15 . ,,		6 0
,, ,, ,, over 15 . ,,		7 6
Putty, linseed oil . . lb.		3

†Ordinary glazing quality. *‡Selected glazing quality.*

PAINTER

	£ s. d.
White lead in 1 cwt. casks . cwt.	2 6 0
Linseed oil . . . . gall.	2 2½
Boiled oil . . . . ,,	2 4½
Turpentine . . . . ,,	4 1½
Patent knotting . . . ,,	14 0
Distemper, washable . . . cwt.	2 6 0
,, ordinary . . . ,,	2 0 0
Whitening . . . . ,,	4 0
Size, double . . . firkin	3 0
Copal varnish . . . gall.	13 0
Flat varnish . . . ,,	14 0
Outside varnish . . . ,,	16 0
White enamel . . . ,,	1 15 0
Ready-mixed paint . . ,,	13 6
Brunswick black . . ,,	7 6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR

		£ s. d
Digging over surface n/e 12" deep and cart away	Y.S.	2 9
" to reduce levels n/e 5' 0" deep and cart away	Y.C.	8 6
" to form basement n/e 5' 0" deep and cart away	"	9 0
" " 10' 0" deep and cart away	"	9 6
" " 15' 0" deep and cart away	"	10 0
If in stiff clay	add "	2 6
If in underpinning	" "	4 0
Planking and strutting to sides of excavation	F.S.	1 0
" " to pier holes	"	5
" " to trenches	"	5
" " extra, only if left in	"	3
Hardcore, filled in and rammed	Y.C.	10 0
Portland cement concrete in foundations (6-1)	"	1 6 0
" " (4-2-1)	"	1 12 6
" " underpinning	"	1 16 0
Finishing surface of concrete, spade face	Y.S.	7

DRAINLAYER

		4" s. d.	6" s. d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1 6	2 3
Extra, only for bends	Each	2 8	3 9
" junctions		3 9	4 6
Gullies and gratings	"	16 6	18 0
Cast iron drains, and laying and jointing	F.R.	4 9	6 9
Extra, only for bends	Each	10 6	15 6

BRICKLAYER

		£ s. d.
Brickwork, Flettons in lime mortar	Per Rod	27 10 0
" " in cement	"	28 15 0
" Stocks in cement	"	35 0 0
" Blues in cement	"	52 0 0
Extra only for circular on plan	"	2 0 0
" backing to masonry	"	1 10 0
" raising on old walls	"	2 0 0
" underpinning	"	5 10 0
Fair Face and pointing internally	F.S.	1½
Extra over fletton brickwork for picked stock facings and pointing	"	8½
" " " red brick facings and pointing	"	11
" " " blue brick facings and pointing	"	1 4
" " " glazed brick facings and pointing	"	3 6
Tuck pointing	"	7
Weather pointing in cement	"	3½
Slate dampcourse	"	10
Vertical dampcourse	"	1 1

ASPHALTER

		s. d.
½" Horizontal dampcourse	Y.S.	4 6
½" Vertical dampcourse	"	6 9
½" paving or flat	"	4 0
1" paving or flat	"	5 6
1" × 6" skirting	F.R.	1 0
Angle fillet	"	2
Rounded angle	"	2
Cesspools	Each	5 0

MASON

		s. d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C.	17 9
Bath stone and do., all as last	"	13 6
Artificial stone and do.	"	13 0
York stone templates, fixed complete	"	10 6
" thresholds	"	13 6
" sills	"	1 0 6

SLATER AND TILER

		£ s. d.
Slating, Bangor or equal, laid to a 3" lap, and fixing with compo nails, 20" × 10"	Sqr.	3 10 0
Do., 18" × 9"	"	3 7 0
Do., 24" × 12"	"	3 17 0
Westmorland slating, laid with diminished courses	"	6 0 0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course	"	3 0 0
Do., all as last, but of machine-made tiles	"	2 16 0
20" × 10" medium Old Delabole slating, laid to a 3" lap (grey)	"	4 6 0
" " " " " " (green)	"	4 15 0

CARPENTER AND JOINER

		£ s. d.
Flat boarded centering to concrete floors, including all strutting	Sqr.	2 5 0
Shuttering to sides and soffits of beams	F.S.	8
" to stanchions	"	8
" to staircases	"	1 8
Fir and fixing in wall plates, lintols, etc.	F.C.	3 9
Fir framed in floors	"	4 6
" " roofs	"	6 6
" " trusses	"	7 6
" " partitions	"	8 6
¾" deal sawn boarding and fixing to joists	Sqr.	1 14 6
1" " " " "	"	1 17 6
1½" " " " "	"	2 3 0
1" × 2" fir battening for Countess slating	"	9 6
Do. for 4" gauge tiling	"	12 0
Stout feather-edged tilting fillet	F.R.	4½
Patent inodorous felt, 1 ply	Y.S.	2 3
" " " 2 "	"	2 9
" " " 3 "	"	3 3
Stout herringbone strutting to 9" joists	F.R.	10½
1" deal gutter boards and bearers	F.S.	1 2
1½" " " "	"	1 6
2" deal wrought rounded roll	F.R.	8
1" deal grooved and tongued flooring, laid complete, including cleaning off	Sqr.	2 1 0
1½" do.	"	2 10 0
1¾" do.	"	2 17 0
1" deal moulded skirting, fixed on, and including grounds plugged to wall	F.S.	1 6
1¼ do	"	1 9

CARPENTER AND JOINER—*continued*

		s. d.
1¼" deal moulded sashes of average size	F.S.	1 9½
2" " " "	"	1 11½
1½" deal cased frames double hung, of 6" × 3" oak sills, 1¼" pulley stiles, 1¼" heads, 1" inside and outside linings, ⅜" parting beads, and with brass faced axle pulleys, etc., fixed complete	"	3 7
2" " " " "	"	3 10
Extra only for moulded horns	Each	6
1¼" deal four-panel square, both sides, door	F.S.	2 0
2" " " "	"	2 8
1¼" " but moulded both sides	"	2 4
2" " " "	"	3 0
4" × 3" deal, rebated and moulded frames	F.R.	1 0
4½" × 3½" " " "	"	1 4
1½" deal tongued and moulded window board, on and including deal bearers	F.S.	1 9
1¼" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	"	2 6
1¼" deal moulded wall strings	"	2 1
1½" " outer strings	"	2 4
Ends of treads and risers housed to string	Each	1 9
3" × 2" deal moulded handrail	F.R.	1 3
1" × 1" deal balusters and housing each end	Each	2 0
1½" × 1½" " " "	"	2 9
3" × 3" deal wrought framed newels	F.R.	1 3
Extra only for newel caps	Each	6 0
Do., pendants	"	6 0

SMITH AND FOUNDER

		£ s. d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt.	15 6
Riveted plate or compound girders, and hoisting and fixing in position	"	19 6
Do. stanchions with riveted caps and bases and do.	"	19 0
Mild steel bar reinforcement, ½" and up, bent and fixed complete	"	17 6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S.	11
Wrot-iron caulked and cambered chimney bars	Per cwt.	1 10 0

PLUMBER

		£ s. d.
Milled lead and labour in flats	cwt.	1 13 6
Do. in flashings	"	1 17 0
Do. in covering to turrets	"	2 3 0
Do. in soakers	"	1 9 0
Labour to welded edge	F.R.	3½
Open copper nailing	"	3½
Close " "	"	4½

		½" s. d.	¾" s. d.	1" s. d.	1¼" s. d.	2" s. d.	4" s. d.
Lead service pipe and fixing with pipe hooks	F.R.	1 0	1 2	1 5	2 1	3 0	—
Do. soil pipe and fixing with cast lead tacks	"	—	—	—	—	—	5 9
Extra, only to bends	Each	—	—	—	—	2 3	6 3
Do. to stop ends	"	6½	8	9	11	1 0	—
Boiler screws and unions	"	3 3	3 9	5 0	8 0	—	—
Lead traps	"	—	—	—	6 3	8 9	—
Screw down bib valves	"	6 9	9 6	11 0	—	—	—
Do. stop cocks	"	9 0	11 0	14 6	20 6	47 0	—
4" cast-iron ½-rd. gutter and fixing	F.R.						1 0
Extra, only stop ends	Each						1 0
Do. angles	"						1 6
Do. outlets	"						2 9
4" dia. cast-iron rain-water pipe and fixing with ears cast on	F.R.						1 2
Extra, only for shoes	Each						1 3
Do. for plain heads	"						5 6

PLASTERER AND TILING

		s. d.
Expanded metal lathing, small mesh	Y.S.	2 3
Do. in n/w to beams, stanchions, etc.	"	3 6
Lathing with sawn laths to ceilings	"	1 4
½" screeding in Portland cement and sand for tiling, wood block floor, etc.	"	1 8
Do. vertical	"	2 1
Rough render on walls	"	1 3
Render, float and set in lime and hair	"	1 11
Render and set in Sirapite	"	2 1
Render, backing in cement and sand, and set in Keene's cement	"	2 10
Extra, only if on lathing	"	4
Keene's cement, angle and arris	F.R.	6
Arris	"	2
Rounded angle, small	"	3
Plain cornices in plaster, including dubbing out, per 1" girth	"	1½
1" granolithic pavings	Y.S.	3 6
1½" " "	"	4 6
6" × 6" white glazed wall tiling and fixing on prepared screed	"	17 6
9" × 3" " " " "	"	1 2 6
Extra, only for small quadrant angle	F.R.	8

GLAZIER

		s. d.
21 oz. sheet glass and glazing with putty	F.S.	7½
26 oz. do. and do.	"	8½
Arctic glass and glazing with putty	"	1 1
Cathedral glass and do.	"	1 2
Glazing only, British polished plate	"	7
Extra, only if in beads	"	2
Washleather	F.R.	4

PAINTER

		s. d.
Clearcolle and whiten ceilings	Y.S.	6½
Do. and distemper walls	"	9
Do. with washable distemper	"	1 1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	"	3 3
Do. on woodwork	"	3 0
Do. on steelwork	"	3 0
Do. and brush grain and twice varnish	"	5 6
Stain and twice varnish woodwork	"	1 11
Stain and wax-polish woodwork	"	4 6
French polishing	F.S.	1 2
Stripping off old paper	Piece	2 0
Hanging ordinary paper	from "	2 9

HACKNEY COMPETITION RESULT

Since going to press we learn that Professor S. D. Adshead, F.R.I.B.A., the assessor in the limited competition for a new Town Hall, Hackney, has awarded the first place to :—

LANCHESTER AND LODGE, FF.R.I.B.A., of 19, Bedford Square, W.C.1.

The authors of the designs placed second and third have not yet been announced. The other competitors were : Robert Atkinson, F.R.I.B.A. ; C. Cowles-Voysey, F.R.I.B.A. ; C. H. James, F.R.I.B.A. ; C. S. Joseph ; and Louis de Soissons, O.B.E., F.R.I.B.A.

The site has been acquired and it is hoped to commence work during the present year.

THE ARCHITECTS' JOURNAL LIBRARY OF PLANNED INFORMATION.

INDUSTRIAL SAAFLUX REFLECTORS.

TYPE:	R.L.M.	CONCENTRATING.	PARABOLIC ANGLE.	ELLIPTICAL ANGLE.	ELLIPTICAL VERTICAL.	DISTRIBUTING
SAAFLUX FEATURES. 1. Easily detached. 2. Reflector & lamp easily cleaned. 3. Cool wires & safe insulation. 4. Easy wiring. 5. Safe earthing. 6. Safe suspension. 7. 5% more light. 8. Freedom from shock.	APPLICATION: For general lighting of all areas such as factories, workshops warehouses, garages etc. whether large or small where efficiency of light production on the work is the main consideration.	APPLICATION: To provide more concentrated distribution than that given by the R.L.M. Used for lofty mounting where the light is mainly directed downward e.g. foundries, power stations, exhibitions, gymnasia etc.	APPLICATION: For lighting vertical surfaces where light is required up to or above the level of the reflectors. Also widely used for signs & outside shop premises to direct strong illumination on the goods & pavement immediately beneath.	APPLICATION: For sign & poster lighting & for other vertical surfaces such as fascias & blackboards, also for concealed lighting in churches, factory high bays, shop windows, sports areas, e.g. badminton & tennis courts etc.	APPLICATION: For locations where the area to be lighted is long in proportion to its width, such as: library bookstacks, gangways between warehouse bins & benches, greyhound tracks, etc.	APPLICATION: For locations where light is required sideways up to a height level with that of the reflector. e.g. gangways between warehouse bins, filing racks, railway platforms, open storage areas, etc.
DIAGRAMMATIC SECTION THROUGH UPPER PART OF SAAFLUX REFLECTOR. (PATENTED)	OUTLINE DIAGRAMS OF REFLECTORS: Conforming with B.S.S. 232.					
RATIO OF SPACING TO HEIGHT.	1½ : 1.	1 : 1.	1 : 1 : 1.	1½ : 1 : 1.	1 2/3 : 1⅓ : 1.	1½ : 1.
MOUNTING DIAGRAMS.	21'0" / 12'0" / 8'0" / 14'0" / Working plane / Floor	21'0" / 12'0" / 12'0" / 21'0"	½ / 1 / Vertical surface	½ / 1½ / ¼ / Vertical surface.	1 2/3 / 1⅓	21'0" / 12'0" / 8'0" / 14'0" / Working plane / Floor
FOOT CANDLES AT 1 WATT PER SQ. FT.	6 - 8.	5 - 7.	2½ - 3.	2½ - 3.	4 - 6.	5 - 7.

TABLE OF DIMENSIONS OF FITTINGS.

FOR LAMP WATTAGE OF:	LAMP HOLDER INCLUDED	DIMENSIONS. Diam.	Height.	CAT. Nº	DIMENSIONS. Diam.	Height.	CAT. Nº	DIMENSIONS Diam.	Height.	CAT. Nº	DIMENSIONS Mouth.	Height.	CAT Nº	DIMENSIONS. Mouth.	Height.	CAT Nº	DIMENSIONS. Diam.	Height.	CAT. Nº
60/75.	B.C.	12"	11"	‡2006.	9"	10 3/4"	+2046.	9"	12 3/4"	+2066.	13"×9 3/4"	15"	2086.	13"×9 3/4"	13 1/2"	2106.	12"	9"	2126.
100.	B.C.	14"	11 3/4"	‡2008.	12"	12"	‡2048.	12"	15 1/4"	‡2068.	15"×9 3/4"	15 1/2"	2088.	15"×9 3/4"	14"	2108.	15"	9 1/4"	2128.
150.	B.C.	14"	12 1/2"	‡2009.	12"	12 3/4"	‡2049.	12"	16"	‡2069.	13"×9 3/4"	16 1/8"	2089.	16 1/4"×12"	16 1/2"	2109.	15"	10"	2129.
150	E.S.	14"	12 1/2"	‡2010.	12"	12 3/4"	‡2050.	12"	16"	‡2070.	13"×9 3/4"	16 1/8"	2090.	16 1/4"×12"	16 1/2"	2110.	15"	10"	2130.
200	E.S.	16"	13 3/4"	+2012.	15"	17"	+2052.	15"	20 1/2"	+2072.	16 1/4"×12"	18"	2092.	16 1/4"×12"	16 1/2"	2112.	18"	11 1/4"	2132.
300	G.E.S.	18"	16 1/2"	+2014.	15"	17"	+2054.	15"	20 1/2"	+2074.	20"×15 1/2"	21 3/4"	2094.	20"×15 1/2"	19 3/4"	2114.	21"	13 1/2"	2134.
500.	G.E.S.	18"	16 1/2"	+2015.	18"	16 1/4"	+2055.	18"	21 1/2"	+2075.	20"×15 1/2"	21 3/4"	2095.	20"×15 1/2"	19 3/4"	2115.	21"	13 1/2"	2135.
750/1000.	G.E.S.	20"	18 3/4"	2017.	18"	18 1/4"	2057.	18"	23 1/2"	2077.	. .	. .	. .	. .	. .	. .	24"	15 1/4"	2137.
1500	G.E.S.	20"	18 3/4"	2018.	18"	18 1/4"	2058.	18"	23 1/2"	2078.	. .	. .	. .	. .	. .	. .	24"	15 1/4"	2138.

+Reflectors can be fitted with dustproof visor screens. + Reflectors can be fitted with blue daylight visor screens.

VITREOUS FINISH.						
Inside:	White.	White.	White.	White.	White.	White.
Outside:	Green.	White.	White.	Green.	Green.	White.

O.H.B.

Information from The Benjamin Electric Limited.

INFORMATION SHEET: LIGHTING: INDUSTRIAL SAAFLUX REFLECTORS.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.1.

Supplement to THE ARCHITECTS' JOURNAL for March 1, 1934

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

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LIGHTING

Reflectors (Electric)

Name of Product: Benjamin Saaflux Reflectors (patented)

Types Illustrated: R.L.M., Concentrating, Parabolic Angle, Elliptical Angle, Elliptical Vertical, Distributing

Description:

These reflectors maintain the temperature of cables within I.E.E. regulations to prevent hardening of rubber.

Wiring is really simple and only entails handling the top fixing flanges and terminal blocks which are common to the whole range of 50 reflectors—6 types and 9 wattages. These flanges and blocks can be fixed if necessary, and wiring installation completed before the type of reflector is decided.

For cleaning, the whole reflector complete with its lamp is simply removed and can be replaced with a clean one. It is more important to clean the lamp than the reflector. All reflectors comply with I.E.E. and Home Office regulations.

The manufacturers provide Architects with a lighting engineering service and also have available complete lighting data including information on angle reflectors for horizontal areas such as factory bays, in addition to that given on this Sheet.

Name of Manufacturers: Benjamin Electric Ltd.

Address: Tariff Road, Tottenham, London, N.17

Telephone: Tottenham 1500

Telegrams: Benjalect, Tottlane, London

THE ARCHITECTS' JOURNAL LIBRARY OF PLANNED INFORMATION.

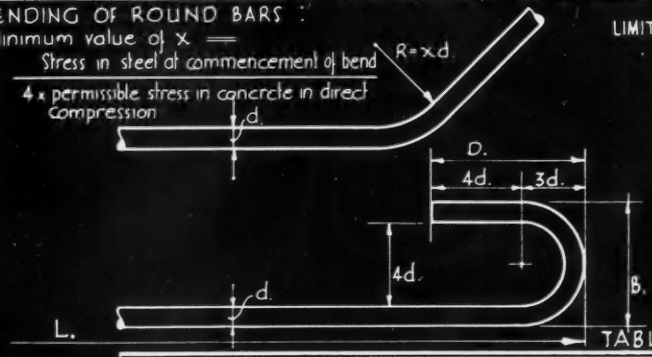
AREAS OF ROUND BARS.

DIAMETER IN INCHES	AREA IN SQUARE INCHES.	WEIGHT PER FT. RUN, LBS.	SECTIONAL AREA OF STEEL PER FOOT WIDTH OF SECTION WHEN SPACED AT :														
			1½".	2".	2½".	3".	3½".	4".	4½".	5".	5½".	6".	7".	8".	9".	10".	11".	12".
¼	·049	·167	·39	·29	·23	·20	·17	·15	·13	·12	·11	·10	·08	·07	·07	·06	·05	·05
5/16	·077	·261	·61	·46	·36	·31	·26	·23	·20	·18	·17	·15	·13	·11	·10	·09	·08	·08
3/8	·110	·376	·88	·66	·53	·44	·38	·33	·29	·26	·24	·22	·19	·17	·15	·13	·12	·11
7/16	·150	·511	1·21	·90	·72	·60	·51	·45	·40	·36	·33	·30	·26	·23	·20	·18	·16	·15
½	·196	·668	1·57	1·18	·94	·78	·67	·59	·52	·47	·43	·39	·34	·29	·26	·24	·21	·20
9/16	·249	·845	1·99	1·49	1·19	·99	·85	·75	·66	·60	·54	·50	·43	·37	·33	·30	·27	·25
5/8	·307	1·043	2·46	1·84	1·47	1·23	1·05	·92	·82	·74	·67	·61	·53	·46	·41	·37	·34	·31
11/16	·371	1·262	2·97	2·23	1·78	1·48	1·27	1·11	·99	·89	·81	·74	·64	·56	·49	·45	·41	·37
3/4	·442	1·502	3·54	2·65	2·12	1·77	1·51	1·32	1·18	1·06	·96	·88	·76	·66	·59	·53	·48	·44
13/16	·519	1·763	4·15	3·11	2·48	2·07	1·78	1·56	1·38	1·24	1·13	1·04	·89	·78	·69	·62	·57	·52
7/8	·601	2·044	4·81	3·61	2·88	2·40	2·06	1·80	1·60	1·44	1·31	1·20	1·03	·90	·80	·72	·63	·60
15/16	·690	2·347	5·54	4·14	3·31	2·76	2·37	2·07	1·84	1·66	1·51	1·38	1·18	1·03	·92	·83	·75	·69
1	·785	2·670	6·28	4·71	3·77	3·14	2·69	2·36	2·09	1·88	1·71	1·57	1·35	1·18	1·05	·94	·86	·78
1⅛	·994	3·380	7·95	5·96	4·77	3·98	3·41	2·98	2·65	2·39	2·17	1·99	1·70	1·49	1·33	1·19	1·08	·99
1¼	1·227	4·172	9·80	7·36	5·89	4·91	4·21	3·68	3·27	2·95	2·68	2·45	2·10	1·84	1·64	1·47	1·3	1·23
1⅜	1·485	5·049	11·90	8·91	7·12	5·94	5·09	4·45	3·96	3·56	3·24	2·97	2·55	2·23	1·98	1·78	1·6	1·48
1½	1·767	6·008	14·10	10·60	8·48	7·07	6·06	5·30	4·71	4·24	3·86	3·53	3·03	2·65	2·36	2·12	1·9	1·77

BENDING OF ROUND BARS :

Minimum value of x =

Stress in steel at commencement of bend / 4 x permissible stress in concrete in direct compression



LIMITING SIZES FOR ROUND BARS (Code of Practice.)

Maximum diam. of any reinforcing bar. 2".
Minimum " " " " " 3/16".
Minimum diam. of main reinforcing bars in beams or slabs. ¼".
Minimum diam. of longitudinal bars in columns. ½".
Minimum diam. of wires in mesh reinforcement. 1/10".

TABLE OF PROPORTIONS OF HOOKS.

DIAMETER OF BAR. "d"	B.	D.	AMOUNT TO BE ADDED TO "L".	
			FOR ONE HOOK.	FOR TWO HOOKS.
½".	3".	3½".	5".	9".
5/8".	3¾".	4⅜".	6".	12".
¾".	4½".	5¼".	7".	14".
⅞".	5¼".	6⅛".	8".	16".
1".	6".	7".	9".	18".
1⅛".	6¾".	7⅞".	10".	20".
1¼".	7½".	8¾".	12".	23".
1⅜".	8¼".	9⅝".	13".	25".
1½".	9".	10½".	14".	27".

Information from W. E. J. Budgen, B.Sc., A.M.Inst.C.E.

INFORMATION SHEET: DIGEST OF THE CODE OF PRACTICE FOR REINFORCED CONCRETE : SIZES & BENDING OF BARS.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.1.

Supplement to THE ARCHITECTS' JOURNAL for March 1, 1934

THE ARCHITECTS' JOURNAL
LIBRARY OF PLANNED INFORMATION

INFORMATION SHEET

• 88 •

THE CONCRETE CODE

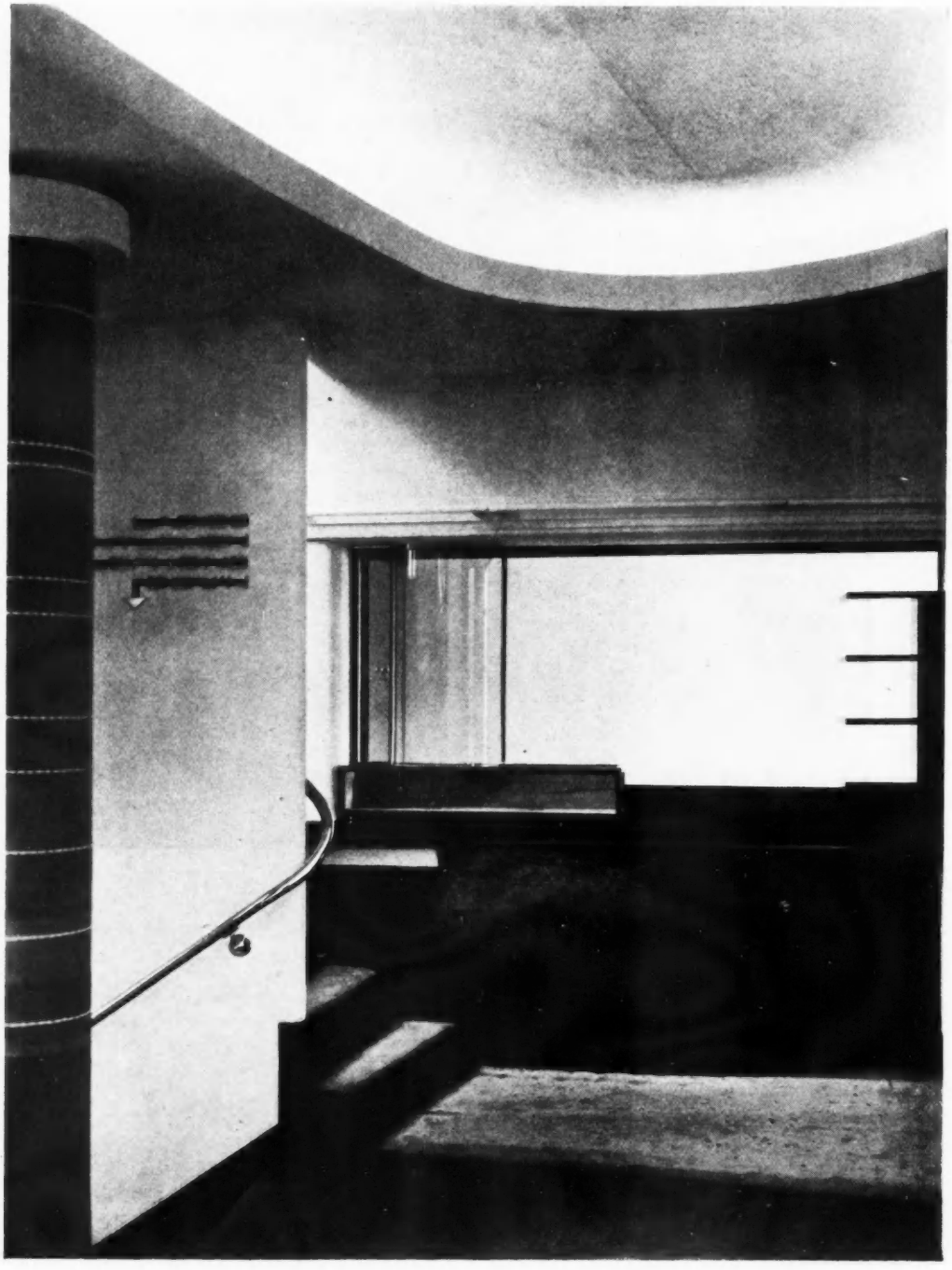
(vi)

THIS, the last of our series of Information Sheets dealing with the new concrete code, gives the areas and weights per foot run of bars from $\frac{1}{4}$ in. to $1\frac{1}{2}$ in. diameter, and the area of steel per foot width for various spacings. Rules for the bending of bars are now proposed, and the specified proportions of hooks are also shown. In the table of hook proportions the figures under Amount to be added to "L" are given to the nearest inch only.

A NEW OPERA HOUSE
AT GLYNDEBOURNE, SUSSEX

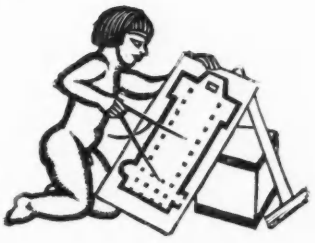
AN exterior view of the new opera house which Mr. John Christie has built on his estate at Glyndebourne, near Lewes, Sussex. It is to be opened on May 28.

Another view of the building is given on page 343.



THE CURZON CINEMA, MAYFAIR

The sweets stall in the Curzon Cinema, Mayfair, which was opened on Tuesday last, March 6. Further illustrations and plans of the building, of which Sir John Burnet, Tait and Lorne are the architects, are given elsewhere in this issue.



THE BRITISH STANDARDS INSTITUTION

WE live in an age in which the production of almost every commodity depends upon rationalization in industry, and the standardization and mass-production of every manufactured thing. Competition is fierce and prices are low ; and work in every field must be performed in haste, in order that overheads may be reduced to a minimum. Low cost for an article of high quality is attained only through efficient organization of processes, from the handling of raw material to the delivery of the finished product to the purchaser. In the building industry such a system involves working to given standards for size and section in fittings and equipment, and to given specifications for the grading and mixing of materials. But, whilst we accept the principle of standardization in factory-made and factory-assembled products : motor-cars, gramophones or lawn-mowers ; we are inclined to regard the building industry as immune from such a soulless modern innovation, and, consequently, whilst six motor-cars can be bought today for the amount it cost to produce one in 1904, a house now costs considerably more to build than it did in that year ; and because we cling to practices that are obsolete and have neither rigid standardization, nor sequence of processes such as that upon which factory-production is based, we are in danger of an upheaval in the building industry by no means as acceptable as the changes we are afraid to face.

There has been no determined or concerted attempt to eliminate confusion and cheapen building costs through rationalization in the industry, and building work is in danger of falling into the hands of the industrialist. In America, at least, single firms or manufacturing groups working through a common, central organization, have undertaken the production of complete component parts for houses, in standardized, pre-fabricated units, that can be made, brought to the site, and assembled, for little more than half the money it costs to build a house by traditional methods. Here is a menace to the building industry, as it stands at present.

It is only through standardization that unnecessary costs and the duplication of labour can be eliminated. Even with the present system, it is impossible to work without standardized brick sizes, structural-steel sections, timber scantlings and bolt threads ; and recently, the necessity for standard specifications for the ingredients, grading and mixing of materials has become apparent : the ingredients of asphalt have been standardized, and the New Code contains provisions for the grading and mixing of concrete.

These are, however, isolated instances ; the work is only begun. There remains much to be done, and it must be done immediately ; but if we are to avoid further confusion and be certain that materials are reliable, and components and equipment suited to purpose and of good design, there must be some sound authority behind any attempt at standardization ; some central body having the co-operation of specialists in every branch of the building industry. Only such an organization could be in a position to select a committee qualified to dictate a specification.

Such a body exists in the Divisional Council of the British Standards Institution, which consists of representatives of fifty or more Government Departments and Scientific and Industrial Organizations, including the Department of Scientific and Industrial Research, the Builders' Materials Central Committee, the Institute of Plumbers, the Institution of Heating and Ventilating Engineers, and the R.I.B.A.

The Institution has just published a British Standard Specification of Grading of Birch Plywood, which includes definitions of terms, a schedule of four plywood grades, and methods of testing. Such a specification is admirable, it enables an architect to specify concisely a desired quality, and the purchaser to order the material with the assurance that he will get the exact quality he requires.

New specifications in course of preparation include : building limes and plasters and lime and cement mortars ; cupboards and dressers for ordinary building purposes ; wood mouldings ; architraves, picture rails, skirtings, etc. ; pre-cast hollow partition slabs, and staircases.

The Institution is doing its part towards co-ordinating the efforts of producers and users for the improvement, standardization, and simplification of engineering and industrial materials ; towards simplifying production and distribution ; towards eliminating waste of time and material involved in the production of an unnecessary variety of patterns and sizes of articles for one and the same purpose ; towards creating standards of quality and dimension, and promoting the adoption of British Standard Specifications.

It remains for architects to get out of the habit of demanding the "special made"—a habit contracted in the days when every standard product might be labelled "jerry"—and to help in clearing up the muddle that results from haphazard methods and uncontrolled individual effort, by insisting wherever possible on standard products, and by demanding materials that conform to standard specifications. If they fail in this, then it seems, for the sake of economy, building parts will become factory-fabricated and will be assembled by distributing agents ; and the profession and building tradition that architects endeavour so earnestly to uphold, must be crushed by the overwhelming power of mass-production methods in the hands of the industrialist.

The Architects' Journal
9 Queen Anne's Gate
Westminster, S.W.1
Telephones: Victoria
9 2 1 2 - 7
Telegrams:
Buildable
Parl
London

NOTES & TOPICS

" SIMPLICITY AND SUCCESS."

A MANIFESTO to British manufacturers has been issued over the joint signatures of Sir William Llewellyn, President of the Royal Academy, and Mr. John A. Milne, Chairman of Council of the Royal Society of Arts, drawing attention to the existence and importance of industrial art, and to the Great Exhibition of January to March, 1935.

*

There is much sound sense in this address to industry. Under the heading " Simplicity and Success," it is urged that " In these days of machinery it is vital that everything superfluous should be cut out, so that useful articles can be brought within the reach of all. At the same time they should be made pleasant to look at, so that demand for them may increase."

*

Not for nothing has the Design and Industries Association been saying, since 1915 : " Fitness for Purpose, and pleasantness in use."

*

It is stated that one of the aims of the Exhibition is " to show that a more frequent association of the artist's name with the article produced from his design can be of great advantage in promoting demand." This official reinforcement of a campaign against the anonymity thrust upon designers by industry is welcome. A correspondence upon the subject raged this time last year in *The Week-end Review*, following a characteristically truculent letter by John Gloag protesting against the concealment of designer's names.

*

It was suggested that industry was missing a fortune by this practice. If the 1935 Exhibition succeeds only in abolishing this conventional reticence about the creative origin of designs, it will have performed a great and lasting service to British industry.

*

INCONVENIENCE OF THE AER

In *The Times* last Friday Dr. H. A. Des Voeux, the President of the National Smoke Abatement Society, drew attention to the harmful effects of coal smoke, and reminded us of the damage done to health and property by London fogs. Something, in fact, must be done about it, as Mr. John Evelyn said in 1661, and as various other intelligent people have been saying with regularity and conviction, if not with passion, ever since.

*

When John Evelyn wrote and dedicated to Charles II his pamphlet : *Fumifugium, or the Inconvenience of the Aer and Smoake of London*, there were no smoke-consuming devices, smokeless fuel, gas heating and cooking apparatus, nor electricity for power and light and heat. We have all these blessings, but the fog, like the poor, is still with us.

*

An Englishman's fire is his fancy. Personally, I never feel warm or comfortable without a wood or a coal fire ; and that is the root of the trouble. There has been no tradition of concealing the source of heat in English homes as abroad, where the stove was an enclosed diffuser of warmth. There was central heating in Roman Britain, but our heritage of comfort is a fire of leaping flames, visible, sooty and cheerful.

*

That is the real reason behind the offensive imitations of hot logs by glass and mechanical flickering. We can't ignore such a powerful tradition of national taste. If we are to get rid of fogs architects must invent a new, visible and efficient way of employing heating devices. A glass log is silly, but a metal-framed glow-worm is bleak.

THE HOUSING DICTATOR

Apropos *The Daily Express's* " Housing Dictator," I have received the following communication from an unofficial but authoritative source :—

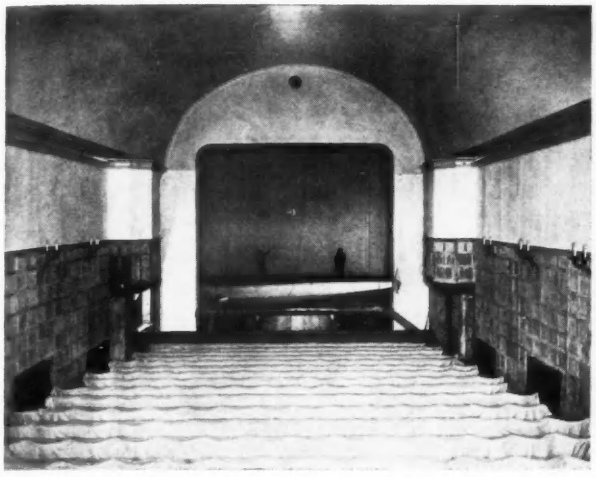
The lay press during the last few days have indulged in splash headings about a Minister of Housing. Although it is true that there have been discussions in the Cabinet regarding the perplexities of the housing problem, it is thought in well-informed quarters that there is little likelihood of a separate Department being set up under a Minister of Housing. This would be too much of a slap in the face for Sir Hilton Young and the Ministry of Health. Furthermore, it would involve the creation of a new Department, the appointment of more officials, and consequently friction and delay. It is, however, probable that the Housing Department of the Ministry of Health may be represented in the House of Commons by an energetic Parliamentary Chief, who will be able to give the whole of his time and enthusiasm, in Parliament, in his Department, and in the country, to accelerating progress in every possible way.

*

It is, however, widely rumoured that a separate Housing Department *is* to be set up, and the Cabinet's most successful member, Sir Kingsley Wood, the Postmaster General, is constantly mentioned as being a possible " chief." But then Kingsley Wood or Walter Elliot are automatically mentioned nowadays whenever any New Thing turns up.

*

Despite the remarks of my authoritative friend, I can't help feeling that in the end the Government *will* separate



The interior of the new opera house at Glyndebourne, Sussex, which is to be opened on May 28.

the Housing Department. The country wants it; it won't be a gesture; and if there was a good man in charge he might get a good deal done.

WORK IN ICELAND

I spent some time last week with the distinguished Icelandic architect Sigurdur Sudmundsson, who is visiting this country.

*

Ignorant that we are, we English, we do not know that on those barren shores an architect is building, and building hard, houses, hospitals and schools, mainly in reinforced concrete, but to a degree of refinement that put me in mind of the Swedish Asplund, and of our own so very great John Soane.

*

His houses are built of reinforced concrete with a lining of cork, and with solid concrete floors, local labour being unskilled in the fixing of tile floors. He told me that his work had to overcome a certain prejudice, but that he had no cause to complain.

*

Less cause, I imagine, than a certain architect friend of mine whose entirely sensible, and sensitive, house was objected to merely on account of the lack of precedent on an estate which, with the best intentions in the world, and after great expense in the lay-out, had succeeded in littering with half-timbered and mock Georgian residences some of the loveliest country in the region of Walton-on-Thames.

*

We are decidedly no more civilized than the men of Iceland. Probably a good deal less. I wonder?

HOUSES OR FLATS

"Is it necessary to provide a separate house for everybody who thinks fit to get married?" asks Mr. Sydney K. F. Nettleton, in a splendid letter to *The Times* recently. "No other country has done it."

*

Exactly. No other country but this has so interpreted William Morris's anti-machine philosophy to the extent of leading the entire population up the garden-city path, and basing 20 years' housing legislation upon it. No other country, even America, fairly deeply infected with the same virus, has built towns and kept a little urban-minded.

*

The Continent kept its head, and threw overboard Camillo Sitte as soon as it saw the damage he was about, and for the last few years they have built towns and extended towns in a thoroughly urban spirit.

*

It is about time that England did the same thing. Whitehall is hopelessly garden-city. One would think they regarded flats as slightly immoral, for the idea that they might be combined by planning to make a modern counterpart of the eighteenth century town building which we all so rightly admire never seems to enter their heads.

*

Once again, are we to get any comprehensive statement of policy from Whitehall, or must we press still harder for a National Housing Corporation?

L.C.C. AND SLUM

What I think the L.C.C. require is not the Special Slum Clearance Committee proposed on the eve of an election, but a housing director to marshal the ridiculously scattered forces of that august but slow-moving body.

*

Mr. Selley means well. I have heard him speak words of sense on the subject of slum clearance. But when one thinks of how much the L.C.C. knows about London . . .

*

Yes, I mean it. How much, in its various departments, it knows. When one thinks of what in its power it could do. Then one can only suppose that it requires some special dispensation from the gods to put into its brain the idea that actions speak louder than words.

ILLUMINATED SIGNS

A mixed affair in the Regent Street Association, if recent publications are any guide. Compare, for example, the curiously muddled lack of thought which appeared under "This Arshetecture" last week, with the letter which appeared recently in *The Times* from the pen of Mr. G. D. Mitchell, the Secretary of the Association.

*

The Regent Street traders appear to approve the restrictions which are imposed on tenants of Crown lands, and have even got so far as to sneer at the execrable display of signs of one Piccadilly Circus building.

*

That is admirable. We may be allowed to hope that what Regent Street approves today the rest of London shopkeepers will clamour for tomorrow.

*

Competition by means of signs might as well be done by insinuation as by yelling.

THIS WEEK'S ANTIQUE

Above the side door of a cottagey mansion in an arty suburb in near-Gothic lettering: "Ye Merchants Entrance."

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

There is little likelihood of a separate Department being set up under a Minister of Housing. It is, however, probable that the Housing Department of the Ministry of Health may be represented in the House of Commons by an energetic Parliamentary Chief 342

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The aims and objects of the Institute of Registered Architects 351

The arrangements for an Advisory Committee in connection with the Town and Country Planning Act, 1932, are nearly complete; the names of the members will be announced shortly 368

GIDEA PARK EXHIBITION

The Modern Homes Exhibition is to be held at Gidea Park from July 31 to August 20.

A year ago, the Gidea Park Estate, Ltd., held a competition for designs of various types of small houses with a view to selecting the best designs of each type for erection and exhibition.

The competition was open to all British architects, who were invited to submit designs for five classes of houses costing from £400 to £900 to build. No fewer than 475 designs were submitted and 25 designs selected. As 10 of the designs are for semi-detached houses, 35 houses are to be erected, and will form the main part of the Modern Homes Exhibition. The houses will be finally judged after erection.

The Exhibition will be open from 10 a.m. to 9 p.m. each day, except Sundays, when it will be open from 2.30 p.m. for the exhibition of houses only.

AUSTRIAN EXHIBITION IN LONDON

Early next month an Austrian Exhibition, arranged under the auspices of the Austrian Government, is to be opened at Dorland Hall, Regent Street, W.1. The Exhibition will illustrate some aspects of the artistic achievements of Austria, past and present.

Plans have been drawn up by Professor Hoffmann, Professor Holzmeister, and Professor Witzmann, in collaboration with Mr. Michael Rosenauer, who will carry out the designs in London.

The organization of the art section of the Exhibition has been entrusted to a committee of art experts. A second committee, composed of men who play a prominent part in the economic life of Austria, is preparing the trade section.

THE ARCHITECTS' DIARY

Thursday, March 8

R.I.B.A. *At 9 Conduit Street, W.1. Exhibition of the designs submitted in the competition between students of the schools of architecture in the United Kingdom recognized for exemption from the R.I.B.A. Final Examination and students of the Ecole des Beaux-Arts, Paris. Until March 14.*

L.C.C. GEFFRYE MUSEUM. *At Kingsland Road, Shoreditch, E.2. "Plywood: Its Influence on Design and Construction." By Percy A. Wells.* 7.30 *p.m.*

INSTITUTION OF ELECTRICAL ENGINEERS. *At Savoy Place, W.C.2. "The Measurement of Noise, with special references to Engineering Noise Problems." By B. A. G. Churcher, A. J. King, B.Sc.Tech., and H. Davies.*

DESIGN AND INDUSTRIES ASSOCIATION. *At the London School of Hygiene and Tropical Medicine, Gower Street, W.C.1. Annual General Meeting, to be followed by a discussion "Design—Has it an Economic Value."* 8.15 *p.m.*

Friday, March 9

INSTITUTION OF ELECTRICAL ENGINEERS. (*North Midland Centre.*) *Annual Dinner.*

TOWN PLANNING INSTITUTE. *At Carton Hall, Carton Street, S.W.1. "Model Clauses." By F. Longstreth Thompson, B.Sc., F.S.I., A.M.Inst.C.E. (M.), (P.P.).* 6 *p.m.*

Saturday, March 10

ROYAL SANITARY INSTITUTE. *At the Central Middlesex County Hospital, Willesden Junction, N.W.10. "Maternity and Children's Hospitals." Discussion to be opened by A. Saxon Snell, F.R.I.B.A.* 10 *a.m.*

ARCHITECTURAL ASSOCIATION. *At 36 Bedford Square, W.C.1. Exhibition, The Art of the Theatre. Closing day.*

Monday, March 12

ROYAL SOCIETY OF ARTS. *At John Street, Adelphi, W.C.2. "The Life and Work of William Morris—I." By Paul Bloomfield.* 8 *p.m.*

Tuesday, March 13

ILLUMINATING ENGINEERING SOCIETY. *At the Lighting Service Bureau, 2 Savoy Hill, W.C.2. "The Æsthetics of Electric Lighting in Architecture." By R. O. Sutherland, A.R.I.B.A.* 6.30 *p.m.*

Wednesday, March 14

INSTITUTION OF WELDING ENGINEERS, LTD. *At the Institution of Mechanical Engineers, Storey's Gate, S.W.1. "The Collation of Research and Application for Welded Fabrications." By H. W. Hawkins.* 7.45 *p.m.*

R.I.B.A. *At 9 Conduit Street, W.1. "Modern Influences on London Architecture—Shopping." By E. Maxwell Fry, A.R.I.B.A.* 6 *p.m.*

THE BRITISH WOOD PRESERVING ASSOCIATION. *At 29 Lincoln's Inn Fields, W.C.2. "Timber Buildings." By I. J. O'Hea.* 6 *p.m.*

UNIVERSITY OF LONDON. *At University College, Gower Street, W.C. "The New Architecture in Sweden, 3." By E. Mesterton.* 5.30 *p.m.*

L.C.C. CENTRAL SCHOOL OF ARTS AND CRAFTS. *At Southampton Row, W.C.1. "Spanish Mediæval Architecture." By Sir Banister Fletcher, F.S.A., PP.R.I.B.A.* 6 *p.m.*

THE MINISTER OF HEALTH AND HOUSING

The Minister of Health, Sir E. Hilton Young, speaking last week at the opening of the Brighter Homes Exhibition 1934 in Manchester, said there was a great opportunity for private enterprise now to enter into the field of supply of small houses for the wage earners. But there were also, as all knew, bad housing conditions with which private enterprise could not adequately deal. One was the evil of slums. Another was that of the overcrowded area in our towns. These were the legacy of the lower standards of life that were tolerated in the past, but were not tolerable now, and of the lack of forethought and design with which our cities had been built. To remedy these evils and to bring us abreast of the standards of the modern world would need an effort that must be direct, sustained and national.

BUILDING TRADE REVIVAL

It is encouraging to learn that the February figures of employment and unemployment indicate a revival of employment in the building industry. More than 26,000 men returned to work last month, and 80,000 more were at work than at the corresponding date last year.

ROSCOE PROFESSOR OF ARCHITECTURE, UNIVERSITY OF LIVERPOOL

Professor Lionel B. Budden delivered his inaugural lecture as Roscoe Professor of Architecture in the University of Liverpool last Friday under the title, "Synthesis in Architecture: The Contemporary Process." He said that in the creative processes of contemporary design we were seeing the application of the principles that underlay all vital architecture.

The lecturer considered the nature of synthesis in architecture, analyzed the causes which led to the general disintegration of that synthesis in the nineteenth century, and gave an account of the approach to a new synthesis which had been made through the new movement in the last thirty years.

The art of architecture in western civilization, said Professor Budden, was passing through a phase not less critical than that which might be observed in other fields of thought and activity.

It was a frequent and justifiable criticism of much modern work, that it failed to differentiate sufficiently between the characters of its subjects, Professor Budden went on. That was unavoidable in the experimental phase through which we were passing. Partly it was due to the fact that our conceptions of the character appropriate to particular subjects had been largely determined by the stylistic *décor* in which those subjects had appeared. Partly the failure was due to the fact that there had not yet been time for the new mass expressions of architectural programmes to establish characteristic distinctions. Style in architecture would always be a thing relatively slow in its development. And at present we had to realize that we were in the initial stages of a period that was above all else one of transition.

The new architecture was cosmopolitan because it was largely the product of scientific and technological factors and because it met needs that were becoming increasingly general. But it seemed reasonable to assume that national idiosyncrasies would in the course of time do what they had always done in the past. Our own country, for example, had never failed to give the architecture imported a character peculiarly and unmistakably English.

Those who adopted the view that the

change which had come over architecture was only one more drift of fashion, missed the essential nature of the transformation which was in progress. "For what is taking place now is no superficial revolution but one involving a re-orientation of the whole attitude of architects to their art. It has meant a conscious reversion to first principles that were once subconsciously observed and have been long neglected. And though some may have been repelled by the severity with which these principles have been applied, a Puritan reaction was necessary if architecture was to be saved from the morass in which it was foundering."

CHURCH HOUSE

The proposed portico, designed by Sir Herbert Baker to adorn the Dean's Yard Front of the reconstructed Church House, was not approved by a meeting held last week of the Council of the Corporation of the Church House, over which the Archbishop of Canterbury presided. This portico was recently criticized in private discussions in the House of Commons. Sir Herbert Baker has now been requested to design a less elaborate entrance on the Terrace. An engineer and a quantity surveyor are to be appointed, and they will have special agreements with the Corporation in connection with the erection of the new building.

OVER-CINEMA-ED?

Whitley Bay, Northumberland, will shortly be claiming that it possesses more cinemas per head of the population than any other town in the North-East (states a contemporary). Its 30,000 people are served now by four entertainment houses. Erection of two more is contemplated. When these schemes are completed Whitley will have one cinema per 5,000 population.

WEST YORKSHIRE SOCIETY OF ARCHITECTS

"The Acoustics of Buildings" was the title of a lecture given by Mr. E. G. Richardson, of Durham University, at a meeting of the above Society, held at Bradford on March 1. Mr. B. R. Gribbon, F.R.I.B.A., presided.

SOUTH-EASTERN SOCIETY OF ARCHITECTS

Members and friends of the Canterbury Chapter of the South-Eastern Society of Architects (with the Chairman of the Chapter, Mr. H. Anderson, F.R.I.B.A.), were entertained at a reception in the Refectory of St. Thomas's Hospital, Eastbridge, Canterbury, on February 28, by the Mayor of Canterbury (Councillor Frank Wood, J.P.), the President of the South-Eastern Society of Architects (Mr. J. W. Little, F.R.I.B.A., M.T.P.I.), and the Master of Eastbridge Hospital (the Rev. S. Gordon Wilson).

The proceedings opened with a short speech by the Master, who welcomed the guests and gave a brief description of the history of the building in which the assembly took place. The Mayor of Canterbury and Mr. Little also spoke.

After tea the visitors descended into the Norman Crypt where there was a collection of some 120 drawings of students' work from the various Design Clubs in connection with the South-Eastern Society of Architects.

The proceedings closed with a lecture on "The Town and Country Planning Act," by Mr. R. Goulburn Lovell, A.R.I.B.A.

NORTHERN POLYTECHNIC

The annual speech night and exhibition of students' work of the Department of Architecture, Surveying and Building, Northern Polytechnic, Holloway, N.7, will be held at the Polytechnic on Thursday, March 22, at 7 p.m. The exhibition of work will be open on March 23 from 6 to 10 p.m.

NEW NURSES' HOME FOR LEICESTER

The Leicester Health Committee has decided to erect a new nurses' home at the City Isolation Hospital at Gilroes. The cost is estimated at about £25,000.

R. I. B. A.

THE PLANNING OF LONDON

"Schemes for the Planning of London, Past and Present," was the title of a paper read by Mr. W. R. Davidge, F.R.I.B.A., at a meeting of the Institute, held on Monday last. The lecturer said :—

"Although it is often said, and with truth, that there is no general plan for the future growth of London, there have at all times been far-seeing men who have attempted, according to their lights, to plan ahead and to provide for the generations yet to come. The present is built upon the foundations laid by the past, and the future will be no less dependent upon what we do, or choose to leave undone, at the present day. For a proper appreciation of the position as it is at present, we must know something of the labours and difficulties of those who have gone before us. Their problems, different perhaps in magnitude, are in many ways our problems, and it behoves us to see how far they were successful or unsuccessful in solving the same questions which confront us today."

Mr. Davidge then discussed the gradual growth of London from its earliest days. Speaking of the future, he said :

"No one of us can forecast the future with certainty, but, in the light of what has already been done, we can see certain obvious things that will want doing as and when the opportunity arises.

"Let us agree on a few general principles :—

"1. We must have a general plan to know what we want to attain.

"2. We cannot set a limit to natural growth.

"3. We cannot do without both town and country and each must be readily accessible to the other.

"4. We must make up our minds as to the policy we want to adopt with regard to

(*a*) decentralization by the encouragement of new centres, or by

(*b*) letting things take their course until the resultant congestion becomes so acute that the most drastic and costly operations will be necessary.

"We shall no doubt take the middle course of adopting a little of both policies, but we shall find that a regional or national authority is essential if we are to deal with the encouragement of new centres.

"5. Either policy will require

(*a*) good communications by road, rail, and air to all parts of the community.

(*b*) proper location of industries and commerce for convenience of distribution and efficiency, with reasonable room for expansion.

(*c*) health, comfort, and convenience for the inhabitants—and amenity if possible.

"6. In so vast a community as London, it is obvious that industries and commercial undertakings cannot all be concentrated at one spot and must, therefore, be widely distributed in suitable grouping. The industries themselves are best qualified to decide as to their location, and the group organization of industry should clearly work in close touch with the Planning Authority. Industry can do more for a proper policy of decentralization than any other force.

"London is constantly changing under our very eyes, and any planning proposals must be reasonably elastic. The increased attention which is everywhere being given to the clearance of slums and the housing of the working classes indicates that we must have a definite policy either of centralization or decentralization.

"The proper location of industry and commerce is of first importance, and the leaders of each group of industry must help with this phase of the problem. The preservation of old buildings of historic or artistic interest must not be overlooked and, last but not least, the reservation of large areas of open space is everywhere essential.

"London is richer now than ever before, the supply of labour is abundant. There is scope for all men of good will in this great task—the planning of London."

The vote of thanks to Mr. Davidge was moved by Mr. Ernest M. Dence, LL.D., J.P. (Chairman of the L.C.C.), and seconded by Alderman Ewart G. Culpin, J.P., F.R.I.B.A.

EXAMINATIONS

Following is a list of the R.I.B.A. Examination dates for 1934 and 1935. The last day for receiving applications is given in brackets.

INTERMEDIATE EXAMINATION : June 1, 2, 4, 5 and 7, 1934. (May 1, 1934.) November 9, 10, 12, 13 and 15, 1934. (October 9, 1934.) May 24, 25, 27, 28 and 30, 1935. (April 24, 1935.) November 15, 16, 18, 19 and 21, 1935. (October 15, 1935.)

FINAL EXAMINATION : July 4, 5, 6, 7,

9, 10 and 12, 1934. (June 4, 1934.) December 5, 6, 7, 8, 10, 11 and 13, 1934. (November 5, 1934.) July 3, 4, 5, 6, 8, 9 and 11, 1935. (June 3, 1935.) December 4, 5, 6, 7, 9, 10 and 12, 1935. (November 4, 1935.)

SPECIAL EXAMINATION: July 4, 5, 6, 7, 9 and 10, 1934. (June 4, 1934.) December 5, 6, 7, 8, 10 and 11, 1934. (November 5, 1934.) July 3, 4, 5, 6, 8 and 9, 1935. (June 3, 1935.) December 4, 5, 6, 7, 9 and 10, 1935. (November 4, 1935.)

SPECIAL EXAMINATION OF LICENTIATES TO QUALIFY AS FELLOWS: April 9, 10, 11, 12, and 13, 1934. (March 9, 1934.) October 29, 30, 31, November 1 and 2, 1934. (September 28, 1934.) April 8, 9, 10, 11 and 12, 1935. (March 8, 1935.) October 28, 29, 30, 31, and November 1, 1935. (September 28, 1935.)

STATUTORY EXAMINATION FOR DISTRICT SURVEYOR AND THE EXAMINATION FOR BUILDING SURVEYOR: April 25, 26 and 27, 1934. (April 4, 1934.) October 10, 11 and 12, 1934. (September 19, 1934.) May 1, 2 and 3, 1935. (April 10, 1935.) October 9, 10 and 11, 1935. (September 18, 1935.)

COUNCIL MEETING

Following are some notes from a recent meeting of the Council of the R.I.B.A.

British Architects' Conference, 1935: On the recommendation of the Allied Societies' Conference it was decided to accept the invitation of the Royal Incorporation of Architects in Scotland and the Glasgow Institute of Architects to hold the British Architects' Conference at Glasgow in 1935.

The University of Sheffield School of Architecture and Mr. E. M. Gibbs (F.): On the recommendation of the Board of Architectural Education a special resolution of appreciation was passed and conveyed to Mr. E. M. Gibbs (F.) for the great assistance which he has given to the Sheffield University School of Architecture. The Council feel that the fact that the School is now recognized for exemption from the R.I.B.A. Final Examination is due in no small degree to the generous support given by Mr. Gibbs in the past.

R.I.B.A. Athens Bursary, 1933: The Board reported that they had approved the report of the tour by Mr. W. J. Smith (F.), R.I.B.A. Athens Bursar, 1933.

Architectural Education Committee of the University of London: Mr. A. H. Moberly (F.) and Mr. T. A. Darcy Braddell (F.) were appointed as the R.I.B.A. representatives on the Architectural Education Committee of the University of London for the twelve months beginning March 1, 1934.

Ancient Monuments Advisory Committee for Northern Ireland: Mr. John Seeds (F.) was appointed as the R.I.B.A. representative on this Committee in succession to Sir A. Brumwell Thomas (F.) and the cordial thanks of the Council were conveyed to Sir Brumwell Thomas for his valuable services in this capacity.

The Forty-fifth Health Congress and Exhibition of the Royal Sanitary Institute, Bristol: Mr. G. C. Lawrence (F.) was appointed as the R.I.B.A. delegate to the above Congress and Exhibition which will be held at Bristol from July 9 to 14.

The Twelfth Annual Conference of the National Association for the Prevention of Tuberculosis, London: Mr. Lionel G. Pearson (F.) was appointed as the R.I.B.A. delegate to the above Conference, which will be held in London from June 14 to 16.

Preparation of British Standard Specification on Bituminous Roofing Felt and Damp-proof Courses: Mr. S. Pointon Taylor (F.) was appointed to represent the R.I.B.A. on a Technical Committee set up by the British Standards Institution to deal with this matter.

Report of the Slum Clearance Committee: The report of the Slum Clearance Committee was approved by the Council and it was decided to adopt the recommendation of the Committee to call, at an early date, a Conference of the various bodies interested in slum clearance to consider the Committee's report.

The thanks of the Council were conveyed to Major Barnes and his Committee for the valuable work they had done in preparing the report.

Registration: It was decided to send a special message of thanks to the allied societies for the valuable work they have done in connection with the Architects' (Registration) Act.

Draft Bye-laws under the Metropolitan Water Board Act: The Science Standing Committee reported that as a matter of urgency they had submitted their comments to the Metropolitan Water Board on the draft Bye-laws prepared by the Board which had been forwarded to the R.I.B.A.

Loan of Drawings: It was agreed to lend three drawings from the R.I.B.A. Collection for the Exhibition of Drawings of nineteenth century Manchester Buildings, which is being arranged by the Manchester School of Architecture.

Reinstatement: The following ex-members were reinstated:—As Fellows: Capt. H. R. Cowley and Messrs. H. Field, W. I. Travers and H. T. Wright. As Associates: Messrs. W. F. B. Lovett (Mr. Lovett was elected as an Associate in December, 1929, but did not complete the formalities of election. The formalities having now been completed Mr. Lovett's name has been inserted in the Register of Associates as from January, 1934); and S. Simpson.

Transfer to the Retired Members Class: The following Members were transferred to the Retired Members Class:—As Retired Fellows: Messrs. H. Field, F. E. P. Edwards and W. S. Skinner. As Retired Associates: Messrs. H. A. Battley and N. Thorp. As Retired Licentiate: Mr. J. Briggs.

Resignations: The following resignations were accepted with regret:—Messrs. H. Nathaniel Kerr (F.), A. Down (A.), A. Mitchell (A.), H. G. Warlow (A.), P. L. Marks (L.), J. A. Percival (L.) and A. Howard (R.L.).

FINAL AND SPECIAL FINAL EXAMINATIONS

The R.I.B.A. Examination Board in India have arranged to hold the R.I.B.A. Final and Special Final Examinations in Bombay from April 6 to 14 next.

EXHIBITION

An exhibition of drawings submitted in the competition between students of the schools of architecture in the United Kingdom and students of the Ecole des Beaux-Arts, Paris, is now being held at the Institute.

COMPETITION

NEWS

THE HACKNEY COMPETITION

The result of the limited competition for a new Town Hall, Hackney, together with the premiated and other designs, is given on pages 356–362 and 367 of this issue.

Competitions Open

March 17.—Sending-in Day. Limited Competition for municipal buildings, etc., for the Stoke Newington Borough Council. (Twenty-eight firms of architects have been selected to submit designs.) Assessor: Sir Edwin Lutyens, R.A., P.I.A.A.S. Premiums: £250, £100 and £50. Full particulars were published in the *A.J.* for January 25 last.

March 26.—Sending-in Day. Façade in grey Cornish granite, for the Cornish Quarry Masters' Association. Open to all architects, architects' assistants, and architectural students. Assessors: C. Lovett Gill, F.R.I.B.A., Professor A. B. Knapp-Fisher, F.R.I.B.A., and Howard Robertson, F.R.I.B.A. Also, two members of the Cornish Quarry Masters' Association. Premium: £50. The design, etc., is to be sent to the Secretary, Architectural Association, 34-36 Bedford Square, W.C.1, by Monday, March 26. Full particulars of the competition may be obtained from the Secretary of the A.A.

THIS ARSHETECTURE

A London touch is to be introduced into Falkirk's latest building scheme, according to a statement made at the Dean of Guild Court to-day, when plans were submitted involving schemes estimated to cost £8,500. The petitioner in the first scheme asked for permission to erect a building on the vacant site at Vicar Street and Princes Street. The site immediately adjoins that on which Falkirk's latest super-cinema is at present being erected, and which is to cost £25,000.

Mr. R. Gibson, solicitor, Falkirk, appearing for the petitioner, said that the building would considerably improve the corner. It was to be after the Tudor style and rather like the well-known Liberty's in Regent Street, London. The estimated cost was £6,500.

In passing the plans, Provost Logan said that they were indebted to the applicant for this Regent Street touch, It made them feel that they in Falkirk were now becoming equal with London.

—FROM *The Edinburgh Evening News.*

THE CURZON CINEMA, MAYFAIR

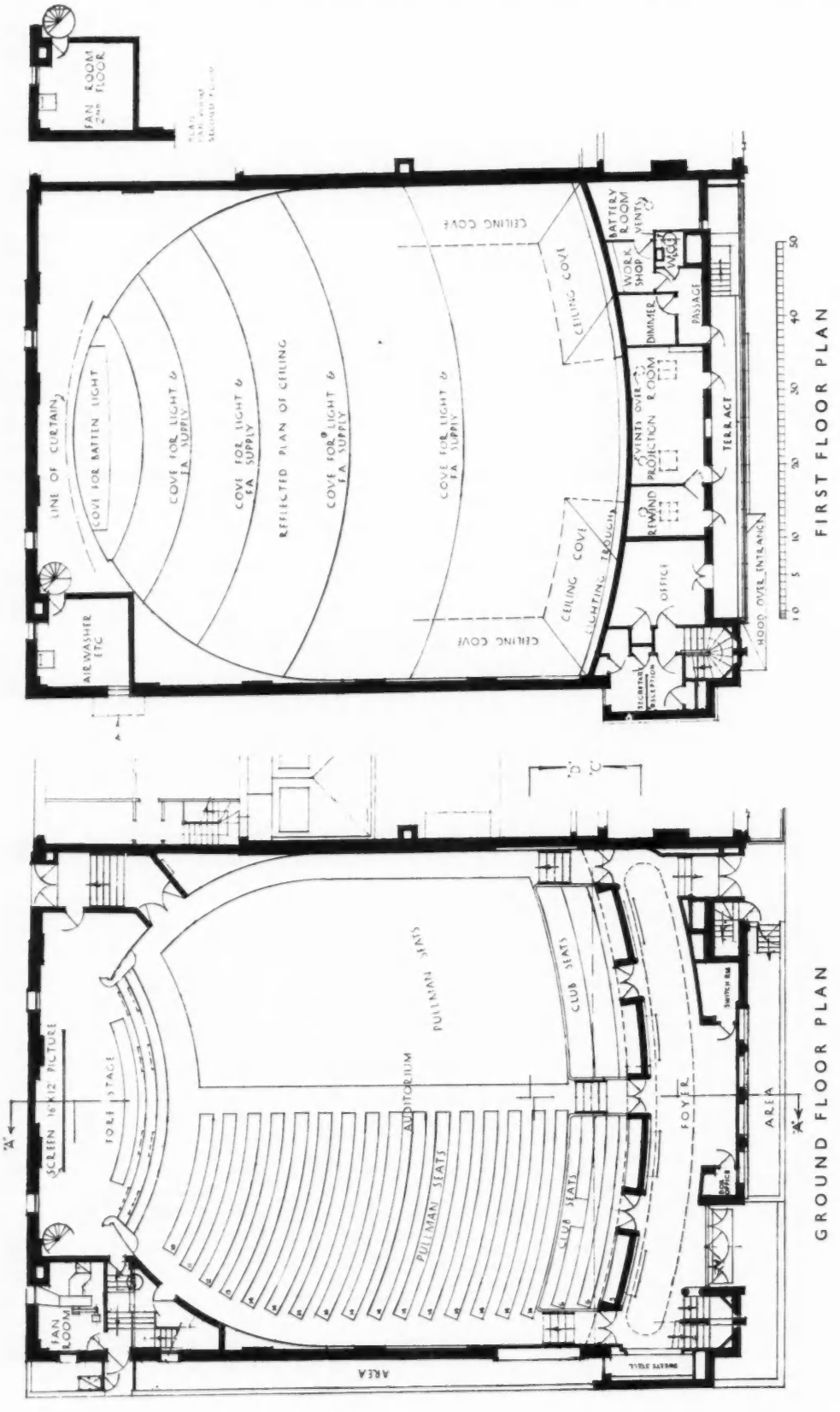
DESIGNED BY SIR JOHN BURNET, TAIT AND LORNE

This small luxury cinema, seating barely 500, has been built in Curzon Street, at the corner of West Chapel Street, and in it are to be shown films which are "not acceptable to the big West-end Theatres on account of their limited appeal." Externally, the building is faced with red and dark grey bricks with stone dressings, and the usual illuminated signs have been kept to the minimum.

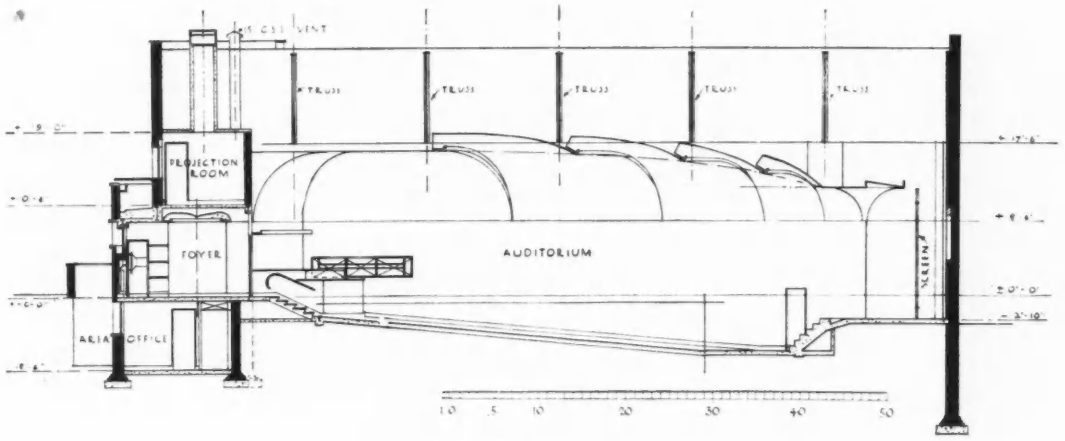
Internally, the auditorium walls are rose coloured, the carpets and seating upholstery being blue. The spacing of the seats is generous, 3 ft. 2 in. back to back (about 6 in. more than the usual figure), and at 2 ft. centres, with the most expensive "club" seats at the back of the auditorium, and enclosed by a maple barrier. The whole of the lighting, with the exception of a row of small flush panels over the "club" seats, is carried out from lighting troughs in the ceiling: a three-colour system with dimmers is installed, sections through the ceiling being given on pages 363-364 of this issue.

The photographs show: above, the main elevation to Curzon Street; below, a worm's-eye view of the main elevation.

THE CURZON CINEMA, MAYFAIR : DESIGNED BY

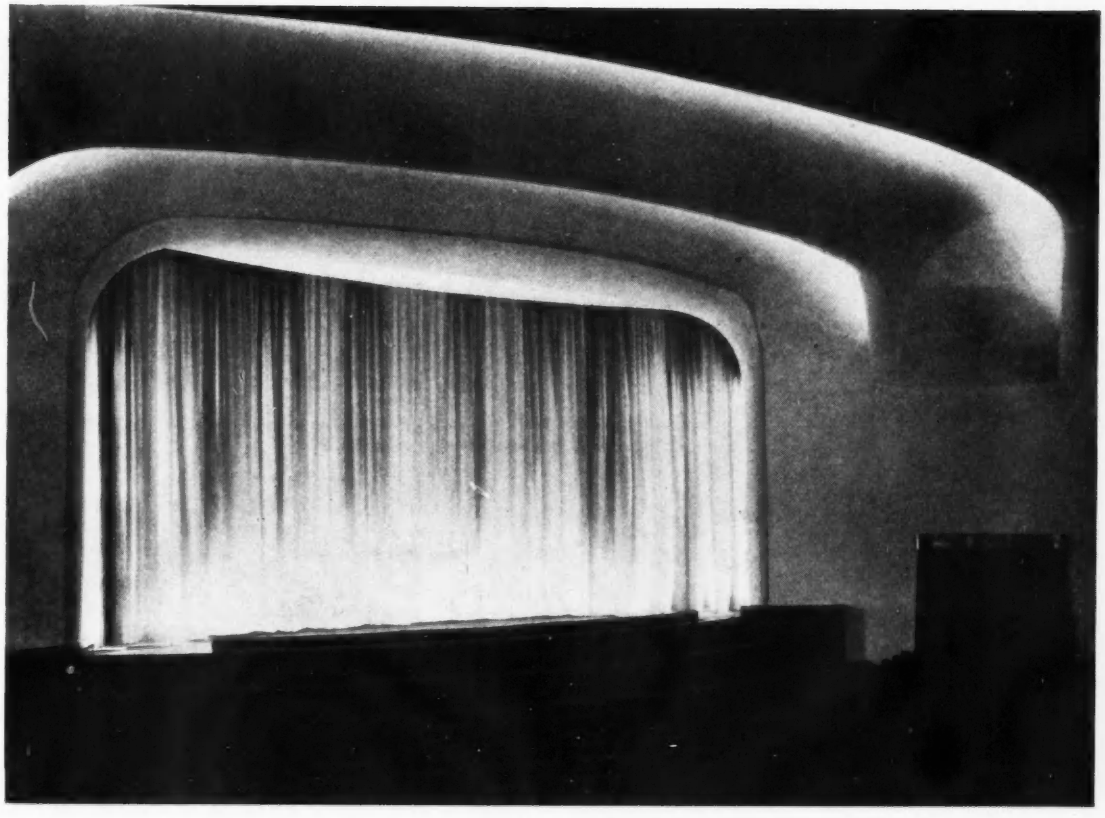


SIR JOHN BURNET, TAIT AND LORNE



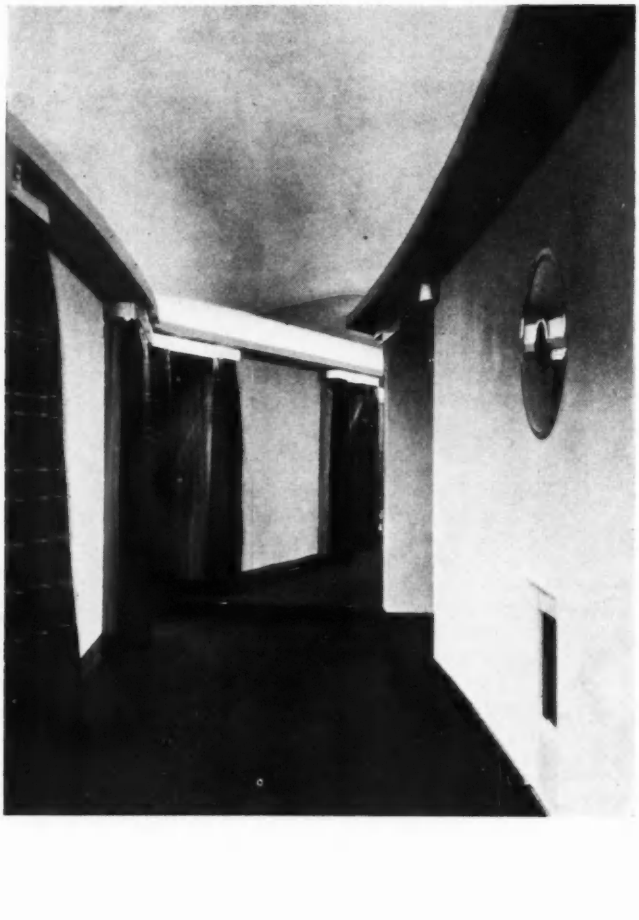
SECTION A-A

The foyer, which runs the full width of the building at the back of the auditorium, contains a small store for sweets, and also a loud speaker through which the manager may make announcements directly from his office. Cloakrooms are in the basement. The mechanical equipment includes a full plenum heating and ventilating system with fresh-air inlets in the ceiling coves, the extract grilles being beneath the stage.



The proscenium.

THE CURZON CINEMA, MAYFAIR



Above : The "club" seats.
Left : In the entrance foyer.

DESIGNED BY SIR JOHN BURNET, TAIT AND LORNE

LETTERS FROM READERS

EARL DE LA WARR (*Mayor of Bexhill*)
JAMES BURFORD, A.R.I.B.A.
WESLEY DOUGILL, M.A., A.R.I.B.A., A.M.T.P.I. (*Editor, Town Planning Review*)
J. LEWIS WONERSLEY
SIR EDWIN L. LUTYENS, R.A., P.I.A.A.S. (*President, Institute of Registered Architects*)
J. M. ALINGTON, M.A. OXON. (*Registrar, Institute of Registered Architects*)
R. HUTCHINGS

The Bexhill Competition

SIR,—The reply to Mr. James Burford's assertion that there is strong public protest at the result of the Bexhill Competition seems to me to be a matter for the R.I.B.A. rather than myself, as the competition was conducted by them.

I may say, however, that I am not aware of strong public protests ; that all that I have seen is three or four interviews in a morning paper ; that I am informed locally that a very great number of people had to be rung up on the telephone at Bexhill before the interviews could be obtained ; and that the Bexhill Council has received a strong denial of that paper's account of the interview from one of the people concerned.

DE LA WARR

Foreign Architects in England

SIR,—The Council of the R.I.B.A. has published a statement of its attitude towards the question of foreign architects working in this country. Simply put, the Council objects to foreign architects working in this country for wages, but it does not object to foreign architects working in this country for commissions.

The Council appears to recognize that if a foreign architect works in this country for a wage, a British architect does not receive that wage. By parallel reasoning, if a foreign architect works in this country for a commission, a British architect does not receive that commission. I am not aware that the majority of British architects are in a position to forego commissions. I do not understand how the Council of the R.I.B.A. arrived at its attitude.

JAMES BURFORD

Competitions

SIR,—Your correspondent, Mr. R. S. Wiltshire, appears to have missed the real meaning of my previous letter, which, in effect, merely argued that it is better from all points of view to have five competitions, each with 60 entrants and affecting five buildings, than to have one competition with 300 entrants and affecting only one building. In the former case, the ratio of resultant buildings to the numbers of "also rans" is, to say the least, more reasonable. The questions of competing under compulsion and of interfering with the right to compete do not arise in either case.

One does not question for a moment the claim that a certain winning competitor's "expenses were about £5," but it is indisputable that in the case of the Bexhill and other similar competitions, the expenses of many of the competitors were considerably above the average figure I gave. To suggest that £5 or anything like it is a likely outlay, time and cash combined, for participating in a £50,000 competition, is merely to throw out a snare to the uninitiated.

But one is not concerned about the outlay, as such, in a competition. What is vitally important is that the results achieved in the way of real buildings should be commensurate with the outlay.

WESLEY DOUGILL

Buildings in Vienna

SIR,—Although I, too, belong to the category of mere architects as distinct from politicians, I consider the remark accompanying the illustrations of the shelled Karl Marx Hof, in the JOURNAL for February 24, to be somewhat lacking in thought. It is certainly no compliment to a great nation—Austria—and I feel it my duty to enlighten my countrymen of a few facts regarding both the war in Austria and the construction of her numerous and wonderful flats. I have a friend in Vienna whose word can be relied upon and my statements are based on hers.

First, these magnificent flats, so much photographed in this JOURNAL and elsewhere—reproduced incidentally to show us how much behind Austria we are in slum clearance, etc.—were all built during the democratic regime there and paid for through terrific taxation of the middle and upper-middle classes. In fact so terrible was the taxation that the middle man in Austria was almost wiped out. Thus it is that Vienna is so "in advance" of us in solving the modern problem of housing the poor.

Secondly, the people who built the flats were *not*—as is stated in that same sentence in the JOURNAL—the people who shelled them and an extract from a recent letter from my friend in answer to some of my enquiries will clearly show this. She says :

"You know that our Town Hall and the community of Vienna have been 'red' since the days of the Republic . . . It has been found out now that these houses, including your Karl Marx Hof, have been built—and were meant from the very beginning—as fortresses, with steel plates inside the walls and towers and openings for machine guns ; with secret doors and corridors in which they had heaped arms and weapons these last 10 years. It became known to the police that they were keeping arms, and when a group of policemen went for a search in Linz, they were immediately shot. This caused the outbreak of the riots all over Austria, especially in Vienna. It was all so sudden and overwhelming, and if our troops hadn't used artillery I'm afraid all Vienna would be blown up by now. It is true that never before in a town have cannon been used, but it is just as true that never before was anybody in a similar situation. Cannon have always been used against fortresses, and those were fortresses in a modern disguise . . . Really, we are not unusually cruel in Austria, but I assure you it was absolutely necessary—though terribly sad—to have to be so strict. The strike was suppressed in the course of one night, and business was kept up during all these days as on ordinary days, which showed people's trust in the government, in spite of what is spread against it in foreign countries."

J. LEWIS WONERSLEY

The Institute of Registered Architects

SIR,—Although the Architects' (Registration) Act was passed in 1931 and some thousands of architects are already admitted to the Register, scarcely anyone outside the ranks of the profession knows what "registered architect" means.

The Act needs amendment, but its intention is to provide those admitted to the Register with a valuable, legally protected description. The business of admitting to the Register rests with the Architects' Registration Council. The business of making the status of those admitted to the Register comparable

with that enjoyed by the legal and medical professions rests with Registered Architects themselves.

It is obvious, therefore, that, if registration is to attain its proper value, registered architects must organize to consolidate their interests and to amend the Act, and to make their title, and the value of their title, known and respected.

It may be that the majority of those architects already registered are members of one or other of the organizations represented on the Registration Council—but many are not. In any case, a large number of those already registered, or entitled to be registered, may consider that the mere act of registration is sufficient—unless they are able to express their views through an organization confined to the prosecution of their aims as registered architects.

The need for an organization complementary to the various architectural societies and focussing the aims of the registered architect is thus apparent.

The Institute of Registered Architects, wholly composed of Registered Architects and solely devoted to their interests, has therefore been established, and its primary aims will be :—

(1) To consolidate the position of the registered architect ;

(2) To complete the protection of the registered architect and the building public by amendments to the Act ;

(3) By efficient propaganda to establish the title and qualifications of the registered architect in the confidence and esteem of the public ;

(4) To discourage building work without qualified architectural service and commensurate fee ;

(5) To establish a code of professional practice acceptable in the Courts ;

(6) Generally to protect the statutory rights of the registered architect and to advance his status to the public advantage.

The affairs of the Institute will be administered by a Council representative of the principal architectural interests, and providing a central organization for corporate expression in all matters affecting registered architects. The error of extreme centralization is appreciated, and it is anticipated that a policy of decentralization through local units (each with its own headquarters) will be developed as rapidly as possible.

The Foundation Council—all registered architects—are inviting other organizations to co-operate with and assist the Institute of Registered Architects and have already received assurances of support in this direction.

The Institute of Registered Architects will insist on its members conforming to a code of professional practice and the observance of rules for the general good of the profession, although the Act makes no such stipulation.

Membership of the Institute of Registered Architects will carry with it the privilege of using the designatory letters—" M.Inst.R.A." Its members will be architects who have proved to a statutory authority their qualifications to practise and to possess the privilege of a statutory title, and who have expressed, through their membership of the Institute, their intention to conform to a code of professional ethics.

Thus the designatory letters of the Institute of Registered Architects will become the hall-mark of competence and trustworthiness, creating a public demand for the services of those architects who bear them.

EDWIN L. LUTYENS

STAFF AND ARTISTS'

Looking towards the cashier's desk and the kitchen.

Architects and Building

SIR,—I have read with interest and congratulate you on the leading article in your issue for March 1, but I challenge your statement that :—

" No architectural body has yet realized, or, if it has done so, attempted to put into practice the idea that the architect of today must *sell* his services."

When the Institute of Registered Architects was established a few months ago, the President, in announcing its establishment, issued a manifesto in which he stated that the main objects of the new body were :—

" To discourage building work without qualified architectural services at commensurate fee . . . to advance the status of the registered architects to the public advantage . . . and to make the title (of Registered Architect) known and respected."

My President invited the co-operation of the R.I.B.A. and other architectural bodies, but the R.I.B.A. appeared to do everything in their power to prevent architects from joining the new body.

Nevertheless, membership of the Institute of Registered Architects has consistently increased, and its intention is actively to pursue the objects for which it was formed, and which includes the proposition set forth in your leading article.

J. M. ALINGTON

SIR,—The leading article in your issue for March 1 bears evidence of the helpless infirmity of the profession ; the entire frame quivering under the burden of its weakness, its disunity and decayed methods of management.

Addison, many years ago, told the following Persian fable.

A drop of water fell out of a cloud into the sea, and finding itself lost in such an immensity of fluid matter, broke out into the following reflection : " Alas ! What an insignificant creature am I in this prodigious ocean of waters : my existence is of no concern to the universe. I am reduced to a kind of nothing, and am less than the least of the works of God. It so happened that an oyster, which lay in the neighbourhood of this drop, chanced to gape and swallow it up in the midst of its humble soliloquy. The drop lay a great while hardening in the shell, till by degrees it was ripened into a pearl, which, falling into the hands of a diver, after a long series of adventures, is at present that famous pearl which is fixed on the top of the Persian diadem."

The drop of water, the architect, swallowed by the oyster, the Architects' Registration Council, hardened by the shell, the Registration Act, must be ripened into a pearl of untold value to the diadem, the public.

Otherwise the Council must issue to every registered architect a medal to commemorate the inglorious death of the profession.

R. HUTCHINGS

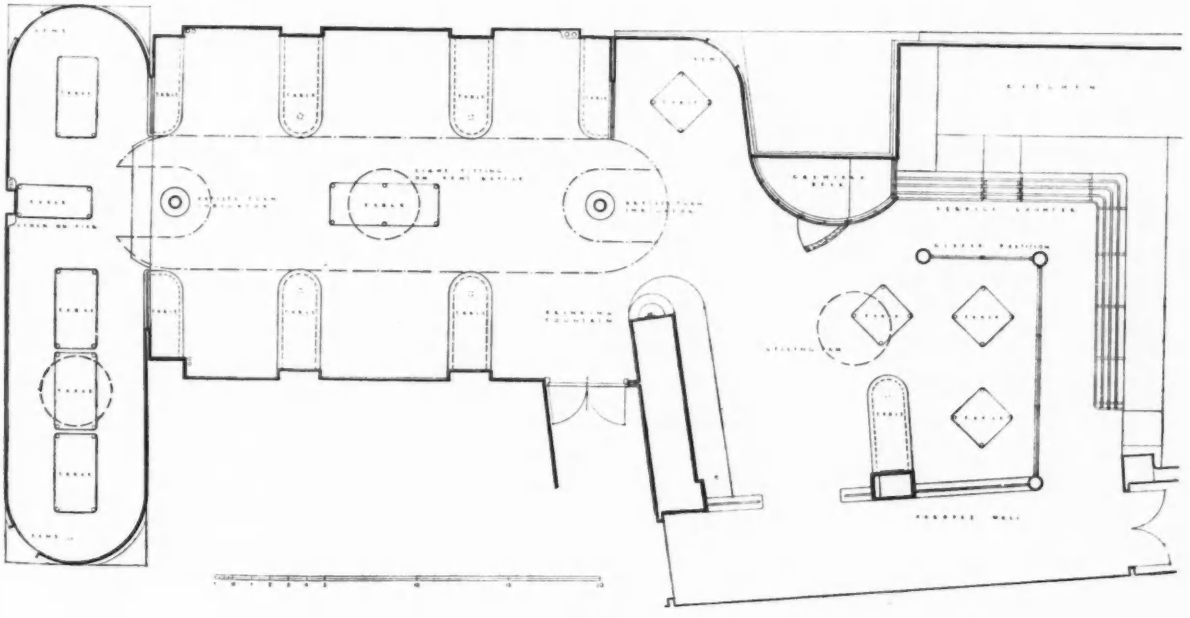
RESTAURANT AT BROADCASTING HOUSE

DESIGNED BY

RAYMOND McGRATH

The Staff and Artists' Restaurant at Broadcasting House, London, is designed on the cafeteria principle; service in the restaurant itself is confined to the clearing of the tables.

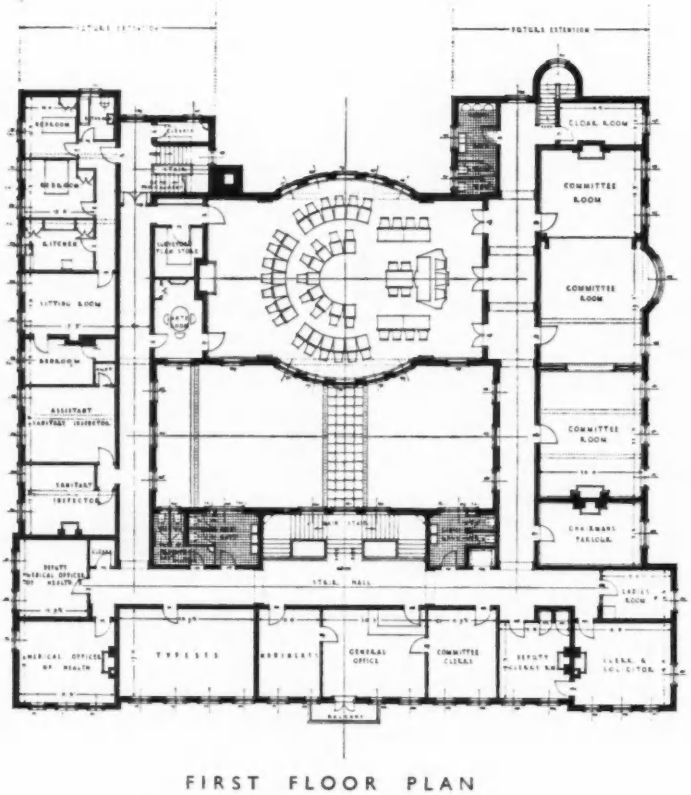
The floor and dado are covered with rubber in two shades of green, the walls are finished with lemon yellow "Finella" lincrusta, and the ceiling is lemon yellow. Clear armourplate glass, a quarter of an inch thick, forms the table tops, and a rubber-covered undershelf is provided for handbags, books, etc. To ensure maximum leg room the wall tables have only one free support. The lighting is by bare tubular lamps to ensure maximum intensity, the total available loading being restricted by the capacity of the pre-arranged ventilation. The ventilation panels are constructed of stove-enamelled slate, a material which provides rigidity with a minimum thickness. The two signal lighting indicators (see plan below) serve to warn the artists in which studios they are required. A photograph and detail drawings of one of the indicators are given on pages 365-366.



PLAN

EPSOM TOWN HALL: DESIGNED BY

The main entrance front to The Parade.



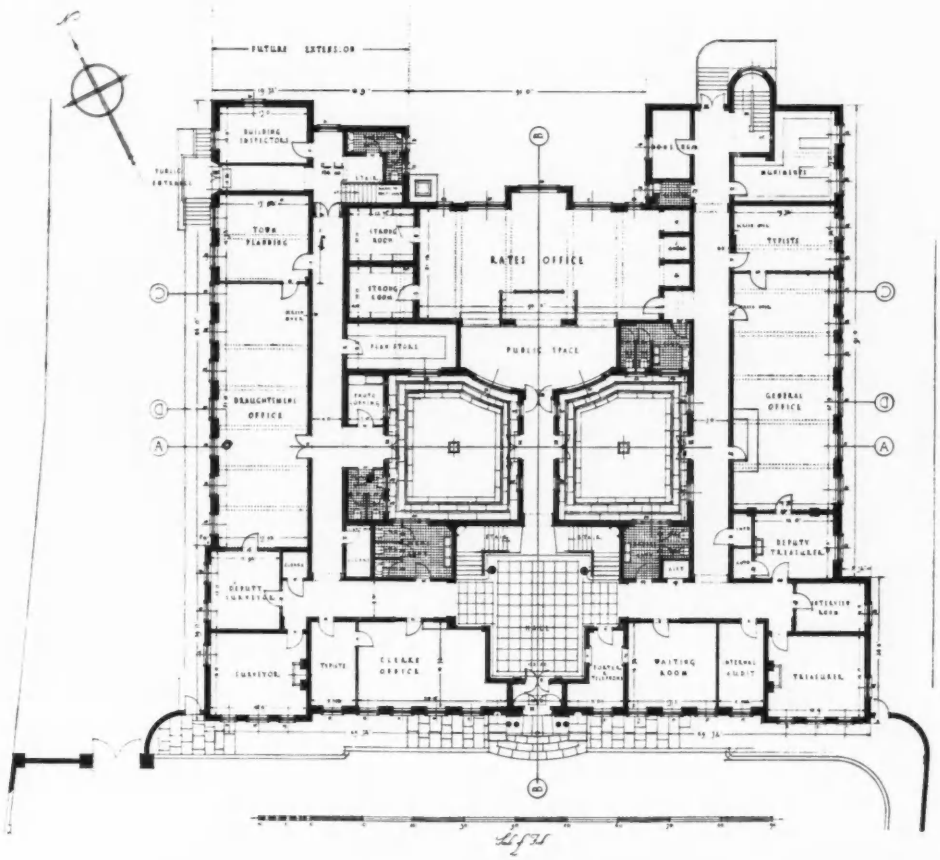
FIRST FLOOR PLAN

The new Town Hall, Epsom, is to be opened on Saturday next, March 10, by the Rt. Hon. Lord Ebbisham, G.B.E.

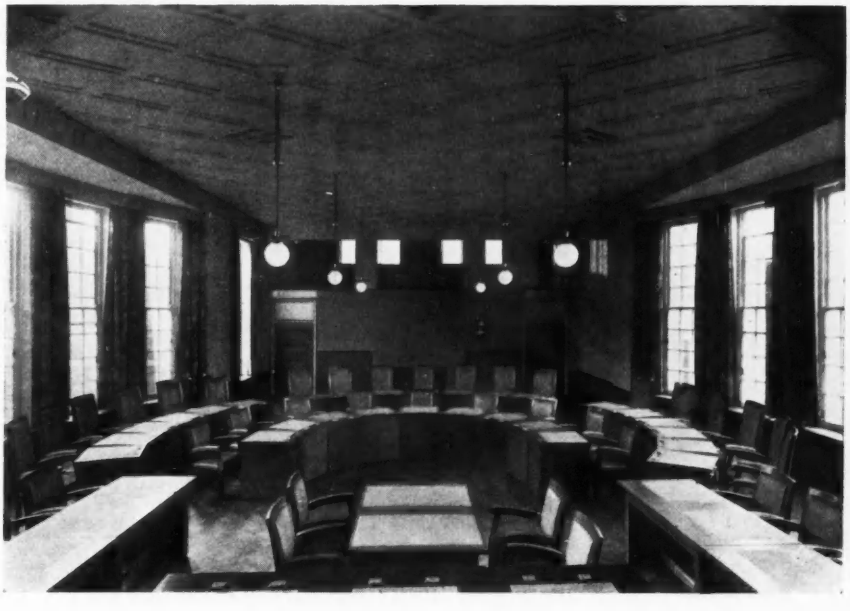
The building is constructed of orange-coloured bricks, and has pantile and flat roofs. The floors are of hardwood blocks, polished, and the doors are of oak.

The council chamber, of which a photograph is reproduced on page 355, measures about 54 ft. by 38 ft., and is entered from the east corridor adjoining the committee rooms. The doors are arranged for voting for "Ayes" and "Noes." A wide fireplace is at the west end, above which is a public gallery. The Chairman's dais and the Council's seats and desks are arranged in circular form, together with those of the officials and press. For acoustical reasons the ceiling and wall panels have been executed in decorative plastering.

WILLIAM A. PITE, SON AND FAIRWEATHER

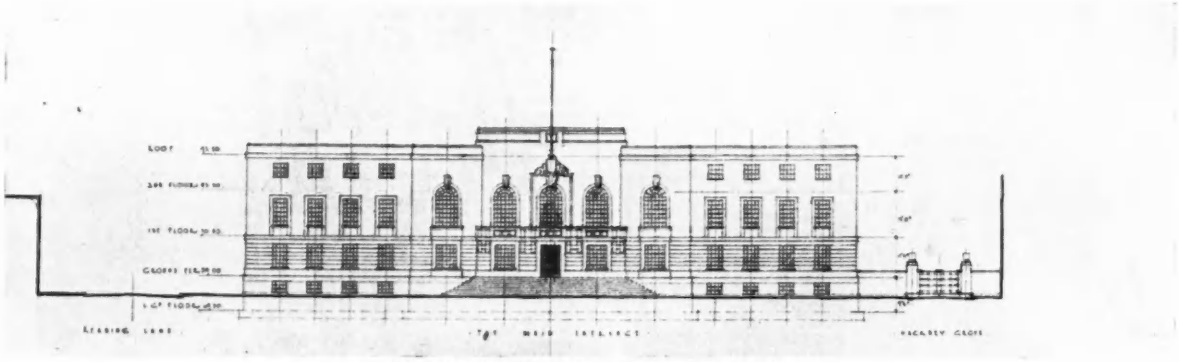


GROUND FLOOR PLAN

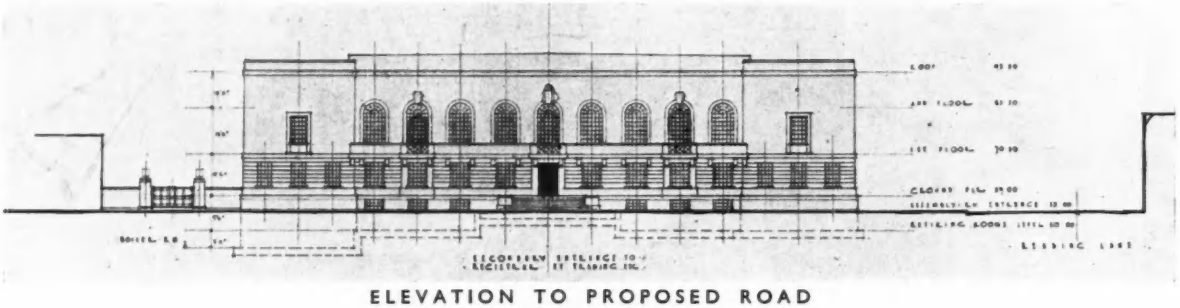


Right: The council chamber.

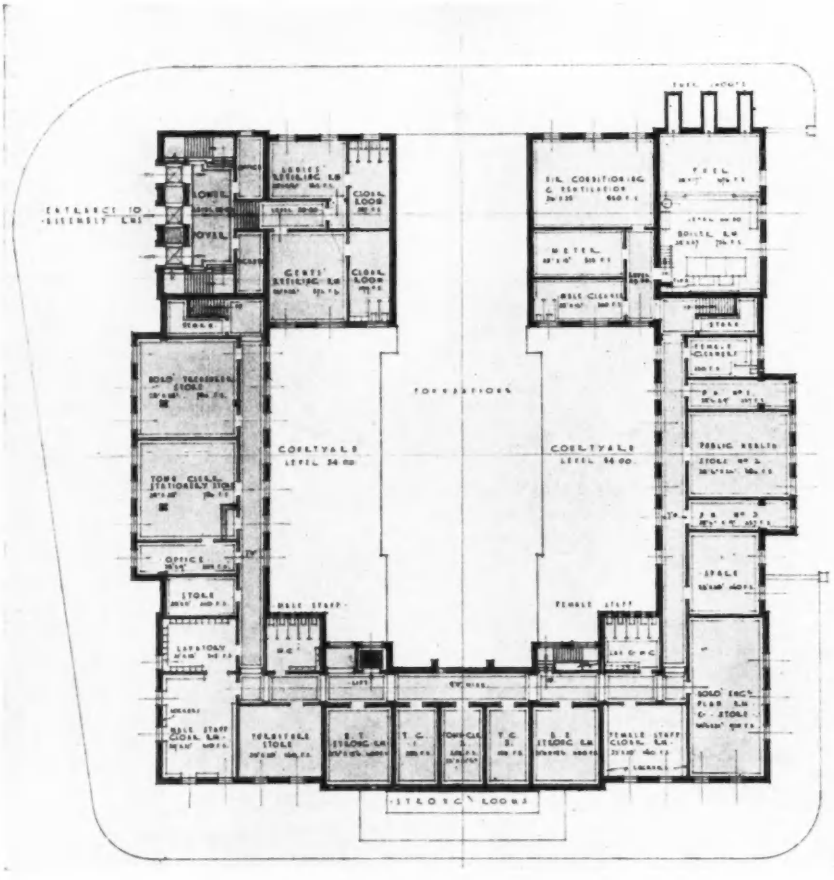
THE HACKNEY TOWN HALL



ELEVATION TO MARE STREET



ELEVATION TO PROPOSED ROAD



LOWER GROUND FLOOR PLAN

By LANCHESTER

The result of the limited competition for the proposed new Town Hall, Hackney, was announced in our last issue. On this and the following pages we publish the three premiated designs, together with the winners' report and the main elevations and plans of the schemes submitted by the other competitors. The result was as follows :—

DESIGN PLACED FIRST (£250) : Lanchester and Lodge.

DESIGN PLACED SECOND (£150) : C. Cowles-Voysey.

DESIGN PLACED THIRD (£100) : C. S. Joseph.

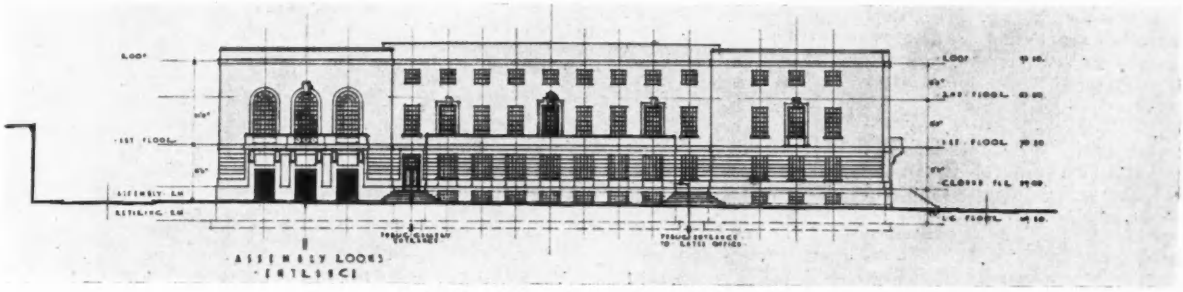
The other competitors were : Robert Atkinson ; C. H. James and S. Rowland Pierce ; and Louis de Soissons.

THE WINNERS' REPORT

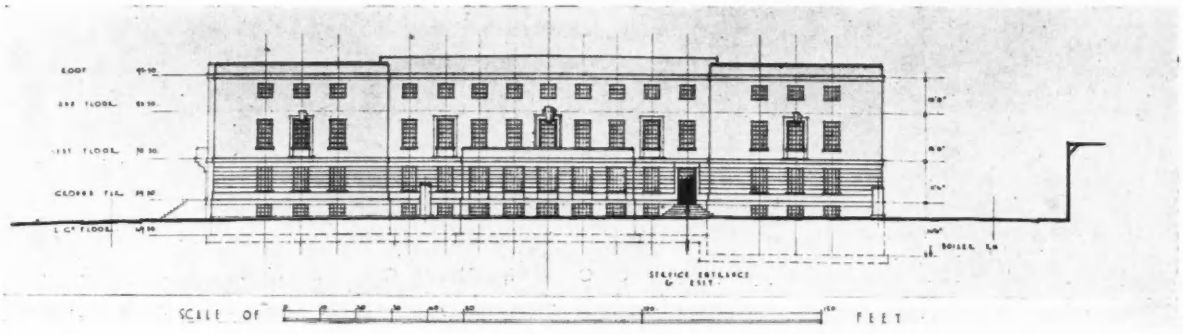
GENERAL DESCRIPTION. — In preparing the design the conditions laid down have been carefully followed and every effort has been made to embody as closely as possible the requirements set out in the instructions.

As regards the internal arrangement of the building, attention

COMPETITION: DESIGN PLACED FIRST



ELEVATION TO READING LANE

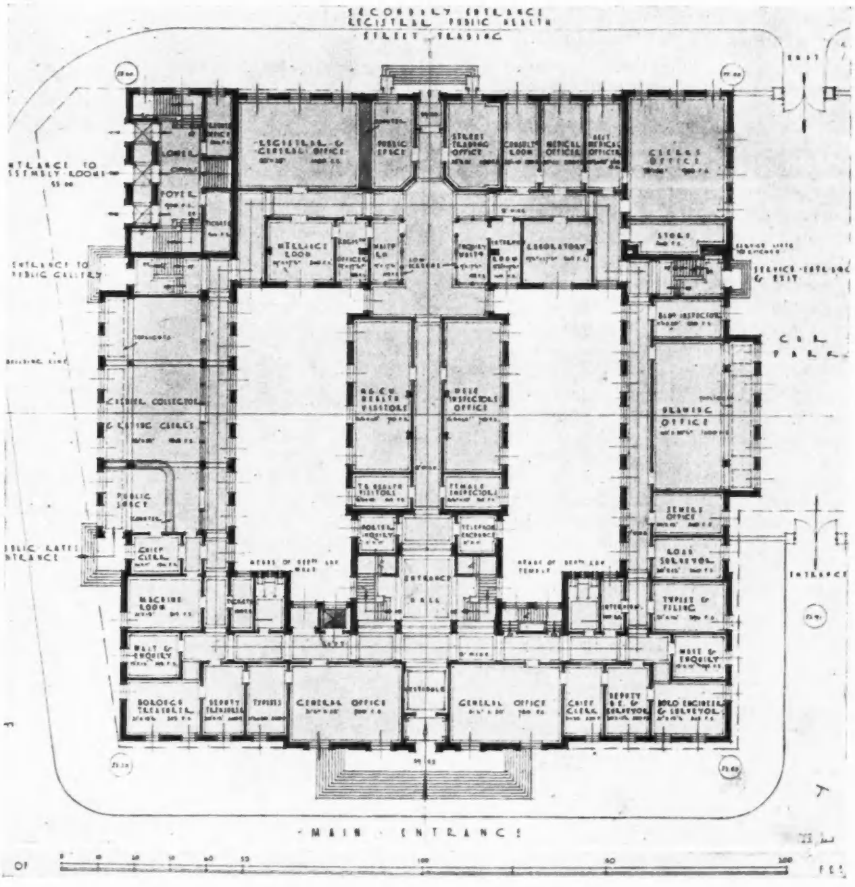


ELEVATION TO HACKNEY GROVE

AND LODGE

has been given to the grouping of the various departments which are distinctively coloured on the plans, and the assembly rooms have been planned with a view to their being used either in conjunction with, or independently of, the municipal offices. Folding screens in two positions have been so arranged that these rooms may be thrown into one large room, or, when divided, the larger room may be next either the foyer or refreshment room as desired. The kitchen and service rooms have, however, been grouped to afford economical control.

MATERIALS AND CONSTRUCTION.—The building has the frontages faced with Portland stone, as indicated on the elevations, and the internal courts with Midhurst White bricks. The floors would be fireproof, such as the Kleine or other hollow block floor. The roofs would be of similar construction covered with asphalt, except that over the assembly rooms, which would be slated. The windows would be in metal. The finishings internally would be kept simple and suitable to the purposes for which the buildings are intended. The walls gener-



GROUND FLOOR PLAN

ally would be plastered and painted. The floor of the assembly rooms would be of hardwood in narrow widths sprung on interspaced joists for dancing. The floors of corridors, lavatories, etc., would be of terrazzo or other hard jointless material, whilst the floors of the offices would be in wood block.

HEATING.—The heating of the building would be by means of low pressure hot water from the boiler room shown on the plan. Hot water boilers in duplicate would be provided. The circulation would be maintained through the mains by means of direct coupled electrically driven pumps, one pump of sufficient capacity for dealing with the entire installation, the second one acting as a standby.

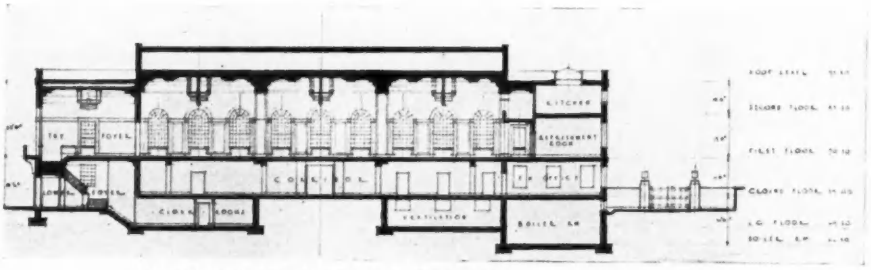
The mains would be carried in ducts or in inconspicuous positions and the heating of the rooms would be by the panel system with panels cast in the ceilings, or by means of radiators. Each panel or radiator would be under the control of the occupants of the room by means of a screw-down valve fixed in a convenient position. The system would be designed to maintain a comfortable temperature of 65° Fahr. A suitable hot water supply would be provided. The boiler house would be suitable for either solid fuel, oil or electric thermal storage. A chimney has been provided, but if electric thermal storage is decided upon this can be omitted. There is no doubt that in this district electric thermal storage is a reasonable proposition and if an economical system of heating is adopted, such as panels with magnetic valves and thermostatic control, it would offer many advantages without serious addition to the running cost.

VENTILATION.—Ventilation would be provided to the assembly rooms and other rooms where necessary, consisting of electrically driven extract fans for extracting the vitiated air and an inlet system in which air from the outside would be drawn into the rooms to replace the extraction, being warmed and filtered on the way by passing over batteries and filters.

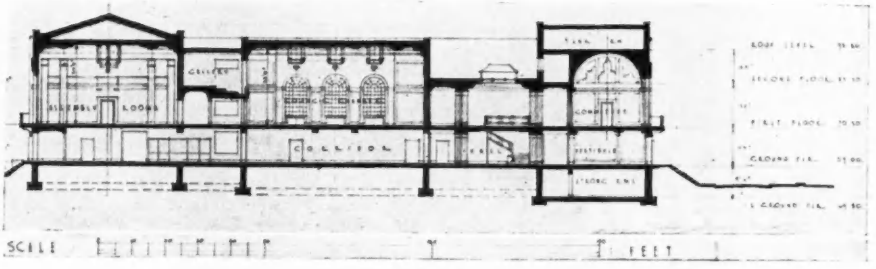
ACOUSTICS.—While the general form of the assembly rooms is acoustically appropriate, a certain proportion of the wall surfaces in these and the council chamber would be covered with acoustic plaster or other suitable sound absorbing material.

ACCOMMODATION.—Town Clerk's Department: The Registrar's and street trading sections are arranged on the ground floor so that use of the main entrance is avoided. Council Chamber and Ante Room: Accommodation provided for 80 members plus officers; also public gallery to seat 70 and accommodation for press. Suitable space is also provided for deputations waiting upon the council. Committee Rooms, 1, 2, 3: So planned that they are connected with folding doors. Room No. 2 seating 35 persons. Large assembly rooms and small assembly room: So planned that they are connected with folding doors. Refreshment Room and Servery: So planned as to be available for use with Council Chamber suite if and when necessary. Kitchen: The kitchen is so planned as to be available in connection with the staff dining-room, the members' refreshment room, and banquets that may be held in the committee or assembly rooms.

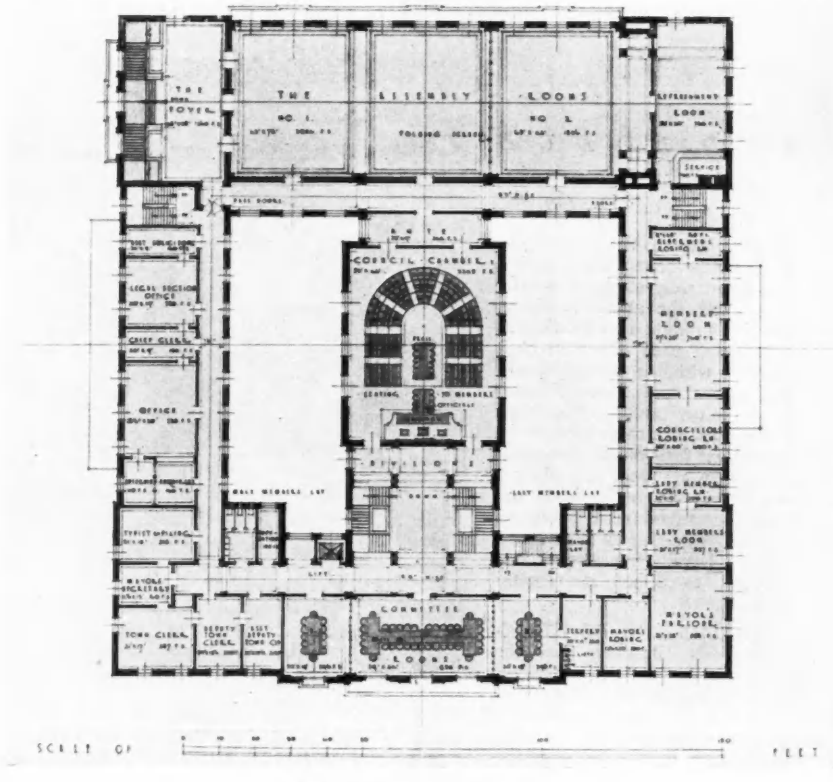
HACKNEY TOWN HALL



SECTION THROUGH ASSEMBLY ROOMS, ETC.



CROSS SECTION ON CENTRE LINE



FIRST FLOOR PLAN

BY LANCHESTER AND LODGE

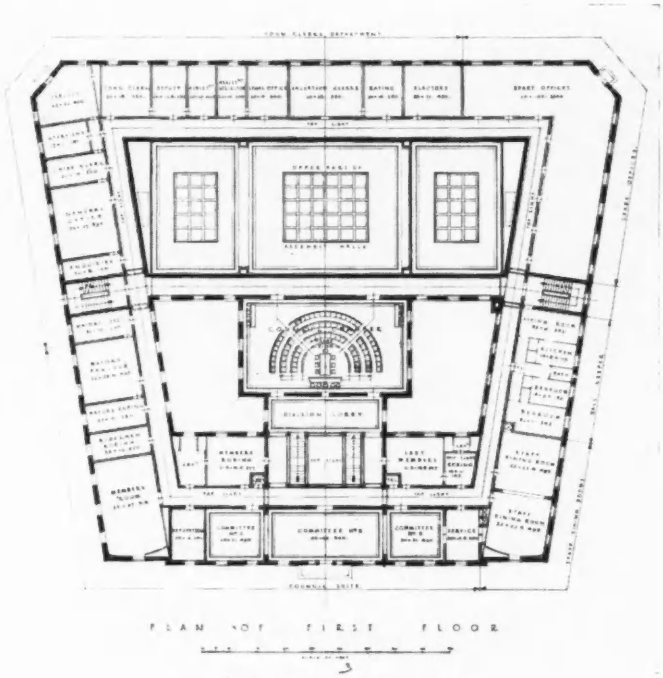
COMPETITION : THE PREMIATED DESIGNS

ELEVATION TO MARE STREET

ELEVATION TO READING LANE

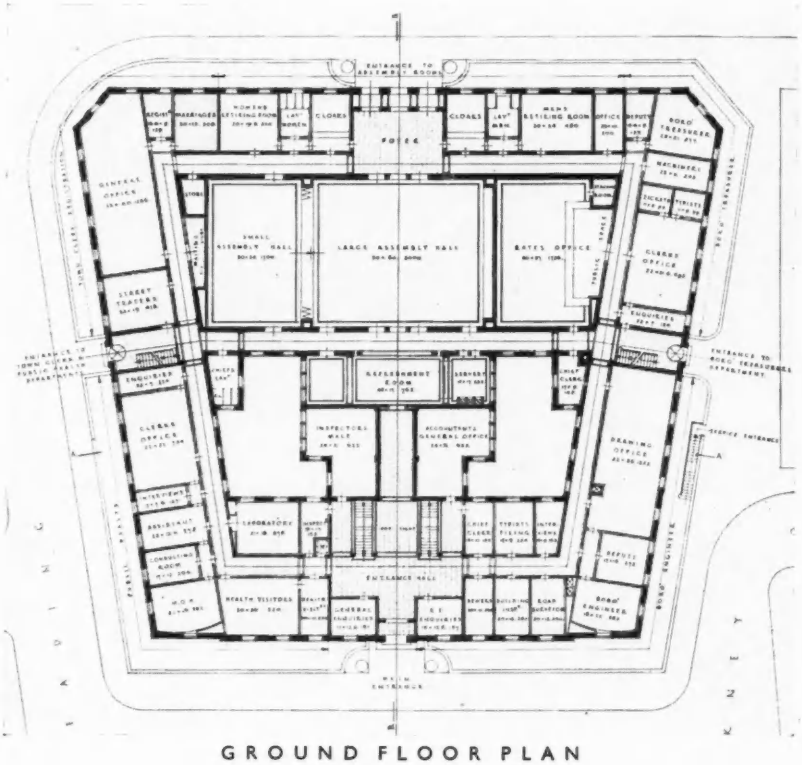
ELEVATION TO PASSAGE

ELEVATION TO NEW ROAD



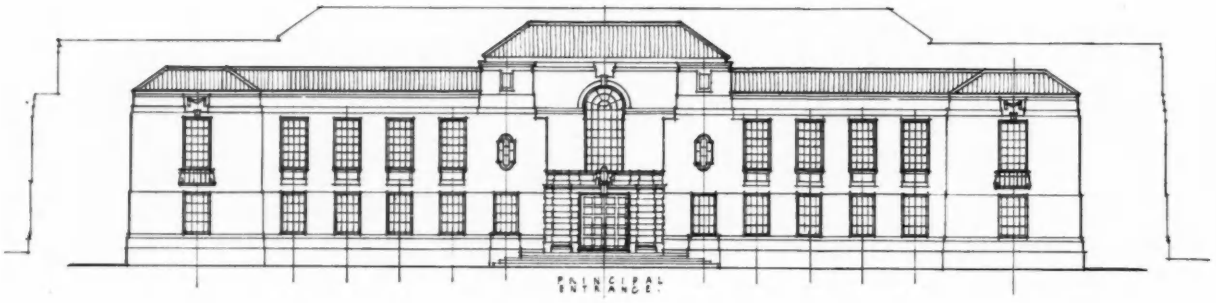
FIRST FLOOR PLAN

DESIGN PLACED SECOND: BY C. COWLES-VOYSEY

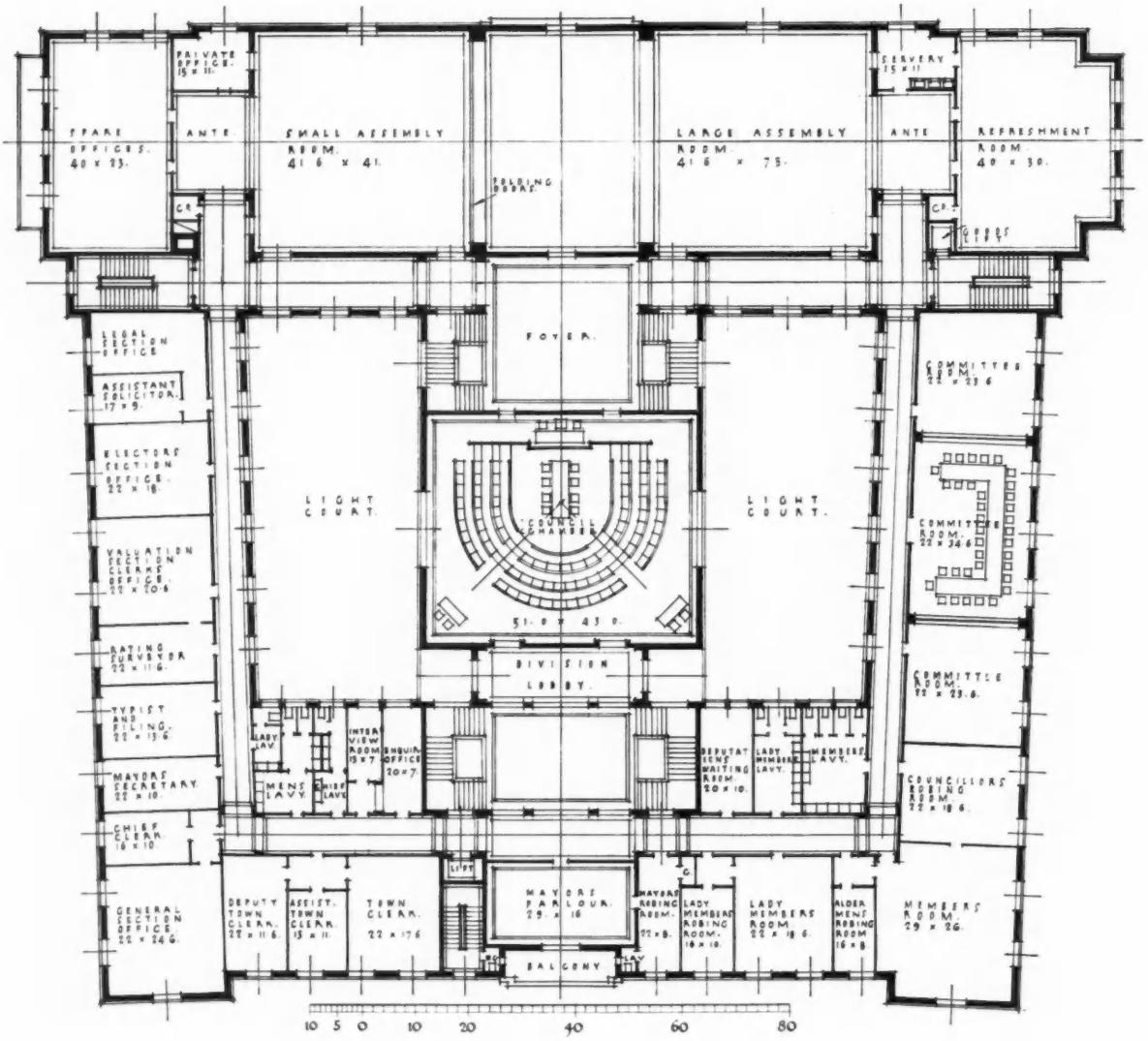


GROUND FLOOR PLAN

DESIGN PLACED THIRD: BY C. S. JOSEPH

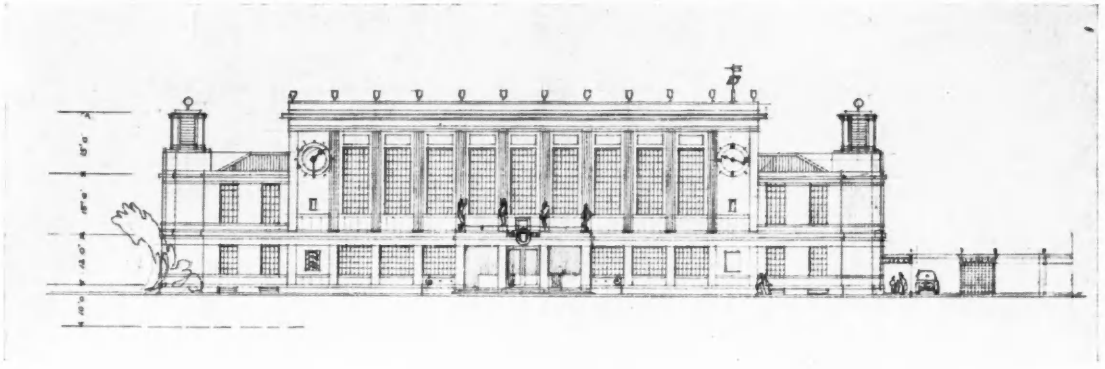


ELEVATION TO MARE STREET

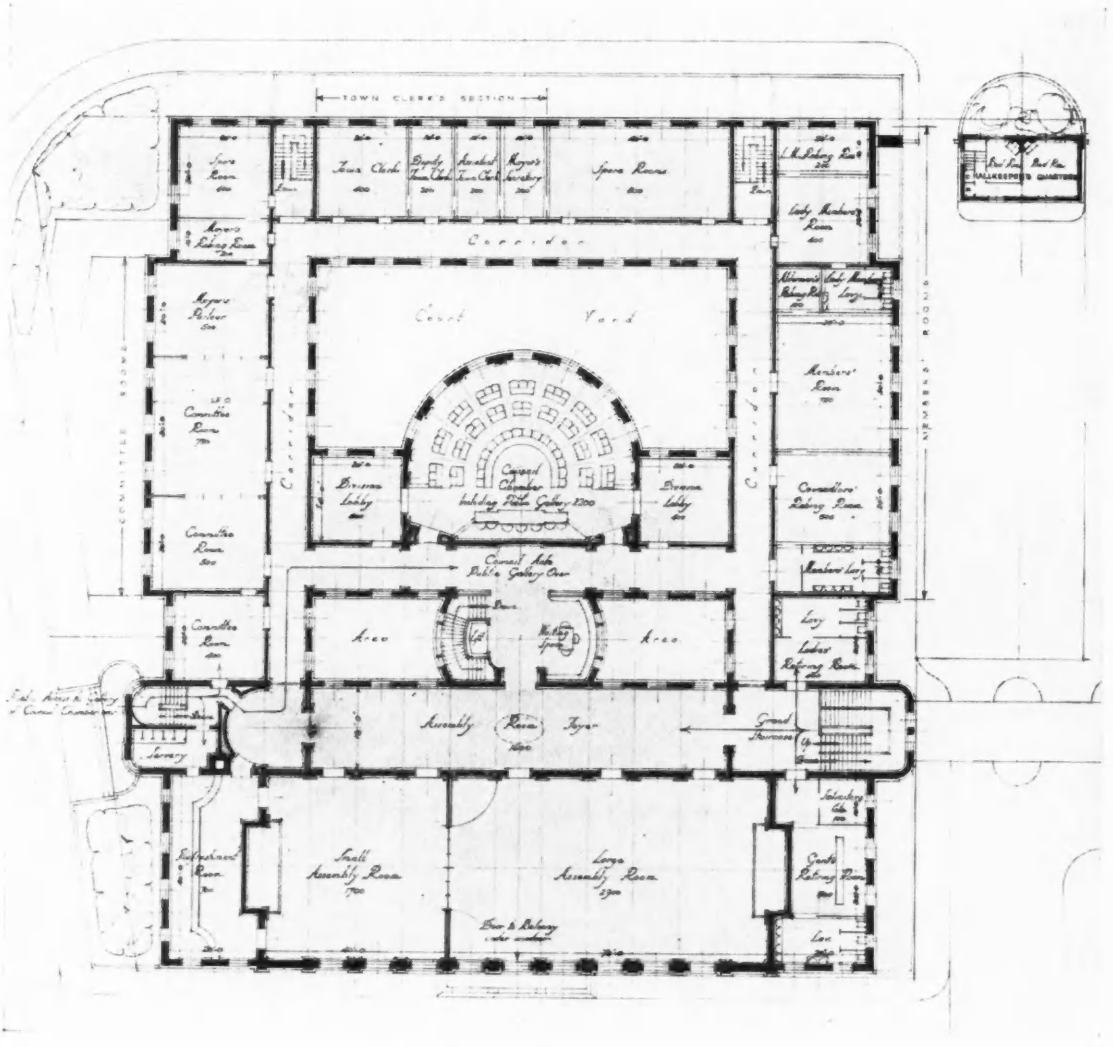


FIRST FLOOR PLAN

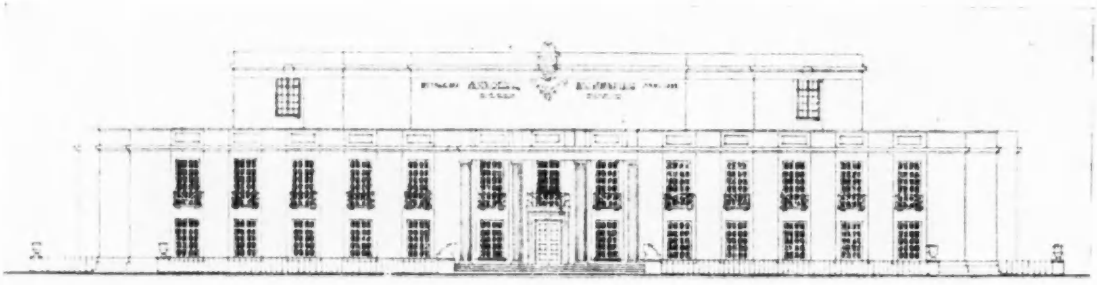
DESIGN SUBMITTED BY ROBERT ATKINSON



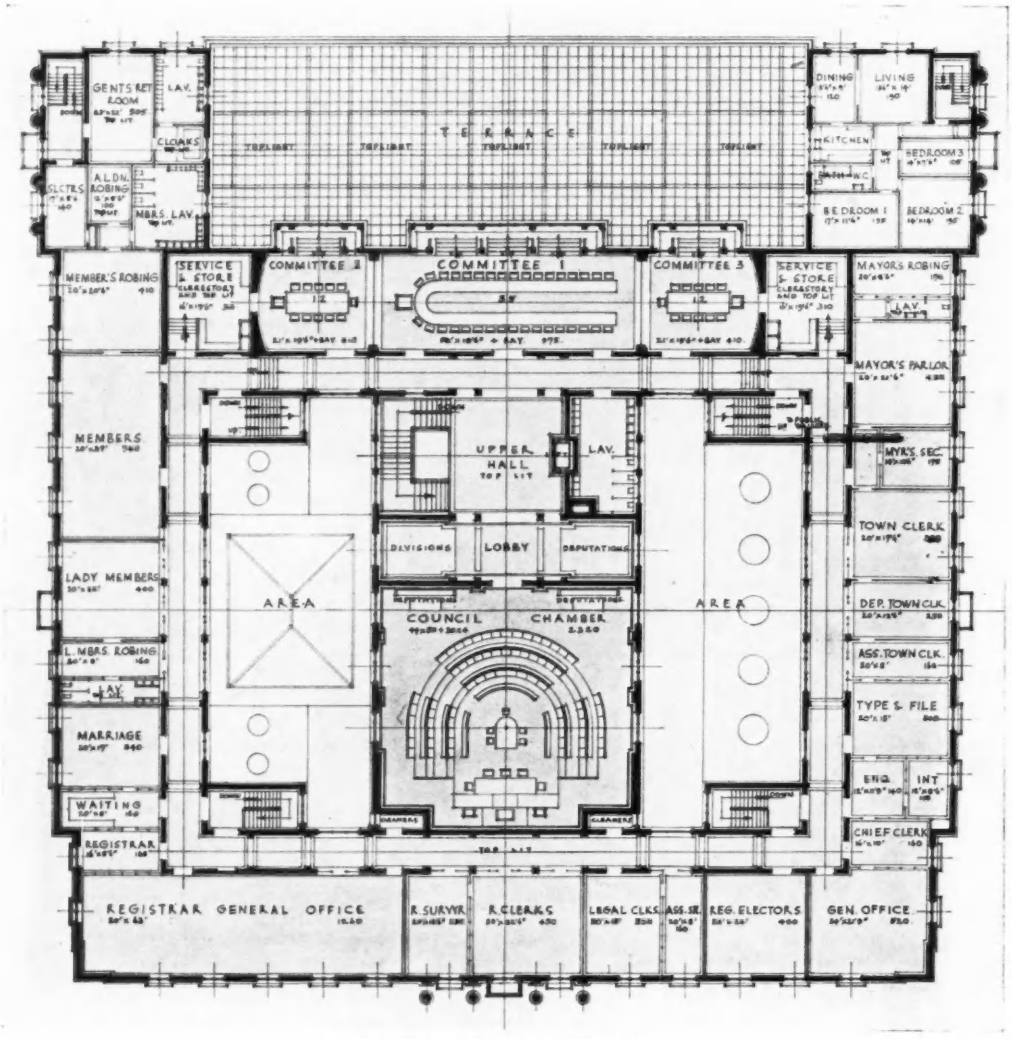
ELEVATION TO MARE STREET


TOWN CLERK'S SECTION
Court Yard
Corridor
Council Chamber
Assembly Room
Small Assembly Room
Large Assembly Room
Members' Room
Committee Room
Committee Room
Committee Room
Committee Room
Ladies' Retiring Room
Gents' Retiring Room
Grand Staircase
Lobby
Lobby
Lobby
Lobby
Area
Area
Library
Refreshment Room
Bar & Pantry
Lavatory
Lavatory
Lavatory

THE HACKNEY TOWN HALL COMPETITION



ELEVATION TO MARE STREET

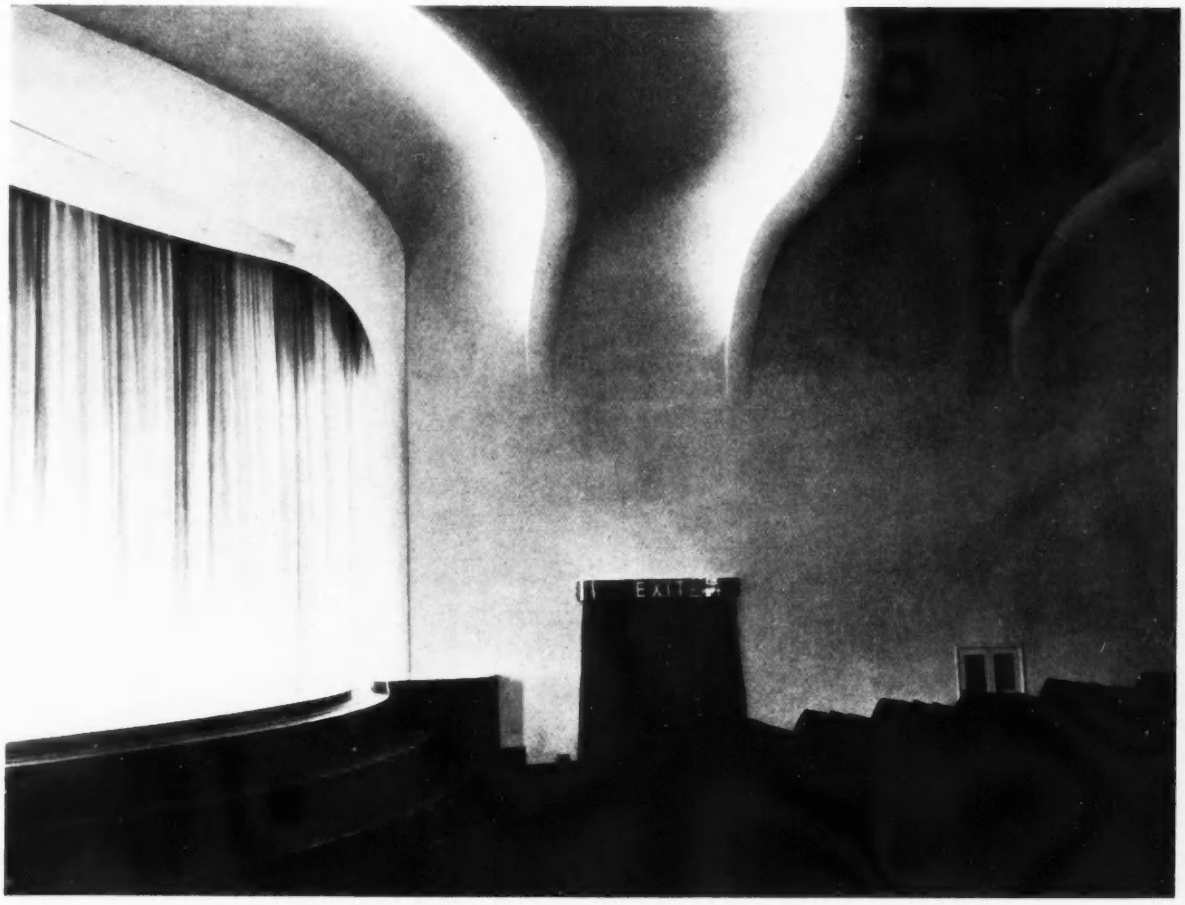


FIRST FLOOR PLAN

DESIGN SUBMITTED BY LOUIS DE SOISSONS

WORKING DETAILS : 13

AUDITORIUM CEILING • CINEMA, CURZON ST., LONDON • SIR JOHN BURNET, TAIT AND LORNE

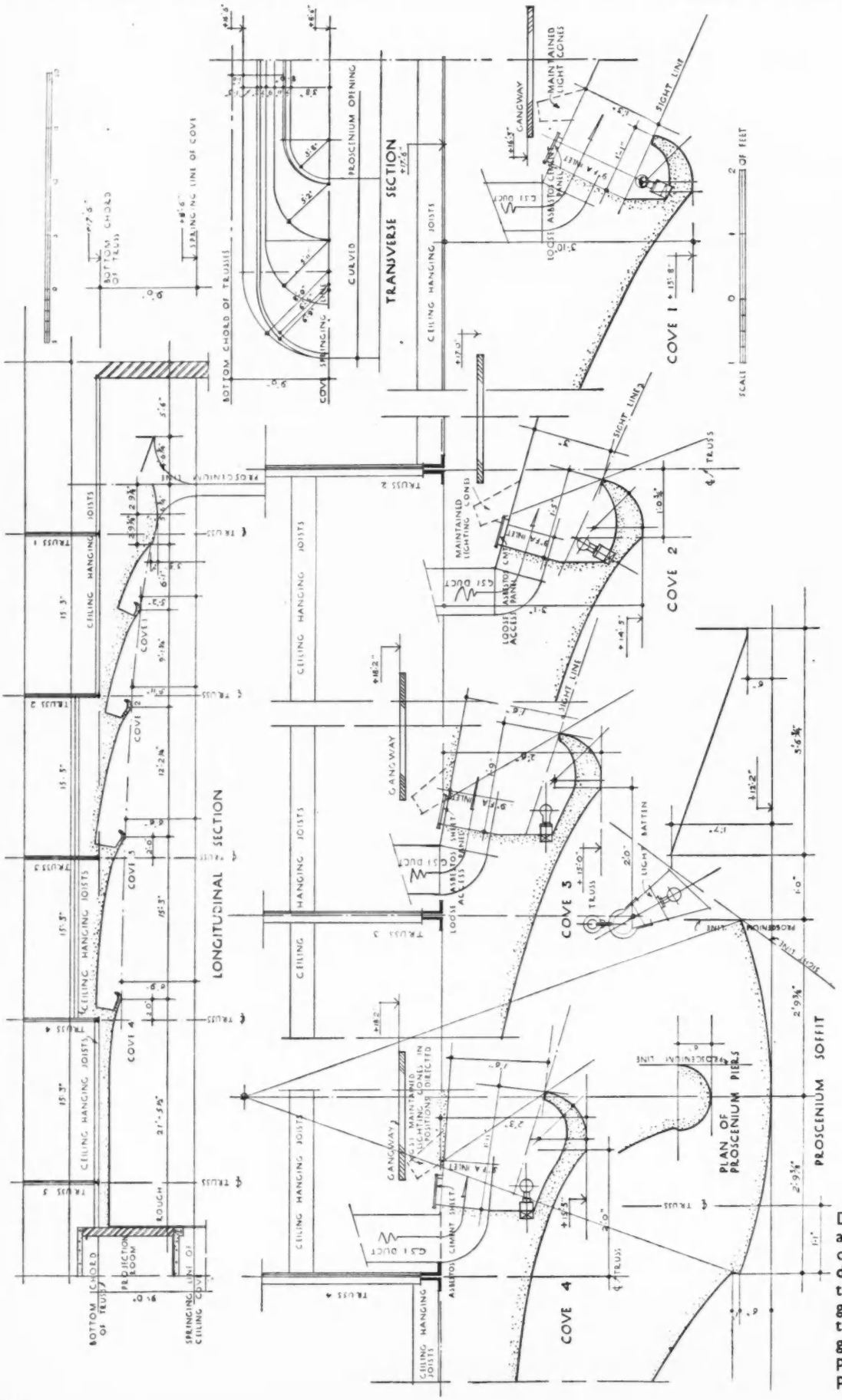


A general view of the auditorium, showing the lighting coves, sections of which are shown on the following page. Each cove has a three-colour system of red, blue and green 25-watt lamps, spaced at 4 in. centres, giving one lamp of each colour every foot run. The proscenium batten is fitted with 100-watt lamps at the same spacing, but with a four-colour system of red, blue, green and white. Each colour circuit is provided with the usual dimmer control, and there is also a master control for all colours; re-lamping is done through the loose asbestos sheet access panels which are reached from gangways suspended in the roof space. The maintained "morality" lighting, which remains on during the performance, giving a low-power illumination over the whole auditorium, is projected downwards from the ceiling coves, there being none of the usual wall fittings.

The datum line referred to in the drawings is at the level of the foyer floor, which is 2 ft. 10 in. above the finished floor of the stage.

WORKING DETAILS : 14

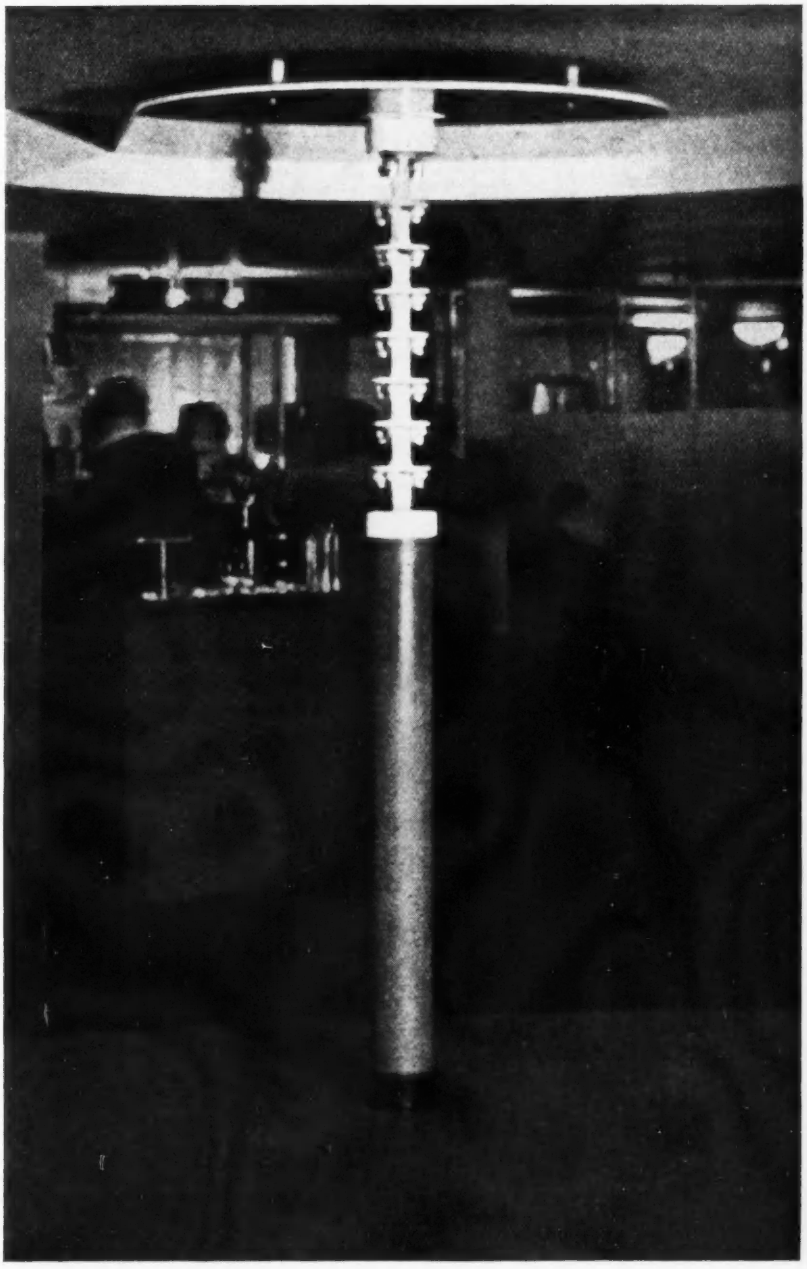
AUDITORIUM CEILING • CINEMA IN CURZON ST. LONDON • SIR JOHN BURNET, TAIT AND LORNE



Details of the auditorium ceiling. A description of the ceiling is given beneath the photograph on the preceding page.

WORKING DETAILS : 15

SIGNAL LIGHTING INDICATOR • RESTAURANT AT BROADCASTING HOUSE, LONDON • RAYMOND McGRATH

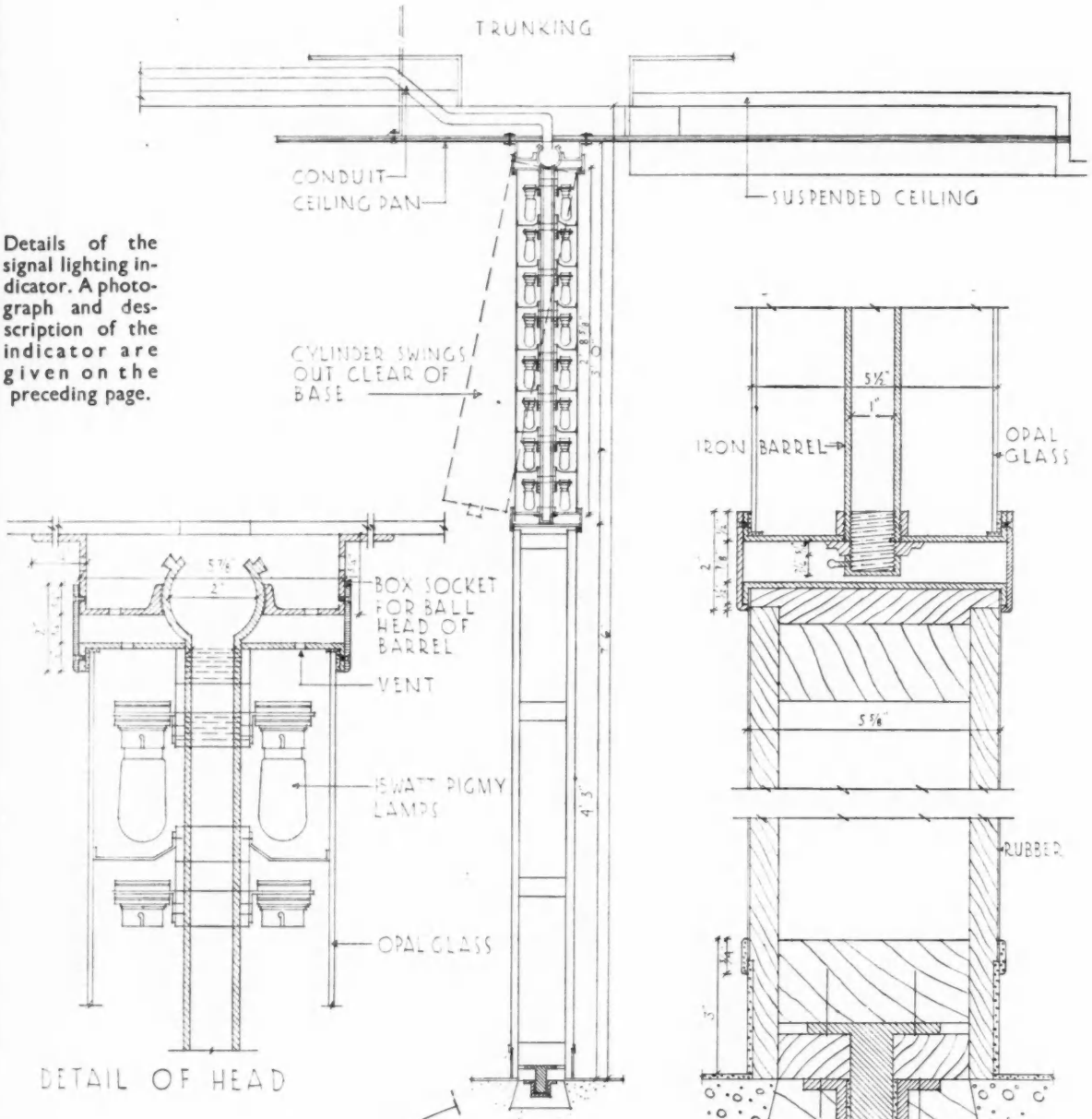


Details of the signal lighting indicator, of which a photograph is reproduced above, will be found overleaf. The lighting system is enclosed in opal glass cylinders in two columns in the centre of the Restaurant, and serves as a signal to warn the artists in which studios they are required.

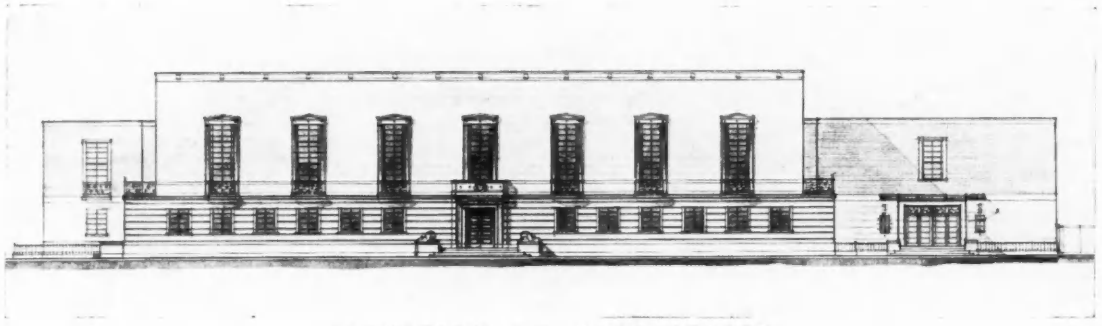
WORKING DETAILS : 16

SIGNAL LIGHTING INDICATOR ● RESTAURANT AT BROADCASTING HOUSE, LONDON ● RAYMOND McGRATH

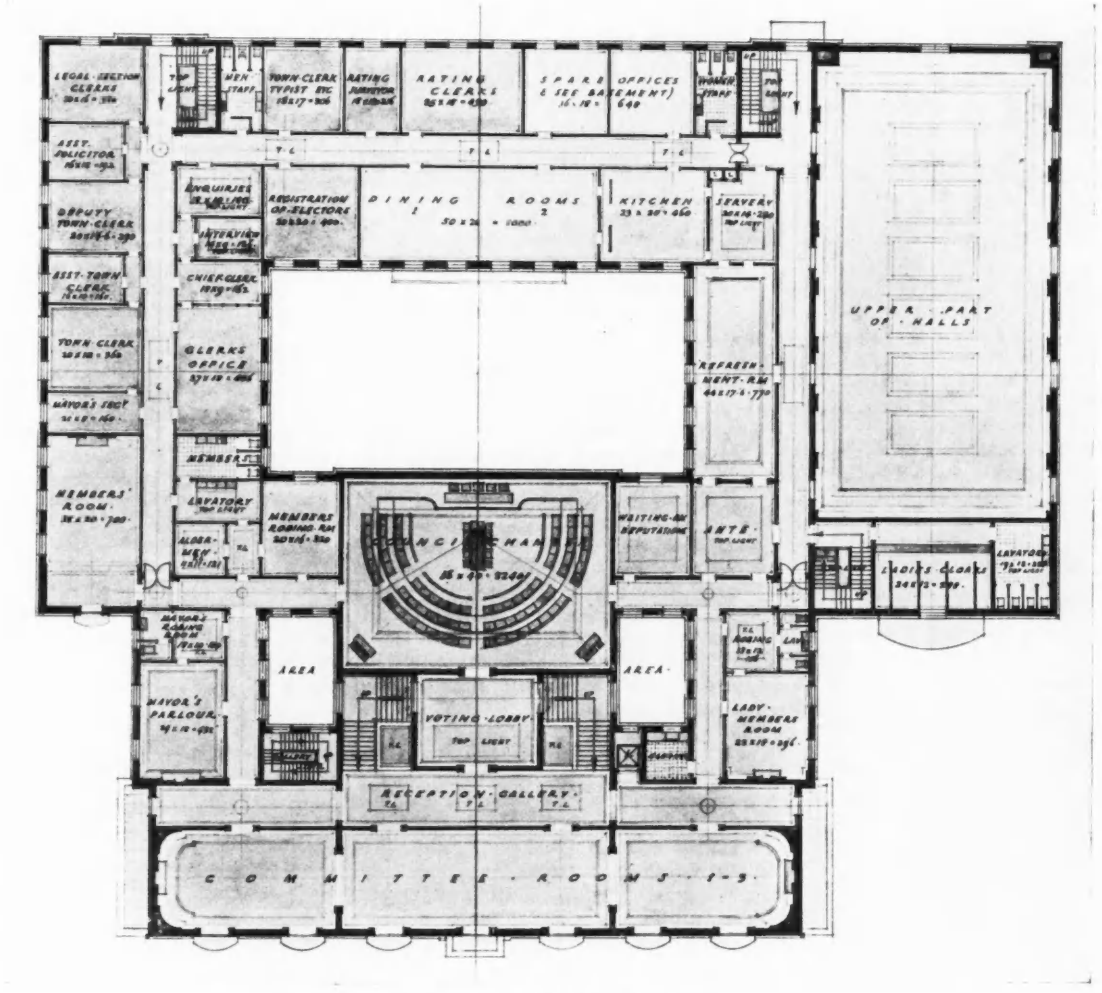
Details of the signal lighting indicator. A photograph and description of the indicator are given on the preceding page.



THE HACKNEY TOWN HALL COMPETITION



ELEVATION TO MARE STREET



FIRST FLOOR PLAN

DESIGN SUBMITTED BY C. H. JAMES AND S. ROWLAND PIERCE

LITERATURE

MODERNISMUS

[*By E. M. F.*]

Modernismus: A Study. By Sir Reginald Blomfield, R.A., F.R.I.B.A. London: Macmillan and Co., Ltd. Price 6s. net.

IT is not enough to say of Sir Reginald Blomfield's arguments that they are beside the point, for this book, all of it, is a confession of the author's inability to bring to the examination of his subject anything better than his most evident distaste for what offends him in contemporary art and architecture. It is not an attack upon vulgarity, which it might well be, but a defence of an approach to architecture based upon an emotional response to certain past styles.

"Chaos is King," says the author in quotation, "having abolished Zeus," and it is sure from what follows the preface that chaos represents everything from which no familiar emotional response is forthcoming and that Zeus is the author and his times.

With such a thesis how strange that the attack should be oblique. In chapter one a work of Mr. Manning Robertson's is traversed by a running fire of criticism in which is interspersed such remarks as this: "The most formidable claim of our young lions in architecture is that they are starting a new manner of their own. . . . They consider that the past has no meaning for them, and that all they have to do is to look to the present." What justification has Sir Reginald for such a remark considered apart from its intolerant disparagement? Did not the author himself, with others, start a manner of building new to his contemporaries, and, considered both structurally and historically, to the world of his or any other time? And who told him that young men no longer value the past, because they have ceased to borrow its outer appurtenances for the decoration of contemporary building? Not M. le Corbusier. Nor Herr Taut. Not M. Ozenfant, whose published works are one long reminder of the past. Nor any of the young English "lions," whose affection for the subtleties of Regency architecture, as for its sense of fine planning, has often been expressed, and lies to be discovered in their works when this shouting shall have abated somewhat.

I will join with the author in much of his analysis of Geoffrey Scott's *Architecture of Humanism*, even while I wonder that he should spare so much print for this object. The *Architecture of Humanism* in its constructive synthesis has little effect upon contemporary work, though most young men have read and enjoyed its brilliant passages, and thought a little more highly perhaps of Baroque art than formerly they did. But Geoffrey Scott is a by-way, more important by far than Mr. Sitwell, but none the less removed from the direct stream of thought.

But what do I know of the past who have relegated all past things, according to the author, to the dust-bin? My mind, he makes me to argue later in the book, being "empty of such knowledge will be all the more ready to accept any form that presents itself, good or bad, beautiful or ugly . . ." and my mind ". . . will have to be passive and receptive, waiting for the impress of purely external conditions." Again I ask the author, first, how he can imagine my mind empty of knowledge; second, why he should deprive me of all powers to select from good or bad forms presented; and, third, why a mind should not be both active and receptive? I ask these questions because I feel his arguments are not framed in reason but from a sense of frustration arising from his inability to respond to the emotions by which I and my contemporaries are stirred.

Why should I be an internationalist because I accept the structural outcome of materials in common use everywhere. As well call Wren an internationalist for casting eyes towards Paris and Rome. Wren, whose every work was personal and English. As well call the author himself an internationalist for his love of French classical architecture. The New Architecture is not "deliberately cosmopolitan," if by that is indicated a levelling trades unionism of ideas. In so far as it recognizes no boundaries for art and architecture its cosmopolitanism is a virtue which the author must applaud despite his prejudices.

I write here as an architect and leave out of account the charges which the author brings against every manifestation of advanced contemporary art in a series of chapters dealing with sculpture, painting and literature. Architecture, however, is his primary objective, and his main charge against us is that we have forgotten the past and thrown over traditions. I maintain in the face of much brilliant writing that neither this charge is in any way substantiated nor Sir Reginald Blomfield's term "tradition" properly defined. Reduced to essentials his tradition is a revival of the external face of early Georgian architecture on a steel frame, as witness Barker's shop and the Headrow, Leeds; while our tradition is the mental outlook of late Georgian architecture before its disintegration by nineteenth-century industrialism.

IN PARLIAMENT

[BY OUR SPECIAL REPRESENTATIVE]

Town and Country Planning Act

Mr. Mander asked the Minister of Health if he had now appointed an advisory committee in connection with the operation of the Town and Country Planning Act, 1932; and if he would state the terms of reference and the names of members.

Mr. Shakespeare, who replied, said that the arrangements for the appointment of the Committee were nearly complete and the names of the members would be announced shortly. The terms of reference were: "To consider general questions relating to the administration of town and country planning in England and Wales, and any other related matters which may from time to time be referred by the Minister of Health to the Committee, and, as occasion may require, to make recommendations to him."

Mr. Hall-Caine inquired how many local authorities had taken action under the Town and Country Planning Act with regard to the erection and control of petrol pumps and advertisement hoardings.

Mr. Shakespeare said that forty-five resolutions to prepare schemes had been approved by the Minister under the Act. Local authorities might be expected to include in these and in other schemes now in course of preparation provisions for controlling the erection and use of petrol pumps and advertisement hoardings, and it was probable that, pending the coming into operation of the schemes, the authorities were taking action to regulate the erection and use of these structures as and when applications were made for permission to provide them.

THE BUILDINGS ILLUSTRATED

Sub-Contractors' List

Following are the names of the general contractors and some of the sub-contractors for the buildings illustrated in this issue.

Curzon Cinema (pages 340, 347-350, 363-364). General contractors, Holland & Hannen and Cubitts, Ltd. Sub-contractors: Dorman Long & Co., Ltd., steel roof trusses and purlins; Crittall Manufacturing Co., metal windows and doors; Matthew Hall & Co., (a) heating and ventilation; (b) internal plumbing, cold water services, rain water and drainage work; Brookes, Ltd., cast stone; Troughton and Young, electrical work and intercommunicating telephones and clock wiring; British Reinforced Concrete Engineering Co., Ltd., reinforced concrete work; Joseph Chater, plumbing fixtures; F. A. Norris, iron staircases; The Nautilus Fire Co., Ltd., concrete flues; Frank Burkitt, Ltd., lantern lights and sky lights; Fenning & Co., Ltd., Belgian black marble to entrance; Clark and Fenn, Ltd.,

plastering and acoustic work ; Yannedis & Co., ironmongery ; J. M. Pirie & Co. (London), Ltd., special metal work ; Turners Asbestos Cement Co., Everite boundary wall gutters, Trafford tile roof ; Charles Bluff, metal grilles, handrails, etc. ; Dennison Kett & Co., roller shutter ; J. A. King & Co., Ltd., glas-crete windows ; Maple & Co., neon sign ; R.C.A., projection equipment.

Restaurant at Broadcasting House (pages 352-353). General contractors, Trollope and Sons. Sub-contractors : General Electric Co., Ltd., electric lighting fittings ; North British Rubber Co., rubber paving ; Pilkington Bros., Armourplate glass ; Carrier Engineering Co., ventilation ; Synchronome Co., Ltd., clock ; Sandersons, wallcovering ; Docker Brothers, paint ; Comyn Ching & Co. (London), Ltd., stainless steel service rails ; Marblate, ventilation baffles ; Shanks, drinking fountain.

Epsom Town Hall (pages 354-355). General contractors, Norris & Co. (Builders), Ltd. Consulting engineer for reinforced concrete, Harold Cane. Sub-contractors : Caxton Floors, Ltd., hollow tile floors and flat roofs ; Archibald D. Dawnay and Sons, Ltd., steel roof trusses ; Diespeker & Co., Ltd., terrazzo floors, etc. ; Empire Stone Co., reconstructed stone columns and balcony ; James Gibbons, Ltd., ironmongery ; John Gill Contractors, Ltd., steel piling ; J. W. Gray and Son, steel flagmast ; General Constructional and Engineering Co., Ltd., wrot iron railings, staircases and balustrading ; P. C. Henderson, Ltd., folding door gear ; May Acoustics, Ltd., acoustic material ; General Electric Co., Ltd., and Merchant Adventurers Co., electric light fittings ; H. Pengilly, of Epsom, electrical work ; Rubery Owen & Co., steel shelving ; Stevens and Adams, Ltd., wood block floors ; Siemens Bros. & Co., Ltd., internal telephones ; Synchronome Co., Ltd., electric clocks ; Shanks & Co., Ltd., sanitary fittings ; Stoner and Saunders, rain water heads ; John Tann, Ltd., strongroom doors and steel partitions ; Thomas and Wilson, fibrous plaster ; Williamson Cliff, Ltd., facing bricks ; Waring and Gillow, Ltd., furniture, fittings and furnishings ; Young, Austen and Young, heating and ventilation ; Carter & Co., Ltd., wall tiling and floor tiling ; Rhodes Chains, Ltd., sash chains ; Kendell's Paving Co., Ltd., granolithic work ; Damer Bros., Ltd., stonework ; The Non-Slip Stone Co., artificial stone paving.

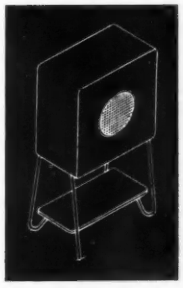
Manufacturers' Items

In a recent broadcast under the title "The British West Indies," Sir Algernon Aspinall, Secretary to the College of Tropical Agriculture, mentioned the fact that Pitch Lake, in Trinidad, B.W.I. (from which the only Empire asphalt is obtainable), was discovered by Sir Walter Raleigh in 1595. He went on to say that "when you cross the roadway of the Victoria Embankment or Westminster Bridge, you are actually walking, or running, on Trinidad asphalt laid 28 years ago, and as good today as it was then." Sir Algernon, we think, could have gone further and claimed that Trinidad Lake asphalt has been associated in road and building construction for more than 60 years.

As regards its use in general, we understand that Trinidad Lake asphalt can be obtained at the shortest notice from stocks which are available in all the principal ports and cities in the country.

*

We regret that the name of Messrs. Kerner-Greenwood and Co., Ltd., was inadvertently omitted from the list of sub-contractors for the Control Tower, Manchester Airport, illustrated in our last issue. The firm's "Pudlo" Brand waterproofer was used in the concrete observation balconies and also for waterproofing the sand and cement undercoats of the interior plastering to the solid outer walls below the level of the balconies.



TRADE NOTES

[*BY F. R. S. YORKE, A.R.I.B.A.*]

Basic Furniture Designs

IT is only recently that we have been able to find, in this country, ready-made simple furniture suited to modern interiors. Two years ago it was almost unobtainable. Then a few manufacturers woke up to the fact that there was an increasing demand for it, and several times during the past year I have been able to reproduce, in "Trade Notes," illustrations of standardized unit furniture, of good design, suited to modern needs. That such furniture is popular among architects is apparent from the fact that I have, in every case, received several letters asking for further particulars, prices, and so on.

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Now Cohen and Sons, who are well known as pioneers in the production of modern furniture, have come to swell the ranks of those who produce simple standardized units. They issue a design sheet illustrating twenty-five Basic Furniture Designs, and from these the types shown on this and the next page are reproduced. The sheet, together with a price list, will be forwarded to architects who apply to the manufacturers.

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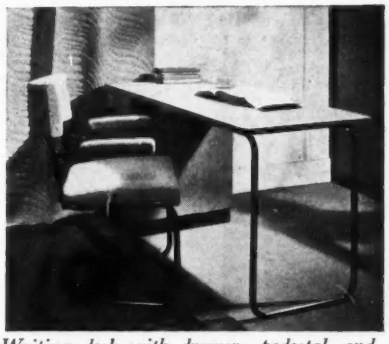
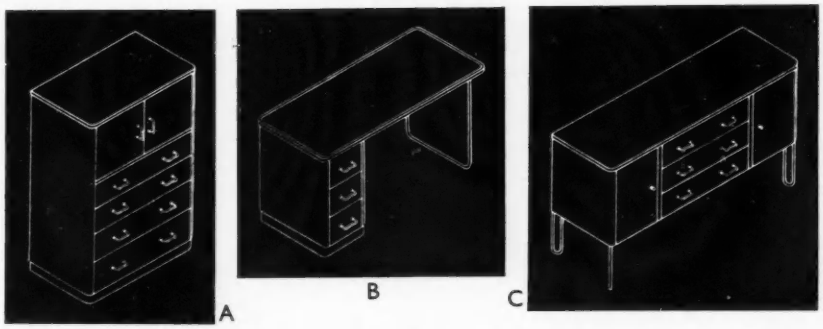
The tubular steel frames, handles and metal parts generally, can be oxidized and lacquered in black, copper bronze, brown bronze and steel bronze finishes. Silver finishes, chromium and nickel plating are extra. Wooden stools can be substituted for metal under-frames in all cases at a lower cost. The pieces are priced, according to the veneer with which they are

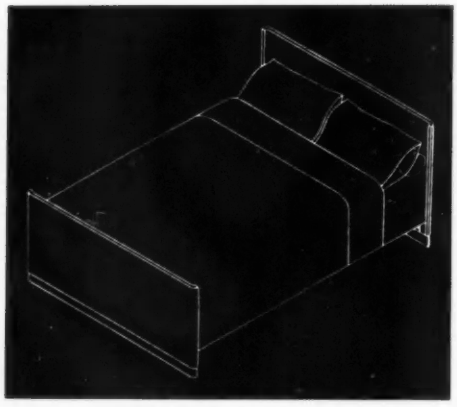


Writing desk with drawer—pedestal and steel under-frame, and tubular steel chair.

finished, in two classes. In class 1 : Honduras mahogany, striped French walnut, Australian walnut, white mahogany, figured birch, figured teak, English, Australian and Austrian oak ; In class 2 : African cherry, peartree, Pacific maple, Natal rosewood, white sycamore, weathered sycamore, Indian silver greywood, Indian laurel,



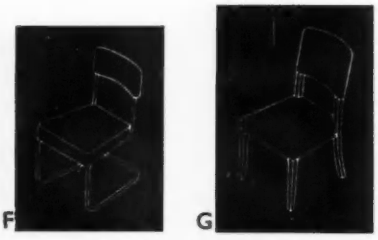
A: *Chest of drawers and cupboard.* B: *Writing desk with inlaid Ruboleum, Cellulin, or other composition top ; obtainable also with two pedestals.* C: *Sideboard ; with drawer divided and lined for cutlery in left-hand cupboard, shelf in right.*



D: *Bed; 4 ft. 6 in. or 3 ft. wide.* E: *Two-door wardrobe, with rod for hanging, and rail for shoes.*

Padouk and red birch. Types under (2) are approximately 10 per cent. more expensive than those under (1). Prices for units shown on these pages are :

	£	s.	d.		£	s.	d.		£	s.	d.
A1 :	11	10	0	C1 :	14	10	0	E1 :	13	10	0
A2 :	12	13	6	C2 :	16	0	0	E2 :	14	7	6
B1 :	10	10	0	D1 :	6	0	0	F :	1	16	6
B2 :	13	0	0	D2 :	6	12	6	G :	2	0	0
				(4 ft. 6 ins. wide)							



F: *Chair with tubular steel frame.*
G: *Chair with wood frame.*

Glass

I was fortunate recently in being present at a private view of a film, produced by Pilkington's, that is to form the background for lectures on glass production. I understand the film is to be shown to architects in London in the spring.

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Manufacturing processes are shown clearly, and in detail, and one is able to judge to some extent the limitations of the material. So besides promoting "glass mindedness," the film should serve as propaganda for intelligent design in the material. It shows the several methods by which glass is made at the present time—blowing, rolling, grinding and polishing, rolling with patterned rollers to produce a patterned surface, and the drawn-process by which sheet glass is now produced. Sheet glass for general purposes, produced originally by blowing and spinning the glass into discs, i.e., the Crown Glass process, is now made by drawing the sheet directly from the molten metal in the furnace. Plate glass is made by grinding and polishing rolled glass.

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Blowing, as a method for producing window glass, is obsolete, but the old Crown Glass process persists, because there is still a demand for the "bulls" formed where the blow-pipe meets the metal. These "bulls" are, of course, almost useless, obscuring visibility and admitting little light, and were used in earlier times by cottagers who could not afford to glaze their windows with the better quality glass. But by virtue of their associations and "antique" appearance, they have, for some people, a sentimental value, and are, it seems, demanded in sufficient numbers by the builders of pseudo-Tudor villas, to keep a number of blowers busy.

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Crown Glass became obsolete when it was found that sheet glass could be made more economically and in larger pieces, by blowing cylinders, cutting them longitudinally, and flattening them with moist wood rubbers in heated ovens. This method is used now for "flashed" glass, but sheet for glazing purposes is drawn direct from the molten metal in the furnace.

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Until a short time ago, the glass was drawn in the form of cylinders, about three feet in diameter and forty feet long, and these were cut into sections and flattened into sheets whilst hot and malleable : but in 1932 the Pittsburgh method, by which sheet is drawn flat, was introduced into this country.

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The production of clear sheet depends upon the glass surface remaining untouched until it is relatively cool ; and for this reason clear glass cannot be produced by rolling, since the glass surfaces are spoiled by contact with the roller and the table whilst in a semi-liquid condition. By the Pittsburgh method, for drawing continuous glass sheet, a dipper is immersed in the metal in the furnace and drawn upwards, with glass in a soft state adhering to it. The glass is immediately cooled, to prevent its sticking to the rollers, and to give it stability. It then passes through a series of rollers, enclosed to form an annealing chamber, and eventually emerges at a platform under the roof of the building (see illustration), where it is automatically cut, by contact with electrically-heated copper wires, into standard-size sheets.

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Once the dipping rod has ascended, the operation is continuous ; the sheets are 90 to 100 inches wide, and machines in this country have drawn, continuously, as much as 70 miles of glass without a break.

Drawn-sheet process. Glass, drawn vertically from the furnace, emerges eventually at a high-level platform. Here it is automatically cut, by contact with electrically heated copper wires, into standard-size sheets. The illustration shows such a sheet being removed for stacking.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILE RADIUS)

BATTERSEA. *Filtration Plant.* The B.C. has obtained sanction to borrow £7,468 for the provision of filtration plant at the Latchmere Road swimming baths.

BATTERSEA. *Flats.* The B.C. Housing Committee has considered the programme for improving houses in the borough, now that the St. John's estate is completed. It has decided to deal with a large area in Nine Elms—involving 155 houses or thereabout—accommodating approximately 200 families. It became necessary to consider what re-housing could be provided on the site, and it has had submitted alternative sketch plans showing accommodation of 266 flats in five-storey blocks, or 504 flats in 10-storey blocks. The Committee is of opinion that the Sheepcote Lane area should definitely be dealt with either before or after the Nine Elms area. It suggests that the whole area should be dealt with—consisting of 84 houses accommodating 134 families, and agreed on a proposed development estimated to provide 140 flats in five-storey blocks.

ENFIELD. *Houses.* The U.D.C. is considering a letter from Padnall Estates, Ltd., enquiring on behalf of the Reynolds Development Co. whether the Council would co-operate in the erection of some 300 houses on 25 acres of land at Freezywater. The company stated it was erecting 100 to 120 parlour type houses to let, for which it would undertake financial responsibility, but asked whether the Council, in conjunction with the Ministry of Health, would guarantee the building society in regard to the remaining 180 houses.

HACKNEY. *Flats.* The L.C.C. has passed plans by Sir John Burnet, Tait and Lorne for 10 blocks of flats in Amhurst Road.

LAMBETH. *Housing.* The L.C.C. has prepared plans for the reconstruction of the Tyers Street area, providing for the rehousing of 2,411 persons at a total cost of £303,000. The clearance of the first section will be made possible by the erection of dwellings in Vassall Road, Brixton.

TOOTING. *Hospital Extension.* The L.C.C. is to erect a new isolation block and provide additional accommodation for staff at Grove Hospital, at a cost of £27,874.

WESTMINSTER. *Flats.* The City Council is to erect flats at the Ebury Bridge estate, at a cost of £180,200.

SOUTH-WESTERN COUNTIES

CHELTENHAM. *Housing.* The Corporation Housing Committee is negotiating for a site of about 10 acres adjoining the Ark gardens, for housing purposes.

PLYMOUTH. *Houses and Bungalows.* Plans passed by the Corporation: Two houses, Little Ash estate, for Mr. E. G. Furbey; four houses, Culme Road, for Messrs. T. Doney and Son; six houses, Culme Road, for Mr. J. Rendle; seven houses, Ridge Park Avenue, for Messrs. Penwill and Roberts; 10 houses, East Park Avenue, for Mr. J. Thomas; eight houses, Penros Road, for Mr. C. Cope; four houses, Cresthill estate, for Mr. F. Westcott; development, Little Ash estate, for Mr. F. J. Northcott; 14 bungalows, off Vicarage Road, for Mr. W. V. Andrews; two bungalows, Edgcombe Park estate, for Mr. A. Manning; two bungalows, Edgcombe Park estate, for Mr. E. J. Manning; shop and house, James Street, for Mr. S. S. Stedman.

SOUTHERN COUNTIES

BRIGHTON. *Assembly Hall.* The Education Committee is to erect an assembly hall at the Training College at a cost of £11,800.

BRIGHTON. *Estate Development.* The Corporation has approved plans submitted by Mr. G. W. Warr on behalf of Messrs. Braybons, Ltd., for the completion of the development of the Withdean Nursery estate, Withdean.

FARNBOROUGH. *Hospital Accommodation.* The Kent C.C. has approved an expenditure not exceeding £59,300 for the provision of additional hospital accommodation, and the extension of the Nurses' Home, at the Farnborough Hospital.

WORTHING. *Recreation Ground.* In connection with the development of Goring Hall estate, by Messrs. Duncan B. Gray and Partners, Ltd., the Corporation has decided to purchase land at a cost of £18,000, for recreation ground purposes.

WORTHING. *Cinema.* Plans have been submitted to the Corporation by Mr. F. C. Mitchell on behalf of Universal Estates, Ltd., for a cinema and tea lounges, proposed to be erected on the site of a disused theatre, drill hall and shop in Bath Place.

MIDLAND COUNTIES

BIRMINGHAM. *Chapels.* The Corporation is to erect chapels in the Yardley and Quinton cemeteries at a cost of £14,000.

BIRMINGHAM. *Houses.* The Corporation has made arrangements for the erection of houses by local builders and is to proceed with various estate developments. The Corporation accordingly proposes to undertake road and sewer works at the Mill Pool estate at a cost of £62,196, to provide for the erection of 1,380 houses, at Kettlehouse Farm estate, where 906 houses are to be erected, at a cost of £57,000, and at Quinton, where 2,040 houses will be built, at a cost of £135,000.

The Corporation has agreed to provide sewerage at the Lindsworth Hall Farm estate, King's Norton, at a cost of £8,600. The estate owners propose the erection of 700 houses.

SUTTON COLDFIELD. *Houses.* Plans passed by the Corporation: Six houses, Bedford Road, for Mr. R. Winter; six houses, Chester Road, for Messrs. F. and H. Judd; two houses, Chester Road, for Mr. A. Robinson; 20 houses, Lakehouse Road, for Mr. S. Spollon.

WOLVERHAMPTON. *Shops, Flats and Houses.* Plans passed by the Corporation: Eight shops and flats, Bushbury Lane, for Mr. A. J. Fieldhouse; six houses, Stafford Road, for Mr. G. H. Guest; two bungalows, Coventry Street, for Mr. J. G. Farmer; two houses, Rupert Street, for Messrs. Russell and Roberts; two houses, Penn Court estate, for Messrs. Shutt Bros.; four houses, off Finchfield Lane, for Messrs. Denning and Jones; two houses, off Trysull Road, for Mr. L. V. Andrews; nine houses, Chetwynd Road, for Messrs. E. Leach & Co.; 11 houses, Caledonia Place, for Messrs. Blackburn and Crossland; shops, Newbridge Crescent and Tettenhall Road, for Mr. G. H. T. Robinson; two houses, Rupert Street, for Messrs. A. Jenks and Son.

NORTHERN COUNTIES

BOLTON. *Houses.* Plans passed by the Corporation: 16 houses, Hazelwood Road, for Messrs. Leigh Bros.; two houses, Lakeside Avenue, for Mr. J. S. Williams; two houses, Crompton Way, for Mr. J. Archer; 24 houses, Crompton Fold estate, for Messrs. W. Gornall and Sons, Ltd.; six houses, Longfield Road, for Mr. Frank Holmes; 14 houses, Southgrove Avenue, for Messrs. Price and Groves; eight houses, Andrew Lane, for Messrs. F. and H. Douglas; seven houses, Belmont Road, for Mr. W. Crank; eight houses, Ashworth Lane, for Mr. L. Gibson.

MORECAMBE. *Houses.* Plans passed by the Corporation: 10 houses, Acre Moss Lane, for Mr. M. Naylor; 10 houses, Limes Avenue, for Mr. W. Smith; two houses, Hest Bank Road, for Mr. T. A. Baxter; two houses, Heysham Road, for Mr. E. Ramsden; four houses, Cranbrook Road, for Mr. E. Mitchell; two houses, Encliffe Road, for Mr. E. Elkin; two houses, Ridge Avenue, for Mr. S. G. Oldham; 16 houses, Charles Street, for Messrs. Brook and Kershaw; two houses, Victoria Parade, for Mr. T. Pickles; estate development near Broadway, for Messrs. Harrison and Moore.

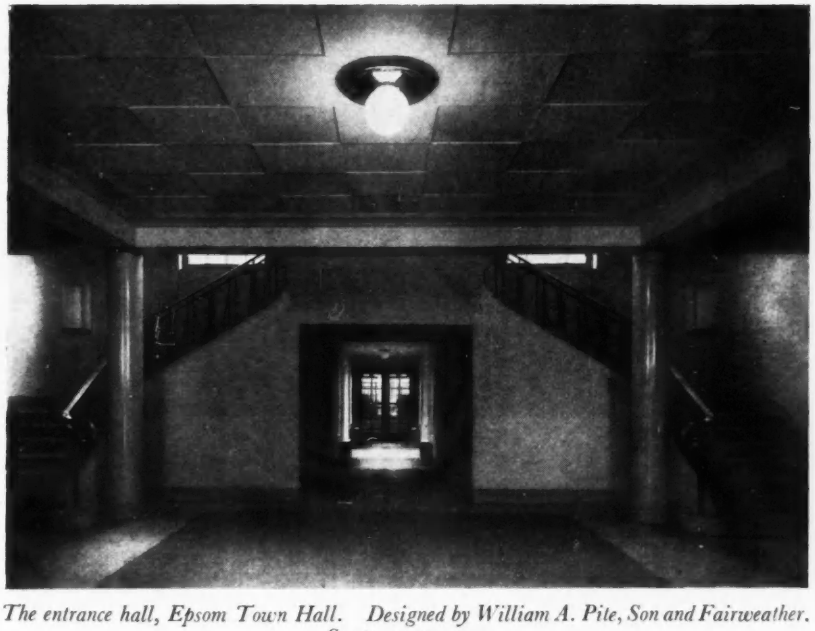
SOUTHPORT. *Houses and Shops.* Plans passed by the Corporation: Three shops and houses, Gordon Street, for Mr. J. Carr; nine houses, Queen's Road, for Mr. A. A. Lloyd; two shops, Seabank Road, for Mr. J. S. Simpson; three shops, Station Road, Ainsdale, for Mrs. A. Todd.

SCOTLAND

GLASGOW. *Housing Accommodation.* The Corporation Assistance Committee recommends that Crookston House be utilized to provide residential accommodation for aged poor, and that alterations necessary to provide accommodation therefore be carried through at an estimated cost of £10,000, plus a sum of £12,000 in respect of general repairs to the fabric.

WALES

SWANSEA. *Swimming Bath.* The Corporation Parks Committee has approved an estimate of Messrs. Mouchel and Partners, amounting to £29,606, for the construction of an open-air swimming bath on the foreshore at a point between the slip and Swansea Bay station.



The entrance hall, Epsom Town Hall. Designed by William A. Pite, Son and Fairweather. *See pages 354-355.*

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I s. d.	II s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A_1	Abergavenny ..	S Wales & M.	1 5	1 0½
A_2	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1½
A_2	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1½
A	Airdrie ..	Scotland	*1 5½	1 1½
C	Aldeburgh ..	E. Counties	1 1½	10½
A	Altrincham ..	N.W. Counties	1 5½	1 1½
B_2	Appleby ..	N.W. Counties	1 2	10½
A	Ashton-under-Lyne ..	N.W. Counties	1 5½	1 1½
A_2	Atherstone ..	Mid. Counties	1 4	1 0
B_2	Aylesbury ..	S. Counties	1 2½	11
B_1	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_2	Barnard Castle ..	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1½
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow ..	N.W. Counties	1 5½	1 1½
A	Barry ..	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke ..	S.W. Counties	1 3	11½
A_2	Bath	S.W. Counties	1 4½	1 0½
A	Batley ..	Yorkshire	1 5½	1 1½
A_2	Bedford ..	E. Counties	1 4½	1 0½
A_2	Berwick-on-Tweed ..	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_2	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	*1 7	1 2½
A	Birmingham ..	Mid. Counties	1 5½	1 1½
A_1	Bishop Auckland ..	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1½
A	Blackpool ..	N.W. Counties	1 5½	1 1½
A	Blyth ..	N.E. Coast	1 5½	1 1½
B_1	Bognor ..	S. Counties	1 3	11½
A	Bolton ..	N.W. Counties	1 5½	1 1½
A_2	Boston ..	Mid. Counties	1 4	1 0
A_2	Bournemouth ..	S. Counties	1 4	1 0
B_2	Bovey Tracey ..	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1½
A_1	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M.	1 5½	1 1½
B_1	Bridgwater ..	S.W. Counties	1 3	11½
A_1	Bridlington ..	Yorkshire	1 5	1 0½
A	Brighouse ..	Yorkshire	1 5½	1 1½
A_2	Brighton ..	S. Counties	1 4	1 0
A	Bristol ..	S.W. Counties	1 5½	1 1½
B_2	Brixham ..	S.W. Counties	1 2½	11
A_2	Bromsgrove ..	Mid. Counties	1 4½	1 0½
B_2	Bromyard ..	Mid. Counties	1 2	10½
A	Burnley ..	N.W. Counties	1 5½	1 1½
A	Bursiem ..	Mid. Counties	1 5½	1 1½
A	Burton-on-Trent ..	Mid. Counties	1 5½	1 1½
A	Bury ..	N.W. Counties	1 5½	1 1½
A_1	Buxton ..	N.W. Counties	1 5	1 0½
A_1	CAMBRIDGE ..	E. Counties	1 5	1 0½
B_1	Canterbury ..	S. Counties	1 3	11½
A	Cardiff ..	S. Wales & M.	1 5½	1 1½
A	Carlisle ..	N.W. Counties	1 5½	1 1½
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Carnforth ..	N.W. Counties	1 5½	1 1½
A	Castleford ..	Yorkshire	1 5½	1 1½
B	Chatham ..	S. Counties	1 3½	11½
A_2	Chelmsford ..	E. Counties	1 4	1 0
A_2	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester ..	N.W. Counties	1 5½	1 1½
A	Chesterfield ..	Mid. Counties	1 5½	1 1½
B_1	Chichester ..	S. Counties	1 3	11½
A	Chorley ..	N.W. Counties	1 5½	1 1½
B_1	Cirencester ..	S. Counties	1 3	11½
A	Clitheroe ..	N.W. Counties	1 5½	1 1½
A	Clydebank ..	Scotland	1 5½	1 1½
A	Coalville ..	Mid. Counties	1 5½	1 1½
A_2	Colchester ..	E. Counties	1 4	1 0
A	Colne ..	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_1	Consett ..	N.E. Coast	1 5	1 0½
A_2	Conway ..	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1½
A_2	Crewe	N.W. Counties	1 4½	1 0½
A_2	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON ..	N.E. Coast	1 5½	1 1½
A	Darwen ..	N.W. Counties	1 5½	1 1½
B_1	Deal	S. Counties	1 3	11½
A_2	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby ..	Mid. Counties	1 5½	1 1½
A	Dewsbury ..	Yorkshire	1 5½	1 1½
B	Didcot ..	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1½
B_2	Dorchester ..	S.W. Counties	1 2½	11
A_2	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley ..	Mid. Counties	1 5½	1 1½
A	Dundee ..	Scotland	1 5½	1 1½
A	Durham ..	N.E. Coast	1 5½	1 1½
A_2	EASTBOURNE ..	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1½
A_1	E. Glamorganshire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter ..	S.W. Counties	*1 4½	1 0½
B	Exmouth ..	S.W. Counties	1 3½	11½
A_2	FELIXSTOWE ..	E. Counties	1 4	1 0
A_2	Filey	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1½
B_1	Folkestone ..	S. Counties	1 3	11½
A	Frodsham ..	N.W. Counties	1 5½	1 1½
B_2	Frome	S.W. Counties	1 2½	11
A	GATESHEAD ..	N.E. Coast	1 5½	1 1½
B	Gillingham ..	S. Counties	1 3½	11½
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole	Yorkshire	1 4½	1 0½
A_2	Gosport	S. Counties	1 4½	1 0½
A_2	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0½
A	Greenock ..	Scotland	*1 5½	1 1½
A	Grimsby ..	Yorkshire	1 5½	1 1½
B	Guildford ..	S. Counties	1 3½	11½
A	HALIFAX ..	Yorkshire	1 5½	1 1½
A	Hanley ..	Mid. Counties	1 5½	1 1½
A	Harrogate ..	Yorkshire	1 5½	1 1½
A	Hartlepools ..	N.E. Coast	1 5½	1 1½
B	Harwich ..	E. Counties	1 3½	11½
B_1	Hastings ..	S. Counties	1 3	11½
A_2	Hatfield ..	S. Counties	1 4½	1 0½
B	Hereford ..	S.W. Counties	1 3½	11½
A_2	Hertford ..	E. Counties	1 4½	1 0½
A	Heysham ..	N.W. Counties	1 5½	1 1½
A	Howden ..	N.E. Coast	1 5½	1 1½
A	Huddersfield ..	Yorkshire	1 5½	1 1½
A	Hull	Yorkshire	1 5½	1 1½
A	ILKLEY ..	Yorkshire	1 5½	1 1½
A	Immingham ..	Mid. Counties	1 5½	1 1½
A_2	Ipswich ..	E. Counties	1 4½	1 0½
B_2	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1½
A	KEIGHLEY ..	Yorkshire	1 5½	1 1½
B	Kendal ..	N.W. Counties	1 3½	11½
B	Keswick ..	N.W. Counties	1 3½	11½
A_2	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster	Mid. Counties	1 4½	1 0½
B_1	King's Lynn ..	E. Counties	1 3	11½
A	LANCASTER ..	N.W. Counties	1 5½	1 1½
A_1	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester ..	Mid. Counties	1 5½	1 1½
A	Leigh	N.W. Counties	1 5½	1 1½
B_2	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln	Mid. Counties	1 5½	1 1½
	Liverpool ..	N.W. Counties	*1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly ..	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12-15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1½
A	Loughborough	Mid. Counties	1 5½	1 1½
A_2	Luton	E. Counties	1 4	1 0
A	Lytham ..	N.W. Counties	1 5½	1 1½
A_1	MACCLESFIELD	N.W. Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11½
A_2	Malvern ..	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1½
A	Mansfield ..	Mid. Counties	1 5½	1 1½
B_1	Margate ..	S. Counties	1 3	11½
A	Matlock ..	Mid. Counties	1 4	1 0
A_1	Merthyr ..	S. Wales & M.	1 5	1 0½
A	Middesbrough	N.E. Coast	1 5½	1 1½
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1 2½	11
A	Morecambe ..	N.W. Counties	1 5½	1 1½
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson	N.W. Counties	1 5½	1 1½
A	Newcastle ..	N.E. Coast	1 5½	1 1½
A	Newport ..	S. Wales & M.	1 5½	1 1½
A	Normanton ..	Yorkshire	1 5½	1 1½
A	Northampton ..	Mid. Counties	1 5½	1 1½
A	North Staffs ..	Mid. Counties	1 5½	1 1½
A	North Shields ..	N.E. Coast	1 5½	1 1½
A_1	Norwich ..	E. Counties	1 5	1 0½
A	Nottingham ..	Mid. Counties	1 5½	1 1½
A	Nuneaton ..	Mid. Counties	1 5½	1 1½
A_3	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham ..	N.W. Counties	1 5½	1 1½
A_3	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford ..	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	*1 5½	1 1½
B_3	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth	Scotland	*1 5½	1 1½
A_2	Peterborough ..	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	*1 5½	1 1½
A	Pontefract ..	Yorkshire	1 5½	1 1½
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_2	Portsmouth ..	S. Counties	1 4½	1 0½
A	Preston	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate	S. Counties	1 3½	11½
A_3	Retford ..	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A_3	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1½
B	Rochester ..	S. Counties	1 3½	11½
A_1	Ruabon ..	N.W. Counties	1 5	1 0½
A	Rugby	Mid. Counties	1 5½	1 1½
A_2	Rugeley ..	Mid. Counties	1 4½	1 0½
A	Runcorn ..	N.W. Counties	1 5½	1 1½
A_1	ST. ALBANS ..	E. Counties	1 5	1 0½
A	St. Helens ..	N.W. Counties	1 5½	1 1½
B_2	Salisbury ..	S.W. Counties	1 2½	11
A_1	Scarborough ..	Yorkshire	1 5	1 0½
A	Scunthorpe ..	Mid. Counties	1 5½	1 1½
A	Sheffield ..	Yorkshire	1 5½	1 1½
A	Shipley	Yorkshire	1 5½	1 1½
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton	Yorkshire	1 4½	1 0½
A_2	Slough	S. Counties	1 4½	1 0½
A	Solihull	Mid. Counties	1 5	1 0½
A_1	Southampton ..	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A_2	Southport ..	N.W. Counties	1 5½	1 1½
A	S. Shields ..	N.E. Coast	1 5½	1 1½
A_1	Stafford	Mid. Counties	1 5	1 0½
A	Stockport ..	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud	S.W. Counties	1 3½	11½
A	Sunderland ..	N.E. Coast	1 5½	1 1½
A	Swadlincote ..	Mid. Counties	1 5½	1 1½
A	Swansea ..	S. Wales & M.	1 5½	1 1½
A_3	Swindon ..	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton ..	S.W. Counties	1 3½	11½
A	Teesside Dist. ..	N.E. Counties	1 5½	1 1½
A_3	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1½
A_1	Torquay	S.W. Counties	1 5	1 0½
B_2	Truro	S.W. Counties	1 2½	11
B	Tunbridge Wells ..	S. Counties	1 3½	11½
A	Tunstall	Mid. Counties	1 5½	1 1½
A	Tyne District ..	N.E. Coast	1 5½	1 1½
A	WAKEFIELD ..	Yorkshire	1 5½	1 1½
A	Walsall	Mid. Counties	1 5½	1 1½
A	Warrington ..	N.W. Counties	1 5½	1 1½
A_1	Warwick	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid. Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby	Yorkshire	1 4½	1 0½
A	Widnes	N.W. Counties	1 5½	1 1½
A	Wigan	N.W. Counties	1 5½	1 1½
B	Winchester ..	S. Counties	1 3½	11½
A_2	Windsor	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_3	Worksop	Yorkshire	1 4	1 0
A_1	Wrexham ..	N.W. Counties	1 5	1 0½
A_3	Wycombe ..	S. Counties	1 4	1 0
B_2	YARMOUTH ..	E. Counties	1 3	11½
B_1	Yeovil	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	1 1½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	£ s. d.
Bricklayer . . . . per hour	1 7
Carpenter . . . . . ,,	1 7
Joiner . . . . . ,,	1 7
Machinist . . . . . ,,	1 8
Mason (Banker) . . . . . ,,	1 7
,, (Fixer) . . . . . ,,	1 8
Plumber . . . . . ,,	1 7
Painter . . . . . ,,	1 6
Paperhanger . . . . . ,,	1 6
Glazier . . . . . ,,	1 7
Slater . . . . . ,,	1 7
Scaffolder . . . . . ,,	1 3
Timberman . . . . . ,,	1 3
Navvy . . . . . ,,	1 2½
General Labourer . . . . . ,,	1 2½
Lorryman . . . . . ,,	1 5
Crane Driver . . . . . ,,	1 6
Watchman . . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£ s. d.
Grey Stone Lime . . . . per ton	2 2 0
Blue Lias Lime . . . . ,,	1 16 6
Hydrated Lime . . . . ,,	3 0 9
Portland Cement . . . . ,,	2 6 0
Rapid Hardening Cement . . . ,,	2 13 6
White Portland Cement . . . ,,	8 15 0
Thames Ballast . . . . per Y.C.	6 3
½" Crushed Ballast . . . . ,,	6 9
Building Sand . . . . ,,	7 3
Washed Sand . . . . ,,	8 3
2" Broken Brick . . . . ,,	8 0
½" ,, ,, ... ,,	10 3
Pan Breeze . . . . ,,	6 6
Coke Breeze . . . . ,,	8 9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

	4" s. d.	6" s. d.
Straight Pipes . . per F.R	0 9	1 1
Bends . . . each	1 9	2 6
Taper Bends . . ,,	3 6	5 3
Rest Bends . . ,,	4 3	6 3
Single junctions . . ,,	3 6	5 3
Double . . ,,	4 9	6 6
Straight channels . . per F.R.	1 6	2 6
½" Channel bends . . each	2 9	4 0
Channel junctions . . ,,	4 6	6 6
Channel tapers . . ,,	2 9	4 0
Yard gullies . . ,,	6 9	8 9
Interceptors . . ,,	16 0	19 6

IRON DRAINS:

Iron drain pipe . . per F.R.	1 6 2 6
Bends . . . each	5 0 10 6
Inspection bends . . ,,	9 0 15 0
Single junctions . . ,,	8 9 18 0
Double junctions . . ,,	13 6 30 0
Lead wool . . . lb.	6 —
Gaskin . . . ,,	5 —

BRICKLAYER

	£ s. d.
Flettons . . . . . per M.	2 18 0
Grooved do. . . . . ,,	3 0 0
Phorpres bricks . . . . ,,	2 18 0
Stocks, 1st quality . . . . ,,	4 11 0
,, 2nd ,, ... ,,	4 2 6
Blue Bricks, Pressed . . . ,,	8 17 6
,, Wirecuts . . . ,,	7 17 6
,, Brindles . . . ,,	7 0 0
,, Bullnose . . . ,,	9 0 0
Red Sand-faced Facings . . . ,,	6 18 6
Red Rubbers for Arches . . . ,,	12 0 0
Multicoloured Facings . . . ,,	7 10 0
Luton Facings . . . . ,,	7 10 0
Phorpres White Facings . . . ,,	3 17 3
Phorpres Rustic Facings . . . ,,	3 12 3
Midhurst White Facings . . . ,,	5 0 0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:	
Stretchers . . . . . ,,	21 0 0
Headers . . . . . ,,	20 10 0
Bullnose . . . . . ,,	27 10 0
Double Stretchers . . . . ,,	29 10 0
Double Headers . . . . ,,	26 10 0
Glazed Second Quality, *Less* . . ,,	1 0 0
,, Buffs and Creams, *Add* . ,,	2 0 0
,, Other Colours . . ,,	5 10 0
2" Breeze Partition Blocks . . per Y.S.	1 7
2½" ,, ,, ,, . . ,,	1 11
3" ,, ,, ,, . . ,,	2 1
4" ,, ,, ,, . . ,,	2 6

MASON

	s. d.
The following d/d F.O.R. at Nine Elms:	
Portland stone, Whitbed . . F.C.	4 4½
,, ,, Basebed . . ,,	4 9
Bath stone . . . . ,,	2 11
York stone . . . . ,,	6 6
,, ,, Sawn templates . . ,,	7 6
,, ,, Paving, 2" . . . F.S.	1 8
,, ,, ,, 3" . . . ,,	2 6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£ s. d.
24" × 12" Duchesses . . . per M.	28 17 6
22" × 12" Marchionesses . . ,,	24 10 0
20" × 10" Countesses . . ,,	19 5 0
18" × 10" Viscountesses . . ,,	15 10 0
18" × 9" Ladies . . . ,,	13 17 6
Westmorland green (random sizes) . per ton	8 10 0
Old Delabole slates d/d in full truck loads to Nine Elms Station:	
20" × 10" medium grey per 1,000 (actual)	21 11 6
,, ,, green ,, ,,	24 7 4
Best machine roofing tiles . . ,,	4 10 0
Best hand-made do. . . . ,,	5 0 0
Hips and valleys . . . . each	9½
,, hand-made . . . ,,	10
Nails, compo . . . . lb.	1 4
,, copper . . . ,,	1 6

CARPENTER AND JOINER

	s. d.
Good carcassing timber . . F.C.	2 2
Birch . . . . as 1" F.S.	9
Deal, Joiner's . . . ,, ,,	5
,, ,, 2nds . . ,, ,,	4
Mahogany, Honduras . . ,, ,,	1 3
,, African . . ,, ,,	1 1
,, Cuban . . ,, ,,	2 6
Oak, plain American . . ,, ,,	1 0
,, Figured ,, . . ,, ,,	1 3
,, Plain Japanese . . ,, ,,	1 2
,, Figured ,, . . ,, ,,	1 5
,, Austrian wainscot . ,, ,,	1 6
,, English . . . ,, ,,	1 11
Pine, Yellow . . . ,, ,,	1 0
,, Oregon . . . ,, ,,	4
,, British Columbian . ,, ,,	4
Teak, Moulmein . . ,, ,,	1 3
,, Burma . . ,, ,,	1 2
Walnut, American . . ,, ,,	2 3
,, French . . ,, ,,	2 3
Whitewood, American . . ,, ,,	1 1
Deal floorings, ½" . . . Sq.	18 6
,, ¾" . . . ,,	1 1 6
,, 1" . . . ,,	1 2 0
,, 1¼" . . . ,,	1 5 0
,, 1½" . . . ,,	1 10 0
Deal matchings ½" . . . ,,	14 0
,, ¾" . . . ,,	15 6
,, 1" . . . ,,	1 4 0
Rough boarding ½" . . . ,,	16 0
,, 1" . . . ,,	18 0
,, 1½" . . . ,,	1 6 0

Plywood, per ft. sup.

Thickness	¼"	⅜"	½"	¾"	1"
Qualities	AA. A. B.	AA. A. B.	AA. A. B.	AA. A. B.	AA. A. B.
	d. d. d.	d. d. d.	d. d. d.	d. d. d.	d. d. d.
Birch	4 3 2	5 4 3	7½ 6 4½	8½ 7 6	
Alder	3½ 3 2	5 4 3	6½ 5½ 4½	8 7 6	
Gaboon Mahogany	4 3 3	6½ 5½ 4½	9½ 7½ –	1/0½ 10 –	
Figured Oak 1 side	8½ 7 –	10 8 –	11½ – –	1/6 – –	
Plain Oak 1 side	6½ 6 –	7½ 7 –	9½ – –	1/– – –	
Oregon Pine	5 4 –	5½ 5 –	6 – –	– – –	

	d.
Scotch glue . . . . lb.	8

SMITH AND FOUNDER

Tubes and Fittings:

(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	½"	¾"	1"	1¼"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9
,, 3"-11½" long ,,	7	9	1/3	1/8	3/–
Long screws, 12"-23½" long ,,	11	1/3	2/2	2/10	5/3
,, ,, 3"M-½" long ,,	8	10	1/5	1/11	3/6
Bends . . . ,,	8	11	1/7½	2/7½	5/2
Springs not socketed . ,,	5	7	1/1½	1/11½	3/11
Socket unions . . ,,	2/–	3/–	5/6	6/9	10/–
Elbows, square . . ,,	10	1/1	1/6	2/2	4/3
Tees . . . ,,	1/–	1/3	1/10	2/6	5/1
Crosses . . . ,,	2/2	2/9	4/1	5/6	10/6
Plain Sockets and nipples ,,	3	4	6	8	1/3
Diminished sockets . ,,	4	6	9	1/–	2/–
Flanges . . . ,,	9	1/–	1/4	1/9	2/9
Caps . . . ,,	3½	5	8	1/–	2/–
Backnuts . . . ,,	2	3	5	6	1/1
Iron main cocks . . ,,	1/6	2/3	4/2	5/4	11/6
,, ,, with brass plugs ,,	—	4/–	7/6	10/–	21/–

Discounts:

TUBES.

	Per cent.		Per cent.
Gas . . .	65	Galvanized gas .	52½
Water . . .	61½	,, water	47½
Steam . . .	57½	,, steam	42½

FITTINGS.

Gas . . .	57½	Galvanized gas .	47½
Water . . .	52½	,, water	42½
Steam . . .	47½	,, steam	37½

SMITH AND FOUNDER—*continued*

	s. d.
Rolled steel joists cut to length . . . cwt.	10 9
Mild steel reinforcing rods, ½" . . ,,	8 6
,, ,, ¾" . . ,,	8 3
,, ,, ⅞" . . ,,	8 0
,, ,, 1" . . ,,	7 6
,, ,, 1⅛" . . ,,	7 6
,, ,, 1¼" . . ,,	7 6
,, ,, 1½" . . ,,	7 6
,, ,, 1¾" . . ,,	7 6
,, ,, 2" . . ,,	7 6

Cast-iron rain-water pipes of ordinary thickness metal .	3" s. d.	4" s. d.
	F.R 8	10
Shoes	each 2 0	3 0
Anti-splash shoes . . .	,, 4 6	8 0
Boots	,, 3 0	4 0
Bends	,, 2 7	3 9
,, with access door . .	,, —	6 3
Heads	,, 4 0	5 0
Swan-necks up to 9" offsets .	,, 3 9	6 0
Plinth bends, 4½" to 6"	,, 3 9	5 3
Half-round rain-water gutters of ordinary thickness metal .	F.R. 5	6
Stop ends	each 6	6
Angles	,, 1 7	1 11
Obtuse angles	,, 2 0	2 6
Outlets	,, 1 9	2 3

PLUMBER

	£ s. d.
Lead, milled sheets . . . cwt.	1 0 0
,, drawn pipes . . . ,,	17 0
,, soil pipe . . . ,,	1 0 0
,, scrap . . . ,,	10 6
Solder, plumbers' . . . lb.	9½
,, fine do. . . . ,,	1 0
Copper, sheet . . . ,,	8½
,, tubes . . . ,,	11

L.C.C soil and waste pipes:	3"	4"	6"
Plain cast . .	F.R. 1 0	1 2	2 6
Coated . .	,, 1 1	1 3	2 8
Galvanized . .	,, 2 0	2 6	4 6
Holderbats . .	each 3 10	4 0	4 9
Bends . . .	,, 3 9	5 3	10 3
Shoes . . .	,, 2 10	4 4	9 6
Heads . . .	,, 4 8	8 5	12 9

PLASTERER

	£ s. d.
Lime, chalk . . . per ton	2 5 0
Plaster, coarse . . . ,,	2 10 0
,, fine . . . ,,	4 15 0
Hydrated lime . . . ,,	3 0 9
Sirapite . . . . ,,	3 6 0
Keene's cement . . . ,,	5 0 0
Sand, washed . . . Y.C.	11 6
Hair . . . . lb.	6
Laths, sawn . . . bundle	2 4
,, rent . . . ,,	3 9
Lath nails . . . lb.	3½

GLAZIER

	s. d.	s. d.
Sheet glass, 21 oz., squares n/e 2 ft.	s. F.S.	2½
,, ,, 26 oz. ,, ,, ,, ,,		3½
Arctic glass, white . . . ,,		7
Cathedral glass, white, dbl.-rolled, plain, hammered, rimpled, waterwite, ,,		6½
⅛" Hartley's rough rolled . . ,,		7
⅛" ,, wired cast . . ,,		10
⅛" Georgian wired cast . . ,,		11
¼" Polished plate, n/e 1 ft. . . ,,	†10 to‡1	1
,, ,, 2 . . ,,	†1 2 ,, ‡1	4
,, ,, 3 . . ,,	†1 8 ,, ‡1	11
,, ,, 4 . . ,,	†2 3 ,, ‡2	6
,, ,, 6 . . ,,	†2 7 ,, ‡2	9
,, ,, 8 . . ,,	†2 9 ,, ‡3	2
,, ,, 12 . . ,,	†3 1 ,, ‡3	7
,, ,, 20 . . ,,	†3 7 ,, ‡4	2
,, ,, 45 . . ,,	†3 11 ,, ‡4	7
,, ,, 65 . . ,,	†4 4 ,, ‡4	11
,, ,, 90 . . ,,	†4 9 ,, ‡5	5
,, ,, 100 . . ,,	†5 0 ,, ‡5	7
Vita glass, sheet, n/e 1 ft. . . ,,		1 0
,, ,, ,, 2 . . ,,		1 3
,, ,, ,, over 2 . . ,,		1 9
,, ,, plate, n/e 1 ft. . . ,,		1 6
,, ,, ,, 2 . . ,,		3 0
,, ,, ,, 5 . . ,,		4 0
,, ,, ,, 7 . . ,,		5 0
,, ,, ,, 15 . . ,,		6 0
,, ,, ,, over 15 . . ,,		7 6
Putty, linseed oil . . . lb.		3

†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

	£ s. d.
White lead in 1 cwt. casks .	cwt. 2 6 0
Linseed oil	gall. 2 2½
Boiled oil	,, 2 4½
Turpentine	,, 4 1½
Patent knotting	,, 14 0
Distemper, washable . . .	cwt. 2 6 0
,, ordinary . . .	,, 2 0 0
Whitening	,, 4 0
Size, double	firkin 3 0
Copal varnish	gall. 13 0
Flat varnish	,, 14 0
Outside varnish	,, 16 0
White enamel	,, 1 15 0
Ready-mixed paint . . .	,, 13 6
Brunswick black . . .	,, 7 6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR

		£ s. d.
Digging over surface n/e 12" deep and cart away	Y.S.	2 9
" to reduce levels n/e 5' 0" deep and cart away	Y.C.	8 6
" to form basement n/e 5' 0" deep and cart away	"	9 0
" " 10' 0" deep and cart away	"	9 6
" " 15' 0" deep and cart away	"	10 0
If in stiff clay add	"	2 6
If in underpinning "	"	4 0
Planking and strutting to sides of excavation	F.S.	1 0
" " to pier holes	"	5
" " to trenches	"	5
" " extra, only if left in	"	3
Hardcore, filled in and rammed	Y.C.	10 0
Portland cement concrete in foundations (6-1)	"	1 6 0
" " (4-2-1)	"	1 12 6
" " underpinning	"	1 16 0
Finishing surface of concrete, spade face	Y.S.	7

DRAINLAYER

		4" s. d.	6" s. d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1 6	2 3
Extra, only for bends	Each	2 8	3 9
" junctions		3 9	4 6
Gullies and gratings		16 6	18 0
Cast iron drains, and laying and jointing	F.R.	4 9	6 9
Extra, only for bends	Each	10 6	15 6

BRICKLAYER

	£ s. d.
Brickwork, Flettons in lime mortar	Per Rod 27 10 0
" " in cement	" 28 15 0
" Stocks in cement	" 35 0 0
" Blues in cement	" 52 0 0
Extra only for circular on plan	" 2 0 0
" backing to masonry	" 1 10 0
" raising on old walls	" 2 0 0
" underpinning	" 5 10 0
Fair Face and pointing internally	F.S. 1½
Extra over fletton brickwork for picked stock facings and pointing	" 8½
" " " red brick facings and pointing	" 11
" " " blue brick facings and pointing	" 1 4
" " " glazed brick facings and pointing	" 3 6
Tuck pointing	" 7
Weather pointing in cement	" 3½
Slate dampcourse	" 10
Vertical dampcourse	" 1 1

ASPHALTER

	s. d.
½" Horizontal dampcourse	Y.S. 4 6
½" Vertical dampcourse	" 6 9
½" paving or flat	" 4 0
1" paving or flat	" 5 6
1" × 6" skirting	F.R. 1 0
Angle fillet	2
Rounded angle	" 2
Cesspools	Each 5 0

MASON

	s. d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C. 17 9
Bath stone and do., all as last	" 13 6
Artificial stone and do.	" 13 0
York stone templates, fixed complete	" 10 6
" thresholds	" 13 6
" sills	" 1 0 6

SLATER AND TILER

	£ s. d.
Slating, Bangor or equal, laid to a 3" lap, and fixing with compo nails, 20" × 10"	Sqr. 3 10 0
Do., 18" × 9"	" 3 7 0
Do., 24" × 12"	" 3 17 0
Westmorland slating, laid with diminished courses	" 6 0 0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course	" 3 0 0
Do., all as last, but of machine-made tiles	" 2 16 0
20" × 10" medium Old Delabole slating, laid to a 3" lap (grey)	" 4 6 0
" " " " " " (green)	" 4 15 0

CARPENTER AND JOINER

	£ s. d.
Flat boarded centering to concrete floors, including all strutting	Sqr. 2 5 0
Shuttering to sides and soffits of beams	F.S. 8
" to stanchions	" 8
" to staircases	" 1 8
Fir and fixing in wall plates, lintols, etc.	F.C. 3 9
Fir framed in floors	" 4 6
" " roofs	" 6 6
" " trusses	" 7 6
" " partitions	" 8 6
¾" deal sawn boarding and fixing to joists	Sqr. 1 14 6
1" " " " "	" 1 17 6
1½" " " " "	" 2 3 0
1½" × 2" fir battening for Countess slating	" 9 6
Do. for 4" gauge tiling	" 12 0
Stout feather-edged tilting fillet	F.R. 4½
Patent inodorous felt, 1 ply	Y.S. 2 3
" " " 2 "	" 2 9
" " " 3 "	" 3 3
Stout herringbone strutting to 9" joists	F.R. 10½
1" deal gutter boards and bearers	F.S. 1 2
1½" " " "	" 1 6
2" deal wrought rounded roll	F.R. 8
1" deal grooved and tongued flooring, laid complete, including cleaning off	Sqr. 2 1 0
1¼" do.	" 2 10 0
1½" do.	" 2 17 0
1" deal moulded skirting, fixed on, and including grounds plugged to wall	F.S. 1 6
1½ do.	" 1 9

CARPENTER AND JOINER—*continued*

	s. d.
1½" deal moulded sashes of average size	F.S. 1 9½
2" " " "	" 1 11½
1½" deal cased frames double hung, of 6" × 3" oak sills, 1¼" pulley stiles, 1¼" heads, 1" inside and outside linings, ¾" parting beads, and with brass faced axle pulleys, etc., fixed complete	" 3 7
2" " " " "	" 3 10
Extra only for moulded horns	Each 6
1½" deal four-panel square, both sides, door	F.S. 2 0
2" " " " "	" 2 8
1½" " but moulded both sides	" 2 4
2" " " " "	" 3 0
4" × 3" deal, rebated and moulded frames	F.R. 1 0
4½" × 3½" " " "	" 1 4
1½" deal tongued and moulded window board, on and including deal bearers	F.S. 1 9
1½" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	" 2 6
1½" deal moulded wall strings	" 2 1
1½" " outer strings	" 2 4
Ends of treads and risers housed to string	Each 1 9
3" × 2" deal moulded handrail	F.R. 1 3
2" × 1" deal balusters and housing each end	Each 2 0
1½" × 1½" " " "	" 2 9
3" × 3" deal wrought framed newels	F.R. 1 3
Extra only for newel caps	Each 6 0
Do., pendants	" 6 6

SMITH AND FOUNDER

	£ s. d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt. 15 6
Riveted plate or compound girders, and hoisting and fixing in position	" 19 6
Do. stanchions with riveted caps and bases and do.	" 19 0
Mild steel bar reinforcement, ½" and up, bent and fixed complete	" 17 6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S. 11
Wrot-iron caulked and cambered chimney bars	Per cwt. 1 10 0

PLUMBER

		½" s. d.	¾" s. d.	1" s. d.	1¼" s. d.	2" s. d.	4" s. d.
	£ s. d.						
Milled lead and labour in flats	cwt. 1 13 6						
Do. in flashings	" 1 17 0						
Do. in covering to turrets	" 2 3 0						
Do. in soakers	" 1 9 0						
Labour to welted edge	F.R. 3½						
Open copper nailing	" 3½						
Close " "	" 4½						
Lead service pipe and fixing with pipe hooks	F.R. 1 0	1 2	1 5	2 1	3 0	—	
Do. soil pipe and fixing with cast lead tacks	—	—	—	—	—	5 9	
Extra, only to bends	Each —	—	—	—	2 3	6 3	
Do. to stop ends	" 6½	8	9	11	1 0	—	
Boiler screws and unions	" 3 3	3 9	5 0	8 0	—	—	
Lead traps	" —	—	—	6 3	8 9	—	
Screw down bib valves	" 6 9	9 6	11 0	—	—	—	
Do. stop cocks	" 9 0	11 0	14 6	20 6	47 0	—	
4" cast-iron ½-rd. gutter and fixing	F.R. 1 0						
Extra, only stop ends	Each 1 0						
Do. angles	" 1 6						
Do. outlets	" 2 9						
4" dia. cast-iron rain-water pipe and fixing with ears cast on	F.R. 1 2						
Extra, only for shoes	Each 1 3						
Do. for plain heads	" 5 6						

PLASTERER AND TILING

	s. d.
Expanded metal lathing, small mesh	Y.S. 2 3
Do. in n/w to beams, stanchions, etc.	" 3 6
Lathing with sawn laths to ceilings	" 1 4
½" screeding in Portland cement and sand for tiling, wood block floor, etc.	" 1 8
Do. vertical	" 2 1
Rough render on walls	" 1 3
Render, float and set in lime and hair	" 1 11
Render and set in Sirapite	" 2 1
Render, backing in cement and sand, and set in Keene's cement	" 2 10
Extra, only if on lathing	" 4
Keene's cement, angle and arris	F.R. 6
Arris	" 2
Rounded angle, small	" 3
Plain cornices in plaster, including dubbing out, per 1" girth	" 1½
1" granolithic pavings	Y.S. 3 6
1½" " "	" 4 6
6" × 6" white glazed wall tiling and fixing on prepared screed	" 17 6
9" × 3" " " " " "	" 1 2 6
Extra, only for small quadrant angle	F.R. 8

GLAZIER

	s. d.
21 oz. sheet glass and glazing with putty	F.S. 7½
26 oz. do. and do.	" 8½
Arctic glass and glazing with putty	" 1 1
Cathedral glass and do.	" 1 2
Glazing only, British polished plate	" 7
Extra, only if in beads	" 2
Washleather	F.R. 4

PAINTER

	s. d.
Clearcolle and whiten ceilings	Y.S. 6½
Do. and distemper walls	" 9
Do. with washable distemper	" 1 1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	" 3 3
Do. on woodwork	" 3 6
Do. on steelwork	" 3 0
Do. and brush grain and twice varnish	" 5 6
Stain and twice varnish woodwork	" 1 11
Stain and wax-polish woodwork	" 4 6
French polishing	F.S. 1 2
Stripping off old paper	Piece 2 0
Hanging ordinary paper from	" 9

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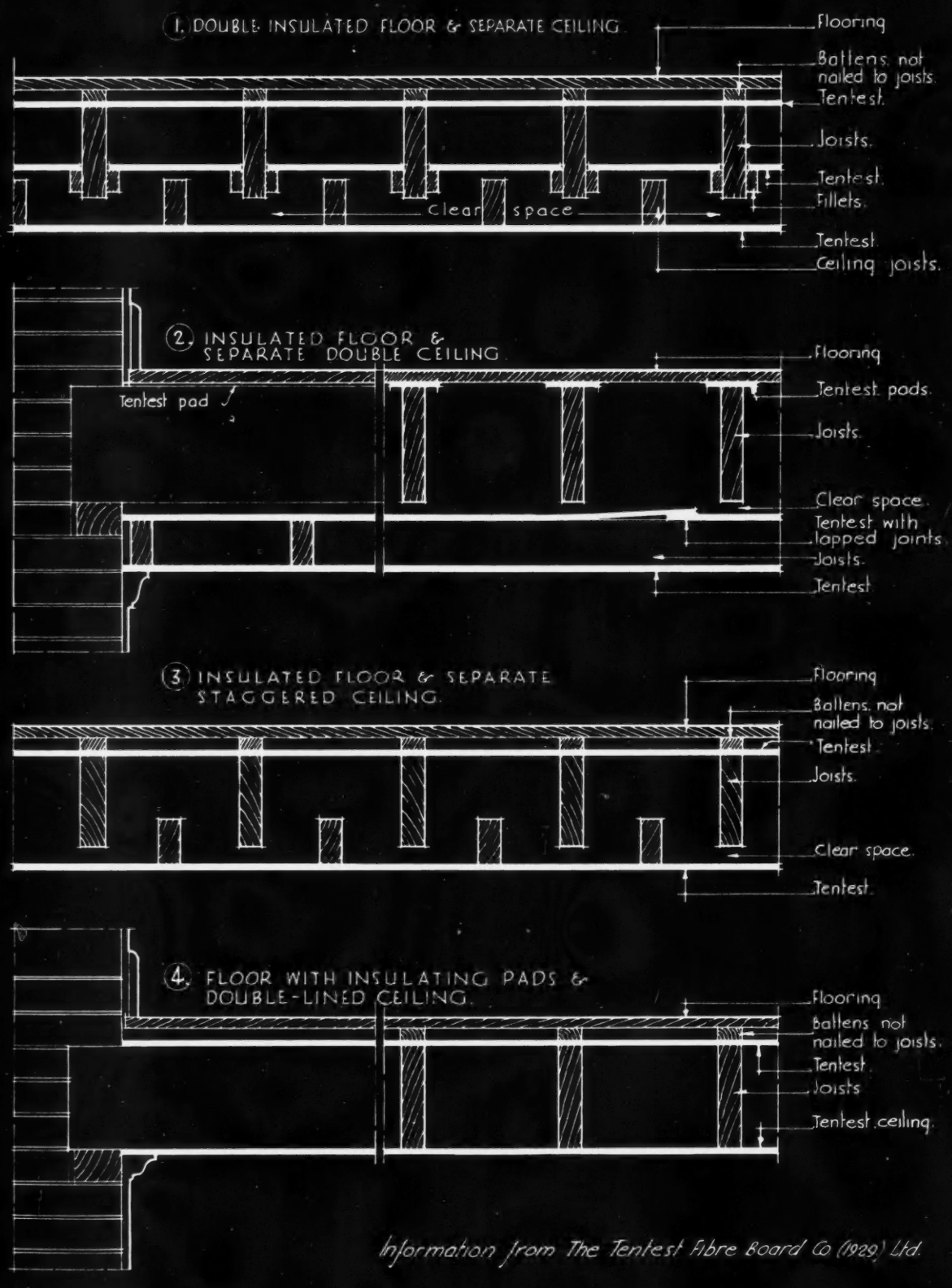
USES OF TENTEST INSULATING BOARD, I. SOUND RESISTING FLOORS, WOOD CONSTRUCTION.



Information from The Tentest Fibre Board Co (1929) Ltd.

INFORMATION SHEET : TENTEST INSULATING BOARD : FLOOR CONSTRUCTION.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.1

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

• 89 •

INSULATION OF MISCELLANEOUS STRUCTURES

Name of Product: TenTest Fibre Board

Type illustrated: Sound Insulation of Timber Floors

Description:

The transmission of noise through timber floors may be regarded as taking place in three different ways:—

(a) By air borne transmission through interstices.
(b) By transmission due to diaphragm action of the component parts of the floor.
(c) By direct structure borne transmission.

In attempting to solve the foregoing problems, care should be taken (a) That the floor is as airtight as possible; (b) That rigidity of structure is obtained; (c) That direct physical contact between the receiving and transmitting surfaces is broken by means of an insulating material.

In regard to (a) ducts and openings for heating or water pipes, electric conduits, etc., should be carefully sealed or caulked. In regard to (b) it will be obvious that the more solid and rigid the structure, the less will be the possibility of noise transmission due to diaphragm action. In regard to (c) it should be noted that—unlike heat insulation—sound insulation cannot be achieved merely by the employment of insulating material in thin sheets, for the reason that diaphragm action may still predominate. It is therefore recommended that construction of a composite form should be employed and that the transmission of sound should be eliminated, or minimized, by means of insulating material applied in such a manner as to break direct contact between the floor members.

The diagrams on the face of this Information Sheet indicate suggestions for the construction of sound insulating timber floors based on the foregoing notes.

Name of Manufacturers: TenTest Fibre Board Co. (1929) Limited

Address: Astor House, Aldwych London, W.C.2

Telephone: Holborn 8018

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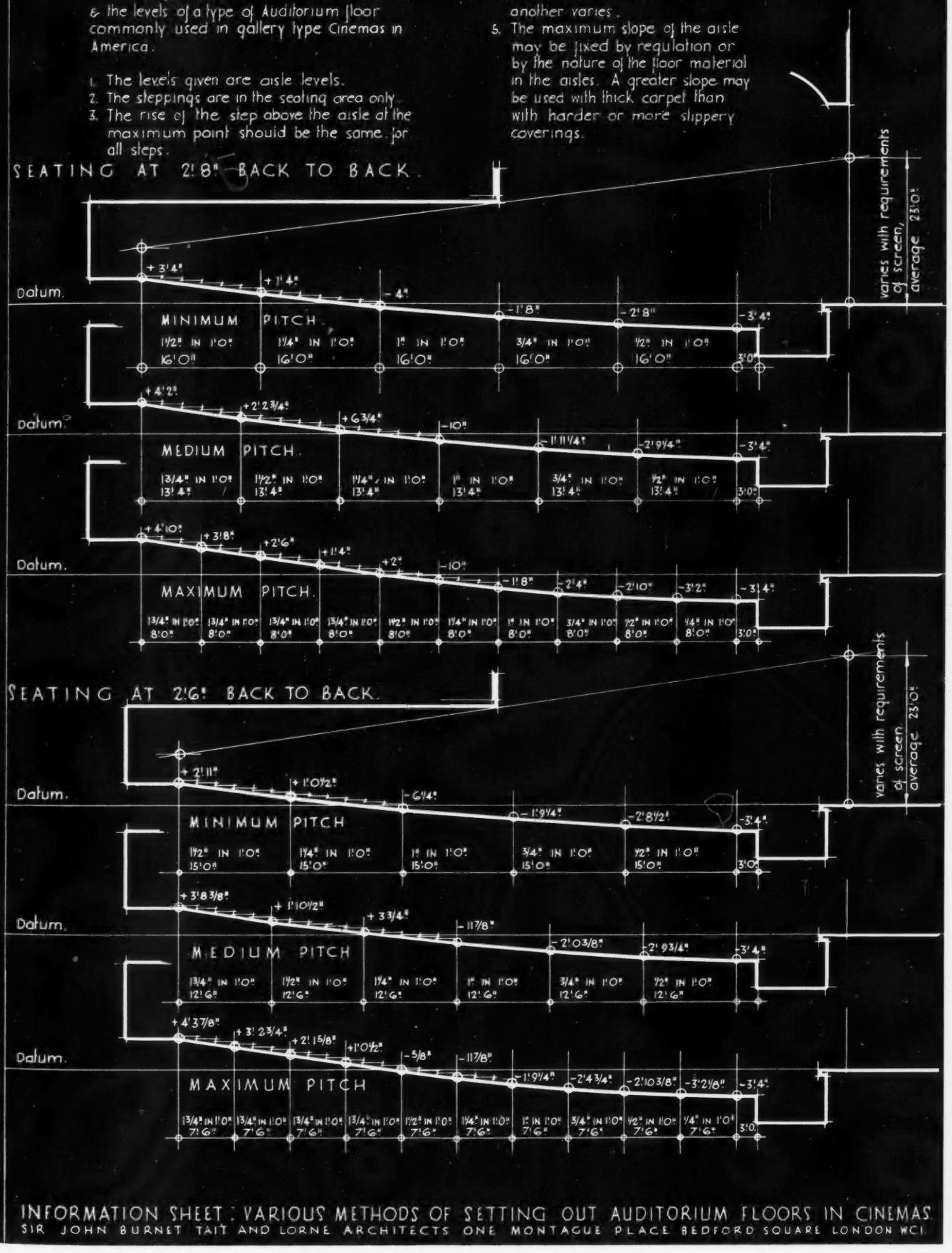
The diagrams given below show the rake & the levels of a type of Auditorium floor commonly used in gallery type Cinemas in America.

1. The levels given are aisle levels.
2. The steppings are in the seating area only.
3. The rise of the step above the aisle at the maximum point should be the same for all steps.
4. The rise of the steps above one another varies.
5. The maximum slope of the aisle may be fixed by regulation or by the nature of the floor material in the aisles. A greater slope may be used with thick carpet than with harder or more slippery coverings.



INFORMATION SHEET : VARIOUS METHODS OF SETTING OUT AUDITORIUM FLOORS IN CINEMAS

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1.

Supplement to THE ARCHITECTS' JOURNAL for March 8, 1934

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

• 90 •

CINEMAS

(AUDITORIUM FLOORS)

This Sheet gives the pitches and levels commonly employed in the U.S.A. for cinemas with galleries, though it should be remembered that the figures given are unsuitable when the auditorium is of great depth, as the total rise would be excessive.

Three pitches are given for each spacing of the rows, the ultimate choice being usually determined by such general factors as seating capacity, sight lines and gallery arrangements.

Additional information will be found in Sheet 72, presented with the Journal for January 11 last.

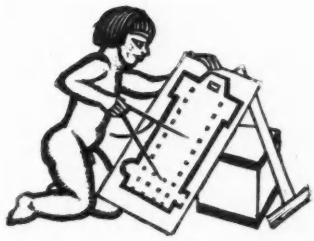
BELOW WATER LEVEL

AT NIMEGUEN, HOLLAND

WHILST the Waal River continues to flow in its normal course, concretors work below water level in a watertight enclosure formed by driving a ring of interlocking steel piles.

BRICK AND STEEL IN OXFORD STREET

Cumberland Hotel has a new neighbour—an eight-storey block of service flats, with shops at pavement level, covering an island site of 81,000 sq. ft., bounded by Oxford Street, Old Quebec Street, Bryanston Street and Portman Street, W.1. The architects are Sir John Burnet, Tait and Lorne.



A SOCIALIST L. C. C.

AFTER 27 years there is to be a change at the County Hall. A party which has never before been in control has taken possession—elected by a record poll. This JOURNAL is not concerned with the political aspect of the question but the policy of the L.C.C. with regard to building work is of interest and importance to every architect. Not only does it affect the work of architects in London through its building and housing bye-laws, but it inspires the building regulations for the majority of provincial towns.

There seems every indication that the new Council is going to concern itself very vitally with building in London. We have heard from time to time of schemes proposed by the late Council for dealing with the question of housing and slum-clearance under a plan that would comprehend the whole of London's needs, but so far nothing has been done beyond the building of a number of isolated schemes.

These questions of housing and slum have always been a vital concern to the Labour Party and constituted the principal issue at the late election. Their proposals for dealing with these questions are bold and ambitious. They have stated their aim to be a structurally separate dwelling for every family, which means that two-thirds of London's families will have to be re-housed. The two aspects, housing and slum-clearance, are to be united and dealt with by one committee—they have been too long separated in the official mind.

So far the housing efforts of the Council, fine though some of them are, have been too weak and unrelated to affect the situation very much. There have been no comprehensive schemes—there are isolated blocks here and there, mostly conforming to existing unsatisfactory street lay-outs, built so that they may conform to a spurious " good taste " and let at rentals that make them almost a menace and the cause of greater poverty. The Labour Party promise to remedy this. They propose to schedule all the slums of London and progressively replace them by worthy buildings. It is to be hoped that in doing this they will realize the opportunity they have of making the most important city of the world into the finest and most beautiful. By dealing with housing on a large scale it will be possible to scrap the pettifogging ideas that have for so long prevented anything noteworthy from being done. The existing streets must go—dwelling-blocks must be spaced so that light and air can be everywhere, advantage must be taken of new ideas and new technique in housing. We have fallen far behind many Continental countries in this respect. The Labour Party promise that the rents for dwellings under their control shall be low enough to enable the worker to keep further from the edge of poverty. The vast possibilities of standardization in lowering building costs should not be overlooked in this connection.

In the past the L.C.C. has made itself notorious for pigeon-holing building schemes of all kinds, and many proposals for improved educational facilities and new schools have been bound round with red-tape and quietly dropped in a drawer. These we are told are going to be brought into the light of day once more and put in hand immediately. New work is to be done in providing nursery and open-air schools.

In other branches of the social services the Labour Party promise us a vigorous programme. It is not often realized that 72 per cent. of all the hospital beds provided in London are in L.C.C. hospitals. In many cases these hospitals are out of date and unsatisfactory. They are going to be modernized and made into efficient services to aid the battle against disease engendered by poverty.

The health of the city-dweller depends largely upon the facilities provided for getting light and air and exercise through parks and other open spaces. The new L.C.C. intends to look into this question and as a start will put an end to the long squabble over the Foundling Hospital site and will retain it as a playground for children.

Elections are notorious for producing a fine, healthy crop of promises that dwindles down to a withered harvest of achievement. The achievements of the twenty-seven years of the late administration of the County Hall have failed to satisfy the electors. The new Council has every reason to feel that a bold change of policy was asked for. This it proposes to supply. It remains to be seen whether the Labour Party administration of the L.C.C. will reproduce the miserable failure of the Labour governments of 1924 and 1931 and prepare for themselves an equally crushing defeat at the end of three years, or whether they will prosecute their programme with the same vigour and determination with which they carried out their election campaign and make sure of their return.

At the end of three years—not long enough for the Labour Party to fulfil all its plans, but long enough for the Labour Party to initiate them—the electors of London will be in a position to decide whether their new government is able, as well as willing, to carry out its intentions by methods that are economically sound ; or whether the big words that have been uttered are simply the mouthings of the electioneering platform. We hope they are not.

The Architects' Journal
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NOTES & TOPICS

FIRST-CLASS DECORATION

THE L.N.E.R. is going to redecorate its sleeping cars in different colour schemes—pink, green, blue and yellow, with blankets to match the walls. Mr. H. N. Gresley, the chief mechanical engineer of the company, has redesigned the hanger for coat and trousers in the sleepers. *The Times* reports that " the rod for the trousers is conveniently above the coat hanger instead of below it, as a practical recognition of the order in which the garments are removed and put on again."

*

Clearly, a great deal of ingenuity has been lavished upon this progressive step. And yet some disgruntled people will suggest that our railways are backward. Indeed, at the D.I.A. discussion last Thursday, the L.N.E.R. was cited as unprogressive. Liverpool Street station and the suburban lines were mentioned in support of the accussation.

*

But what's a station or two compared with a spot of colour and a coat-hanger designed " in practical recognition of the order in which the garments are removed and put on again."

SENSE ABOUT RUSSIA AT LAST

I have been re-reading Robert Byron's last book, *First Russia, Then Tibet*, and, although it is a new book, it has already become for me one of the books that will be dipped into and re-read for years. It is the best thing he has ever written, and as a piece of book production it is a pleasure to handle.

*

Mr. Byron quotes Norman Douglas at the beginning of Part I, and throughout the book I am constantly reminded of the bland outlook of Norman Douglas, who is probably the most civilized man now living. Both Mr. Byron and Mr. Douglas refuse to be stampeded by spurious intellectualism into accepting half-baked or part-worn ideas about anything. The robustness of their sense is matched by the profundity of their scholarship and the range of their observation.

*

First Russia, Then Tibet shows two totally dissimilar forms of culture, one savagely earnest, rickety and hideous, the other established and buttressed by the barbaric certitudes of mediæval thought ; and, as ever, both forms of civilization are reflected by their buildings.

*

Mr. Byron is, I believe, the first writer to relate the social and cultural manifestations of the U.S.S.R. with traditional Russian ideas. I should like to make the reading of this book compulsory for the superior young men in brighter-London shirts and the painful young women in Slavonic sackcloth : the people Mr. Byron so aptly describes as " hypnotees of every windblown theory, ... bastards by uplift out of comfortable income. . . ."

BOX OFFICE PSYCHOLOGY

I see that cinema magnates deplore the present situation in the industry, blaming the lack of patronage on those, i.e., themselves, who have built too many and too super cinemas. Greedy magnates, that's what happens. Flatter the proletariat and it turns round and bites you, or it doesn't even turn round.

*

I am not prepared entirely to believe that the great public tires of second-rate design in its cinemas, for I find little to bolster that view in general. But the second-rate approach finds its own reward, and if cinemas generally were as straightforwardly elegant as Burnet, Tait and Lorne's new Forum Cinema in Curzon Street, which delighted me utterly, the trade would not be weighted with a load of unmanageable capital representing the difference between sense and stupid luxury.

THE CHURCH AND TOWN PLANNING

If all dignitaries of the Church of England were to take such a keen interest in housing and town planning as Dr. G. K. A. Bell, the Bishop of Chichester, progress would certainly be more rapid.

*

As Chairman to the late Archbishop of Canterbury at the time of the Addison Act, he played an important part behind the scenes in mobilizing Church opinion. Later he was appointed Dean of Canterbury and one of his first acts was to consult with Mr. G. L. Pepler, the Chief Town Planning Inspector of the Ministry of Health. He thereupon took an active part in arousing local opinion to support the East Kent Regional Planning Committee. As Bishop of Chichester he is particularly interested in the sea coast from Brighton to Selsey.

BEXHILL—THEN HACKNEY

The correspondence columns of this JOURNAL have lately been indicating that architectural competitions are still irritating quite a number of people. I cannot pretend to any surprise.

*

If I could allow myself to be frank about the subject, I should say (only ever so much more pungently) that the whole system is not only effete as it stands, but, in addition,

A seaside bungalow in the Balearic Isles designed by J. Louis Sert. The illustration is composed from a photograph of a pasteboard model superimposed on a natural landscape.

was never rationally thought out at its inception. I should advocate drastic reforms.

*

The Bexhill affair, from the very moment when it was announced that designs which took some account of present-day thought and conditions would not be automatically rejected, offered a potential mitigation of some, at least, of the absurdities of the system.

*

A broad-minded assessor saw to it that the competition in question fulfilled what is, presumably, the main purpose of a competition: namely, of finding, by open and free individual expression, the best solution to the problem in hand. I forecast a departure from the "Competition Elevation," and was honest enough to be abundantly thankful.

*

After such a virile precedent, Hackney comes as rather a shock.

FAIR AND FOUL

Apropos my recent remarks about the Castle Bromwich section of the B.I.F., I have just had a piece of information. I hope it is not true. If it is, heads should be rolling into baskets in Birmingham.

*

It is an unquestionable fact that this year the gangways between stands have been widened. I agree that the result is a great improvement upon the cramped congestion of other years. I am not without gratitude to the organizers for this act of grace; nor, for that matter, have I the least doubt that it has "paid"—either directly, or in the broader sense of the word.

*

But I am also assured that whoever is personally responsible to the Birmingham Chamber of Commerce for the conduct and administration of the Fair has visited a number of continental exhibitions and has gleaned some "ideas." The best of these ideas, I am told, were incorporated at Castle Bromwich.

*

Well, now.

*

I had a careful look round the Fair, in the company of three well-known and able architects; we could none of us discover a single redeeming feature.

*

The "lay-out" plan showed a central gangway—running *across* the middle of the hall. (Axial planning in embryo.) In practice, it connected the men's and women's lavatories with the information bureau of the Chamber of Commerce. (It was, incidentally, divided into two halves by telephone boxes, palms, baskets of flowers, a fire-extinguisher or two, and several lattice girders, so perhaps it was as well that the focal centres were unimportant.)

*

Apart from the planning, the amenities were an insult to decency and intelligence. The restaurants had not the slightest pretence of attractiveness—marquees would have been infinitely better. The direction notices (which were inadequate in number and ill thought out) had no spark of design or quality about them.

*

Even the matting on the floors was badly laid.

*

I am not surprised that foreigners do not flock to Castle Bromwich. Might not the Chamber of Commerce employ an architect (or even architects) to lay the affair out for them properly, and formulate some rules? After all, the architect is the one person in the country who is *trained* to plan broadly and in detail.

*

If the promoters of the Birmingham B.I.F. will come to the Ideal Home Exhibition I promise to take them round and show them some points. If *The Daily Mail* can make good planning pay why not apply the principle elsewhere?

SLUM AND THE POLLS

A good many people must have been amused to see how Lord Beaverbrook's campaign of virulent and unrestrained abuse of the London Labour Party has proved a powerful help, if not indeed one of the deciding factors in that party's recent success at the polls.

*

The long view is rare in the annals of modern journalism. For a short time *The Evening Standard* took up arms in defence of Slum Clearance. I don't remember whether it promised to see the thing through. Probably not. Yet if it had done so, if it had maintained even an intermittent course of the better kind of journalism on so grand a theme, it might have served its party a great deal better, and seen them in office now. What next?

"TO THE PURE ALL THINGS ARE IMPURE"

Here is a true story, which just shows how careful we all have to be.

*

A friend of mine built a house in the country. His clients were people of taste and discernment. He provided, in the dining room, wall fittings of bent glass with rather pleasing designs etched on each one. The designs represented nymphs, in the rather conventionalized manner which glass demands, and of which the Swedes are such masters.

*

In due course the clients let the house for a few months. When they came back the light fittings were still there, but over each figure a piece of brown paper had been pasted, oh! so neatly. . . .

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

The Labour Party on the L.C.C. have stated their aim to be a structurally separate dwelling for every family, which means that two-thirds of London's families will have to be re-housed 377

£24,000,000 is to be spent on housing in Glasgow and Leeds 380

Town planning has become a blessed word covering a multitude of sins and lulling us to sleep 393

In an effort to reduce delay in the completion of a contract, builders are, in increasing numbers, making use of progress charts 398

THE ARCHITECTS' DIARY

Thursday, March 15

L.C.C. GEFFRYE MUSEUM. *At Kingsland Road, Shoreditch, E.2. "The Background for Modern Furniture." By Henry G. Dowling, F.R.S.A.* 7.30 *p.m.*

INSTITUTION OF STRUCTURAL ENGINEERS. *Yorkshire Branch). At the Hotel Metropole, Leeds. "The George Washington Bridge." By Professor J. Husband.* 7 *p.m.*

Monday, March 19

R.I.B.A. *At 9 Conduit Street, W.1. "The Rebuilding of Imperial Rome." By Professor Dr. Guido Calza.* 8 *p.m.*

ROYAL SOCIETY OF ARTS. *At John Street, Adelphi, W.C. "The Life and Work of William Morris—I." By Paul Bloomfield. (Instead of March 12 as previously announced.)*

Tuesday, March 20

ARCHITECTURAL ASSOCIATION. *At 36 Bedford Square, W.C.1. "Traffic Consideration in the Re-planning of London." By Mervyn O'Gorman C.B., D.Sc.* 8 *p.m. Exhibition, Architecture of Transport.*

Wednesday, March 21

R.I.B.A. *At 9 Conduit Street, W.1. "Modern Influences on London Architecture—Sunday." By Hon. H. A. Pakington, F.R.I.B.A.* 6 *p.m.*

NORTHANTS, BEDS. AND HUNTS. ASSOCIATION OF ARCHITECTS. *At Northampton. Annual general meeting.* 3.45 *p.m.*

L.C.C. CENTRAL SCHOOL OF ARTS AND CRAFTS. *At Southampton Row, W.C.1. "German Mediæval Architecture." By Sir Banister Fletcher, F.S.A., P.P.R.I.B.A.* 6 *p.m.*

SLUM

The Lord Mayor of London and Mayors of Metropolitan boroughs were present at a service at St. Paul's Cathedral on Monday last to mark the opening of a campaign of the Housing Association of the Church Union for the clearance of slums.

The Bishop of Winchester said they were resolved to do their utmost to remove the twin evils of bad housing and overcrowding. They were not concerned with plans and policies, but with their attitude and outlook as they entered upon what was bound to be a long and difficult campaign.

New houses would not be built in sufficient numbers without ready sacrifice on the part of the community. Large sums of money were required to solve the problem. Lower rates and reduction of income-tax might mean the indefinite persistence of slums and overcrowding. The Christian must make it plain that he was ready to accept the postponement of reduction in taxation and to accept some addition to the rates if by so doing he hastened the abolition of the slums.

LONDON COUNTY COUNCIL

The Labour Party on the L.C.C., at a meeting held at the County Hall on Monday, resolved that the new Chairman of the Council shall be Lord Snell. The Vice-Chairman is to be Mr. E. G. Culpin, F.R.I.B.A.

Another architect—Major Harry Barnes, F.R.I.B.A.—is also a member of the L.C.C. He was elected as the representative of North Fulham on Thursday last.

F.B.I. AND TOWN PLANNING

The Federation of British Industries is fully alive to the importance of town planning. At a recent meeting of the Production Committee of the Federation it was resolved that in view of the reaction on industry of the Town and Country Planning Act, it was desirable to accept the invitation of the Minister of Health to nominate representatives for the Advisory Committee which he was setting up.

The Terms of Reference of the Committee are "to advise the Minister on points of fact arising out of the operation of the Act." It was agreed that the nominations should be: Messrs. J. E. James, B. Verity and W. Prescott.

HOUSING IN GLASGOW

The Glasgow Town Council is to spend about £12,000,000 on housing in the next five years.

At a meeting of the Housing Committee on March 12 a letter was read from the Secretary of State for Scotland urging the corporation to hasten their five-year housing plan by adding 7,000 houses for slum-clearance purposes. Already the corporation has agreed to build 20,000 houses, 8,000 to replace slums and 12,000 to abate overcrowding, within the next five years.

MONT BLANC TUNNEL

Signor Mussolini has approved the project of a French engineer for the construction of a tunnel under Mont Blanc (states a contemporary).

A syndicate of French and Italian financiers has been formed to raise money for the scheme, which it is estimated would cost about £4,200,000.

A motor speed track would be built on the Italian side of the mountain, would enter the tunnel at Courmayeur and emerge on the French side at Praz-Conduit. The tunnel would be seven and a half miles long.

MOTOR TRACK ON THE SOUTH DOWNS

The Portslade Urban Council, at a meeting last week, decided by a substantial majority to refuse the applications by the Brighton Motor Racing Company, Ltd., and the Brighton Corporation for interim permission to develop land under the Town Planning Act, 1932, in connection with the track.

HOUSING IN LEEDS

The first instalment of the Leeds £12,000,000 housing and slum clearance programme—a proposal to demolish over 1,200 houses with a population of about 4,000 in the Marsh Lane district—was the

New Talking Film Studios at Barrandov, Prague. Max Urban, architect.

subject of much comment at a meeting of the Leeds City Council last week.

After a long debate the proposal, which will be subject to a Ministry of Health inquiry, was carried.

LONDON AIRPORT SCHEME

Parliament is shortly to have an opportunity for discussing the proposal to erect an airport over King's Cross and St. Pancras stations. A Bill with this object in view is now in course of preparation. The estimated cost of the scheme is £500,000.

EXHIBITION OF MODERN DECORATION

An Exhibition of Modern Decoration (in glass, painting, sculpture and woodwork) is to be held at The Studio, 19 St. Peter's Square, Hammersmith, W.6, from March 16 to April 3 (10 a.m. to 6 p.m ; Sundays : 2.30 p.m. to 6 p.m.). The exhibits are the work of Allan Howes, James A. Jobling, Frank Medworth and Robert Schaub.

L.C.C. HOUSING SCHEMES

On Tuesday, March 6, the L.C.C. decided to proceed with two considerable housing schemes. The St. Helier estate is to be further developed by the erection of about 1,357 houses and flats of various types. The majority of these will be four- and three-roomed houses, and two-roomed flats. Provision has been made for sites for various purposes, a church and shops. The density of development will not exceed 12 houses to the acre.

At Mottingham, too, it has been decided to go ahead so as to meet the hitherto unsatisfied demand for small houses in the south-eastern district. A lay-out has been prepared providing for the erection of about 2,280 houses and flats in the following proportions:—five-room houses, 5 per cent. ; four-room (parlour) houses, 5 per cent. ; four-room (non-parlour) houses, 40 per cent. ; three-room houses, 40 per cent. ; two-room flats, 9 per cent. ; one-room flats, 1 per cent.

£75,000 BATHING POOL

The Brighton Improvements Committee has approved a scheme for a £75,000 bathing pool on the beach near Black Rock.

EDINBURGH ARCHITECTURAL ASSOCIATION

The fifth meeting of the current session of the Edinburgh Architectural Association was held at Edinburgh last week, when Mr. R. Mervyn Noad, A.R.I.B.A., lectured on "A Tour Through Northern Europe, from Norway to the Union of Socialist Soviet Republics," with particular reference to the trend of modern architecture.

MODERNISM IN CHURCH BUILDING

"Modernism in Church Building" was the subject of a supper-discussion of the Architecture Club, held at the Architectural Association last week. Mr. R. Holland Martin presided.

Mr. Eric Gill said if architecture expressed the soul of a people, what sort of soul was expressed by modern architecture? Obviously a very muddled soul, and in church architecture we saw an extreme form of that muddle, with a Classic church in one part of a town and a Gothic church in another. Such architecture did not mean anything at all, and we had to get back to some kind of bed rock meaning of things. We had to decide what a church was. We must get back to functionalism. Were there churches built today that gave the same feeling and conviction of sensibleness and honesty as a good sound railway viaduct? To build churches like that we must go about the work in the spirit of the builders of the railway viaduct : in that case the engineers thought of the kind of load the viaduct was designed to carry, how long it was to be, and so on, and in that manner they arrived at a most impressive result. The function of a building was very much wider than that of a railway viaduct, and the architect had very much more to consider than the engineer. But his roots were the same. He had to cover a space, to build something that would stand up, would endure stress of weather, of weight, pushing and pulling, and so forth; so that functionalism was as much the beginning of architecture as of engineering. Today there was a kind of war between architect and engineer, but these ought to be combined in one trade ; for there was nothing an engineer could build that had not architectural implications—if a Forth Bridge was not for human beings what was it for—and in the same way a church was as much a problem of construction as a bridge. If we did not use new materials and methods we should stagnate. We must find a way to give expression to the new mode of life around us, and that way was to design our buildings in a manner to make the fullest possible use of the materials placed at our disposal, endeavouring to reflect in those buildings something of the people for whom they were built and the times during which they were built.

Mr. Bernard A. Miller said there was an increasing need for churches to become more contemporary in their outlook. Designer and builder could be allowed the greatest latitude provided there was always in the background some suggestion of the church's obligation, basis and tradition.

Mr. N. F. Cachemaille-Day said that a church building commmittee usually consisted of ten or twelve good men and true, and if the architect could come face to face with them and explain why this or that was being done, it was extraordinary the interest they would take. That interest was much more sincere when the architect was engaged on a building in a non-traditional style than when he was building in an archæological manner or with pre-conceived ideas.

Rainwater heads, designed by Edward Maufe, at the Church of St. Thomas, Hanwell. *See pages 383-387.*

THE ARCHITECTURE OF SHOPS

The fifth of the series of six public lectures on "Modern Influences on London Architecture," was given by Mr. E. Maxwell Fry, A.R.I.B.A., at the R.I.B.A. on March 14.

The lecturer dealt with "The Architecture of Shopping." Discussing the shop of today, he said : "Technically, we can do anything we want. We can make shops stand upon slender columns, we can cantilever them over the pavement, or draw the pavement under the building as we like. We can lift the shop into the air or depress it beneath the ground. We can control its lighting and its air. Control the passage of vast crowds of customers with lifts and escalators. We can do all these things with fair mechanical exactitude.

"But so far we are unable to bring back the sense of unity which distinguished the Regent Street we destroyed so few years ago. The means of doing this are in our hands. We have now to recognize that the only architecture that can be of any lasting value to us is that which draws its sustenance from the structures arising out of the materials we use today, of which the directing materials are steel, concrete, glass and plywood. It is a difficult task for architects brought up to think otherwise, but the battle will go eventually as I forecast. And if eventually, why not now?"

WEST YORKSHIRE SOCIETY OF ARCHITECTS

A paper entitled "London Calling," was read by Mr. Stephen Phillips before members and students of the above society, at the Leeds College of Art on March 8. Mr. H. H. Castle, one of the selected finalists in the R.I.B.A. Rome Scholarship, occupied the chair.

The lecture was the outcome of an invitation extended by a London architect to four students of the Leeds School of Architecture. Mr. Phillips said he had been greatly impressed by the Building Centre in Bond

Street, where they were able to view all the latest developments in decorative and building materials, with every facility for learning their prices and their nature. They also visited many other important new buildings. The lecturer said that there could be no doubt that periodical visits to London by provincial architects and students formed an invigorating tonic, and one returned to the provinces teeming with new ideas and fresh views regarding the healthy relationship which should exist between architects and the public.

R. I. B. A.

THE NEXT MEETING

On Monday next, March 19, at 8 p.m., a paper by Professor Dr. Guido Calza on "The Rebuilding of Imperial Rome" will be read before the Institute.

EXHIBITION OF DRAWINGS

An exhibition of crayon and wash drawings by Prof. Arch. G. K. Lukomski of Jewish Synagogue Architecture in Poland from fifteen-eighteen centuries will be held in the R.I.B.A. Galleries for three days from March 19 to 21. The exhibition will be opened by His Excellency the Polish Ambassador, M. Konstanty Skirmunt, at 3 p.m. on March 19. Immediately after the opening ceremony there will be a short lecture, His Excellency the Ambassador being in the chair.

ELECTION OF MEMBERS

At a recent Council Meeting of the Institute, the following members were elected :—

As FELLOWS (9) : G. B. Fritchley, L. G. Hannaford, J. M. Jenkinson, S. C. Kirby, E. J. MacRae, S. Welsh, R. Carruthers-Ballantyne, L. J. Couves and E. A. Verger.

As ASSOCIATES (98) : F. G. Allen, (Miss) K. H. Arthur, W. R. Ashcroft, C. Bacon, H. Barrett, B. H. Bates, (Miss) R. E. Benjamin, J. A. Bent, C. Betts, C. Bornat, R. B. Bradley-Barker, H. S. Braun, P. F. Brodrick, C. Brown, J. A. Browning, R. A. Bullivant, L. B. Byram, (Miss) K. M. Carroll, G. H. Chantrey, F. V. Clark. A. W. Cooper, B. I. Day, J. G. Defries, J. E. Deleuse, H. E. Doe, M. R. Dumville, J. G. Dunton, E. G. Edwards, C. G. Evans, G. C. Fardell, C. W. Ferguson, E. H, Firmin, W. W. Fisk, A. D. Gamble, A. S. Gasson, A. E. Goffey, K. Graham, S. Greenwood, S. Gregson, M. W. Haigh. (Miss) W. A. Hall, C. F. Hansom, J, Hardwick, R. Harley-Smith, B. Haward, G. S. Hay, W. J. Hemmings, R. A. Hernu, A. C. Hopkinson, W. F. Howard, L. Israel, (Miss) M. J. James, H. S. Jarratt, R. A. Jensen, V. L. Johnson, A. E. Jones, J. R. Jones, K. W. Judd, S. Kilgour, S. McColl, A. C. Marshall, R. H. Martin, G. R. Mason, J. W. Mason, (Miss) K. I. Maynard, C. E. Moore, C. Munro, A. H. Neave, J. T. Peat, J. A. Potter, R. J. Potter, (Miss) A. E. Powicke, A. L. Priest, J. F. Prior, B. F. Ratcliffe, C. F. Redgrave, R. Rennie, K. Rose, E. T. Salter, M. Sanders, J. E. Seabright, R. Seifert, U. A. Sherwin, P. C. Smith, H. G. Speakman, F. T. Sudbury, H. Taylor, G. J. Timmis, G. R. Todd, R. P. Walden, N. S. Wallace, A. W. Warland, W. Wilson, T. F. Winterburn, F. Winward, J. L. Womersley, J. D. Wood and E. Wormald.

As LICENTIATES (12).—W. E. Anderson, T. F. Armstrong, N. M. Barrett, J. H. Best, W. E. Crabtree, R. P. Kennedy, J. N. Parr, H. J. Pearce, C. N. Redding, J. H. Ritson, F. W. Roberts and J. Tresize.

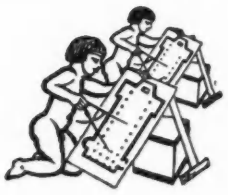
Aerodromes Advisory Board

Under the chairmanship of Captain the Rt. Hon. F. E. Guest, M.P., there has recently been established an Aerodromes Advisory Board, representing all the major professional, technical and official interests which are or may be concerned in the development of the groundwork of civil aviation. The Board has been formed to continue and expand on a wider basis preliminary investigations carried out during the last few years by the Aerodromes Committee of the R.I.B.A. The membership of the Board for 1934 has now been completed and consists, in addition to Captain Guest, of the following representatives appointed by the various constituent institutions :—

Institution of Civil Engineers : Sir Leopold Savile, K.C.B., and Sir John Thornycroft, K.B.E. Institution of Mechanical Engineers : Mr. Alan Chorlton, C.B.E., M.P. (President), and Major J. Kidston Allsop. Institution of Electrical Engineers : Mr. P. V. Hunter, C.B.E. (President), and Mr. C. C. Paterson, O.B.E. Royal Institute of British Architects : Sir Giles Scott, R.A. (President), and Mr. Maurice E. Webb, D.S.O., M.C. Chartered Surveyors' Institution : Sir John Oakley, G.B.E., and Mr. Dendy Watney. Institution of Municipal and County Engineers : Major L. Roseveare, O.B.E. (President), and Mr. A. T. Gooseman. Town Planning Institute : Mr. W. R. Davidge (Past President), and Mr. F. Longstreth Thompson. Association of Consulting Engineers : Mr. A. M. Sillar (Chairman), and Col. J. D. K. Restler, O.B.E. Royal Aeronautical Society : Mr. C. R. Fairey, M.B.E. (President), Col. Lord Sempill, A.F.C., Squadron-Leader Nigel Norman and Mr. Ivor McClure. Air Ministry : Lt.-Col. F. C. Shelmerdine, C.I.E., O.B.E. (Director of Civil Aviation), and Col. J. F. Turner, D.S.O. (Director of Works and Buildings). Electricity Commission : Mr. T. P. Wilmshurst, M.B.E. Ministry of Health : Mr. G. L. Pepler (Chief Town Planning Inspector), who is Vice-Chairman of the Board.

The Secretary to the Board is Mr. John Dower, A.R.I.B.A., to whom all communications should be addressed at 5, Verulam Buildings, Gray's Inn, W.C.1.

COMPETITION NEWS



B.E.D.A. COMPETITION

A model electric kitchen—built from the winning design in the British Electrical Development Association's competition—is now on exhibition at the Building Centre, New Bond Street, W.1. Illustrations and plans of the kitchen are given on page 389.

Competitions Open

March 17.—Sending-in Day. Limited Competition for municipal buildings, etc., for the Stoke Newington Borough Council. (Twenty-eight firms of architects have been selected to submit designs.) Assessor : Sir Edwin Lutyens, R.A., P.I.A.A.S. Premiums : £250, £100 and £50. Full particulars were published in the *A.J.* for January 25 last.

March 24.—Sending-in Day. Alterations and additions to the Masonic Hall, London Road, Leicester. Open to architects who are subscribing members to any Lodge in the province of Leicestershire and Rutland. Assessor : Mr. Arthur H. Hind, F.R.I.B.A. Premiums : 50, 30 and 20 guineas. Designs should be submitted to the Secretary, Masonic Hall Committee, 80 London Road, Leicester.

March 26.—Sending-in Day. Façade in grey Cornish granite, for the Cornish Quarry Masters' Association. Open to all architects, architects' assistants, and architectural students. Assessors : C. Lovett Gill, F.R.I.B.A., Professor A. B. Knapp-Fisher, F.R.I.B.A., and Howard Robertson, F.R.I.B.A. Also, two members of the Cornish Quarry Masters' Association. Premium : £50. The design, etc., is to be sent to the Secretary, Architectural Association, 34-36 Bedford Square, W.C.1, by Monday, March 26. Full particulars of the competition may be obtained from the Secretary of the A.A.

Competitions Pending

Proposed New Council Offices to be erected at Salt Hill for the Slough U.D.C. Assessor : H. S. Goodhart-Rendel, F.R.I.B.A. Premiums : £150, £100 and £50. Conditions have not yet been drawn up.

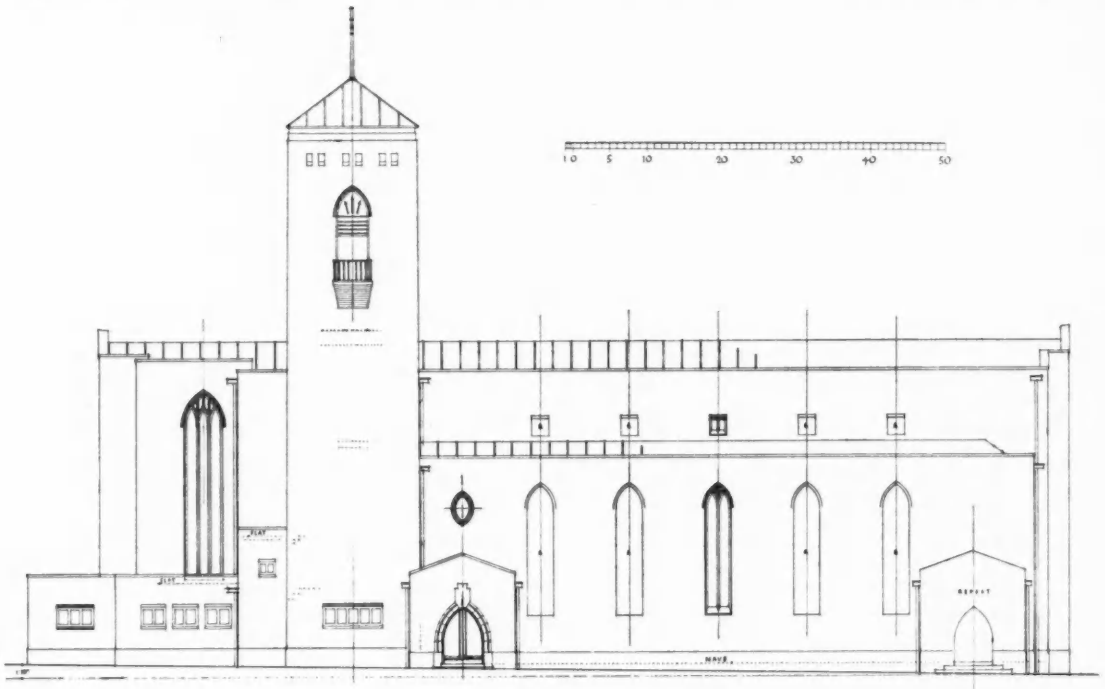
Proposed Extensions to the Town Hall, Swindon. Assessor : Professor A. B. Knapp-Fisher, F.R.I.B.A. Conditions have not yet been drawn up.

Proposed Municipal Sanatorium and Craymount Children's Hospital, Belfast. Premiums : 500 guineas, 300 guineas, and 100 guineas. Limited to architects practising in Northern Ireland. Assessor : R. S. Wilshere, A.R.I.B.A.

THIS ARSHETECTURE

A new housing estate being built at Gads Hill, Higham, Kent, where Charles Dickens died, is to be shaped to form the letter D.—FROM *The Daily Express*.

CHURCH AT HANWELL, MIDDX.

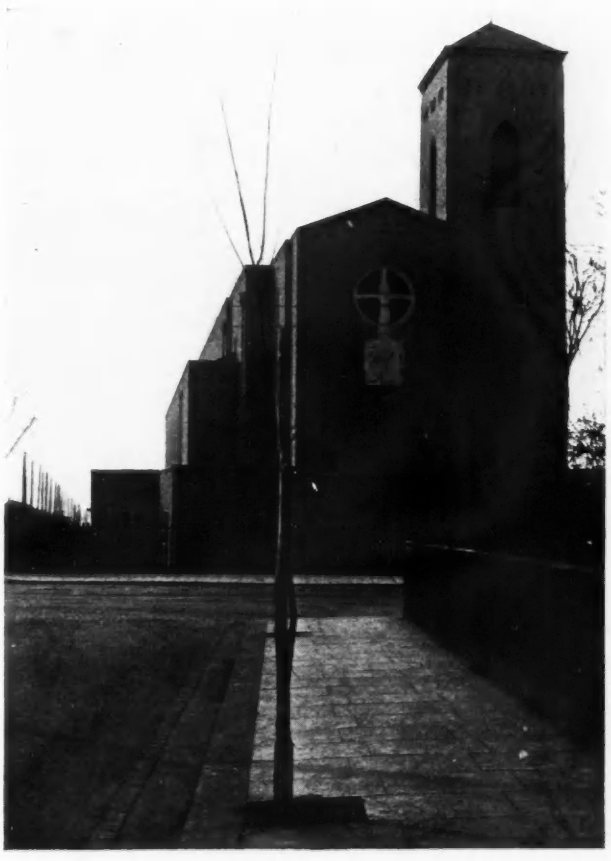


THE NORTH ELEVATION

DESIGNED

BY

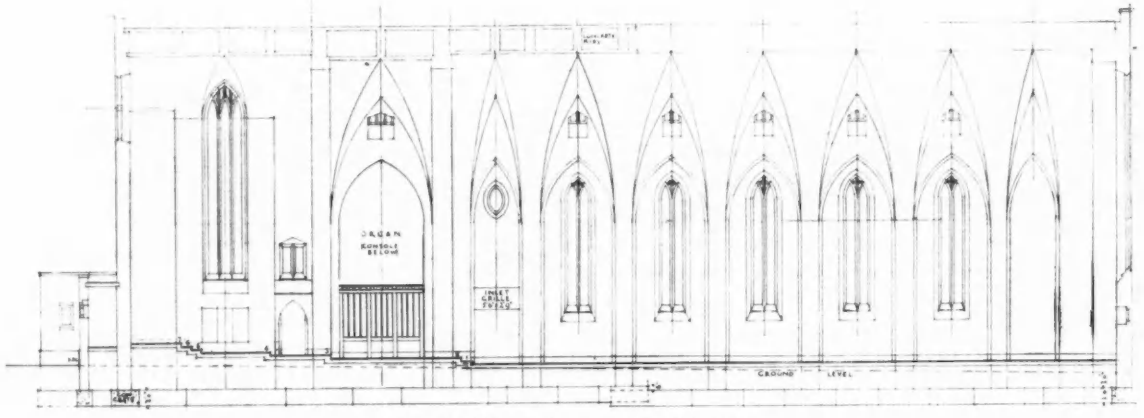
EDWARD MAUFE



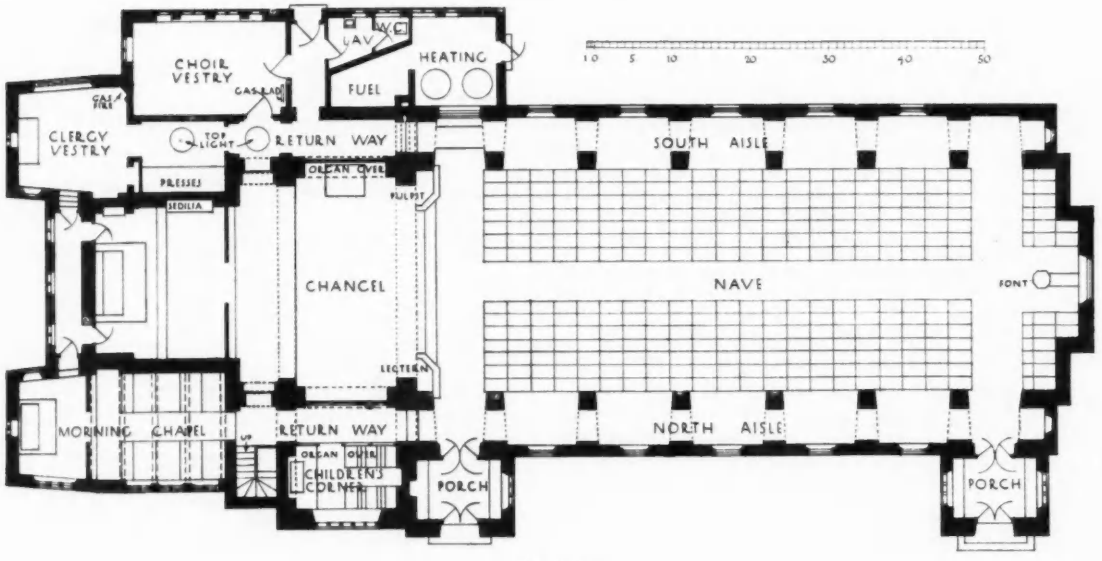
The foundations of the Church of St. Thomas, Hanwell, are of reinforced concrete, the walls themselves of a particularly strong brick, and all the vaulting of reinforced concrete, covered with copper. Absorbent plaster is sprayed on the vaults where necessary for acoustic reasons.

The photograph shows the east elevation. The sculpture is the work of Eric Gill.

CHURCH AT HANWELL, MIDDX.:



LONGITUDINAL SECTION

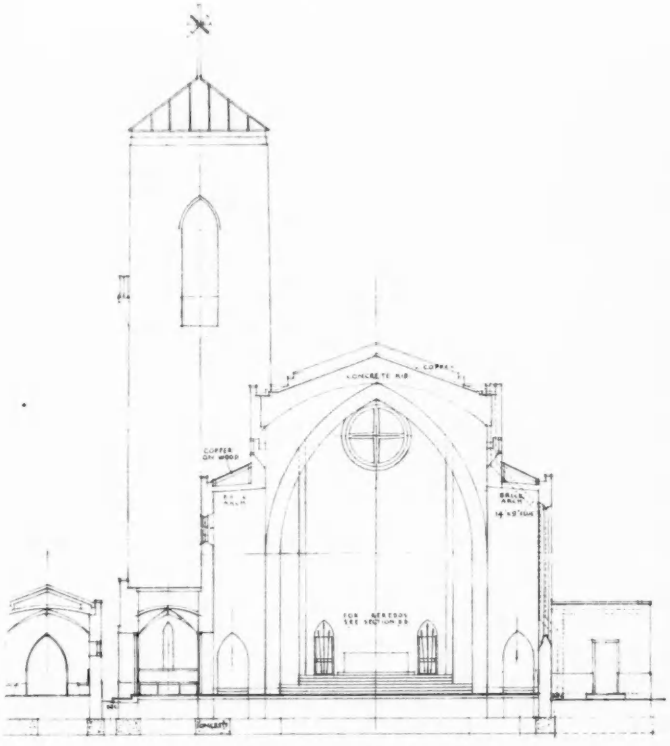


PLAN

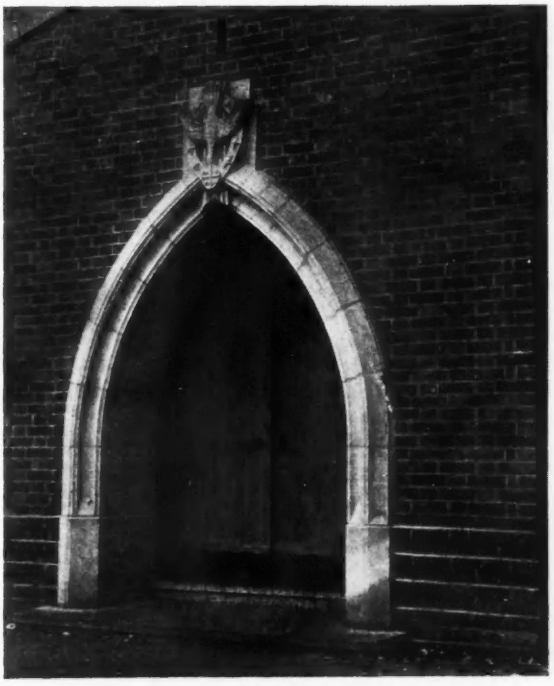
Care has been taken that the plan shall serve liturgical use whilst being in itself straightforward and direct. The central vista leads direct to the High Altar, the north aisle vista direct to the Morning Chapel Altar, and the south aisle direct to the Sacristy. The children's corner is in the base of the tower; above this is the organ with its large opening into the church; above the organ is the ringing chamber, and above again the bells, the whole being surmounted by a slender gold cross.

The Calvary on the east end is by Eric Gill; the stone carving elsewhere, on the font, on the piscinæ, on the porches and on the high tracery is by Vernon Hill; the carvings on the oak screens are by James Woodford; the stained glass windows of the children's corner are by Moira Forsyth; and the decoration on the ceiling of the Morning Chapel by Kathleen Roberts. The reinforced concrete of the foundations and vaulting has been designed by the consulting engineer, Burnard Geen.

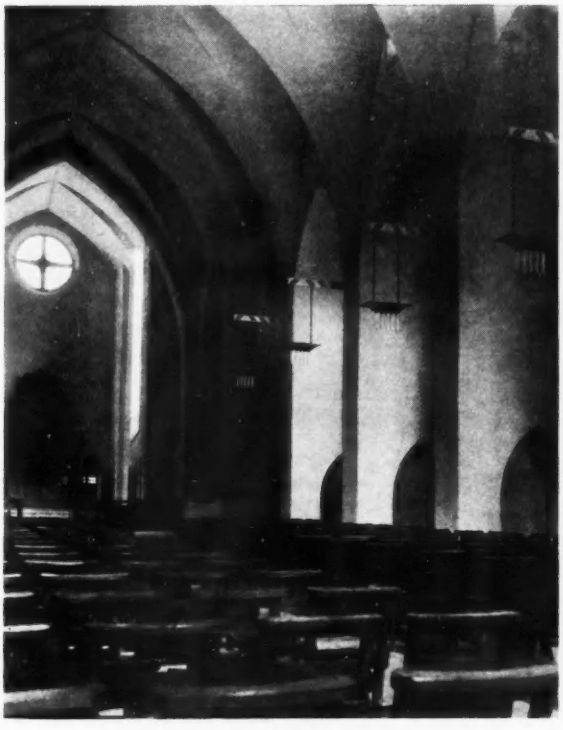
DESIGNED BY EDWARD MAUFE



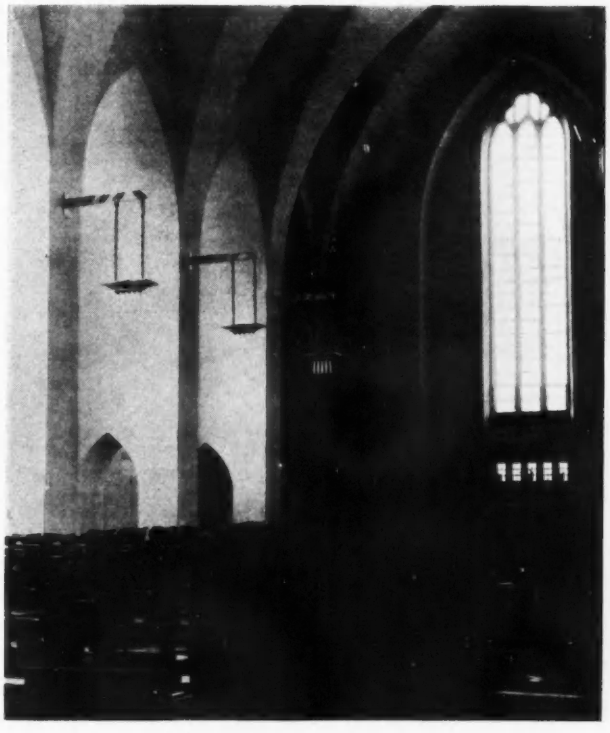
CROSS SECTION



One of the two doorways on the north elevation.

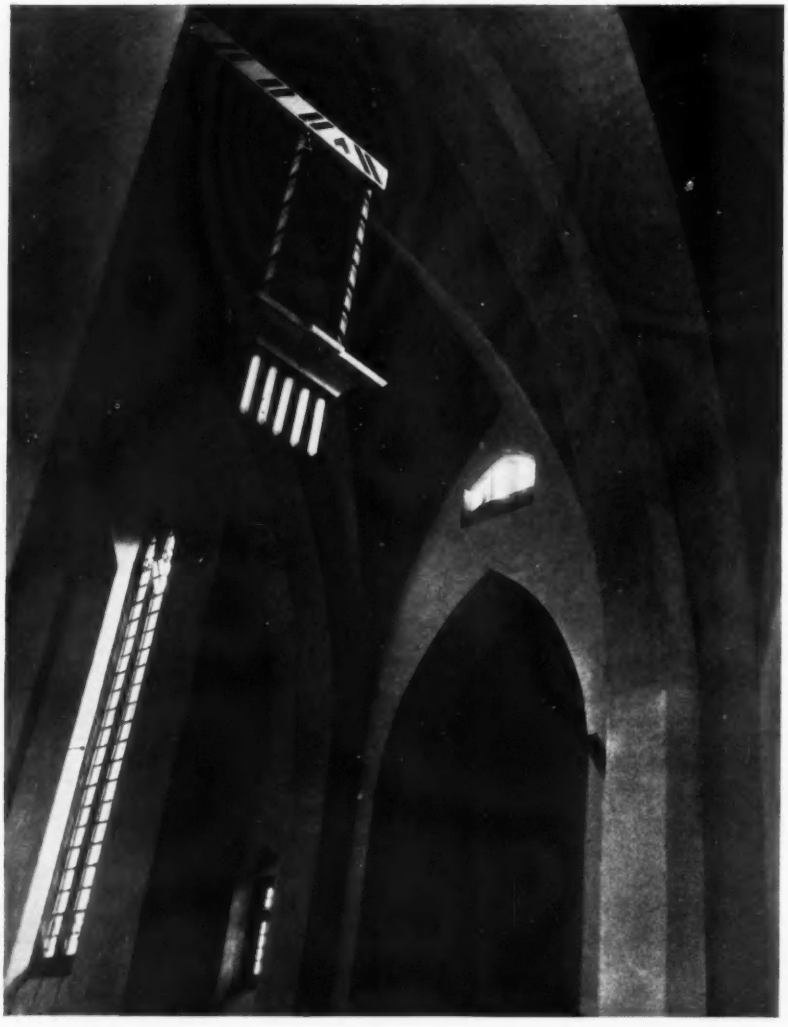


Looking towards the High Altar.

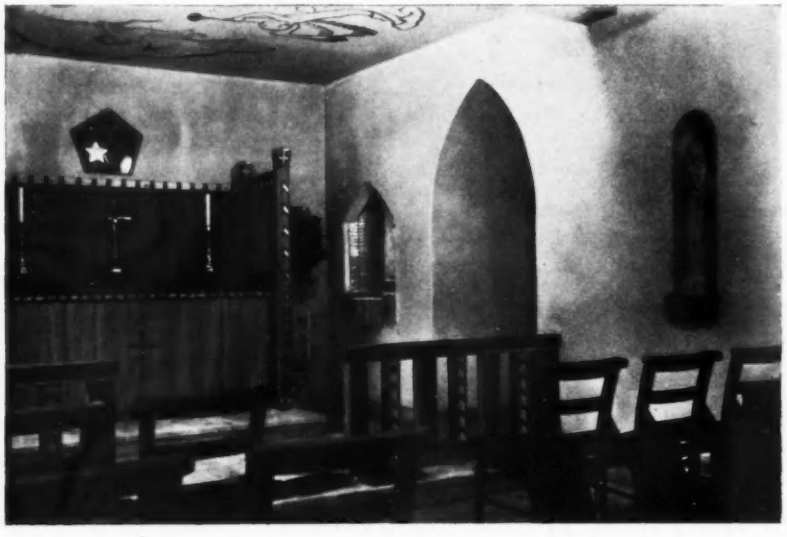


The west end of the church.

CHURCH AT HANWELL, MIDDX.:

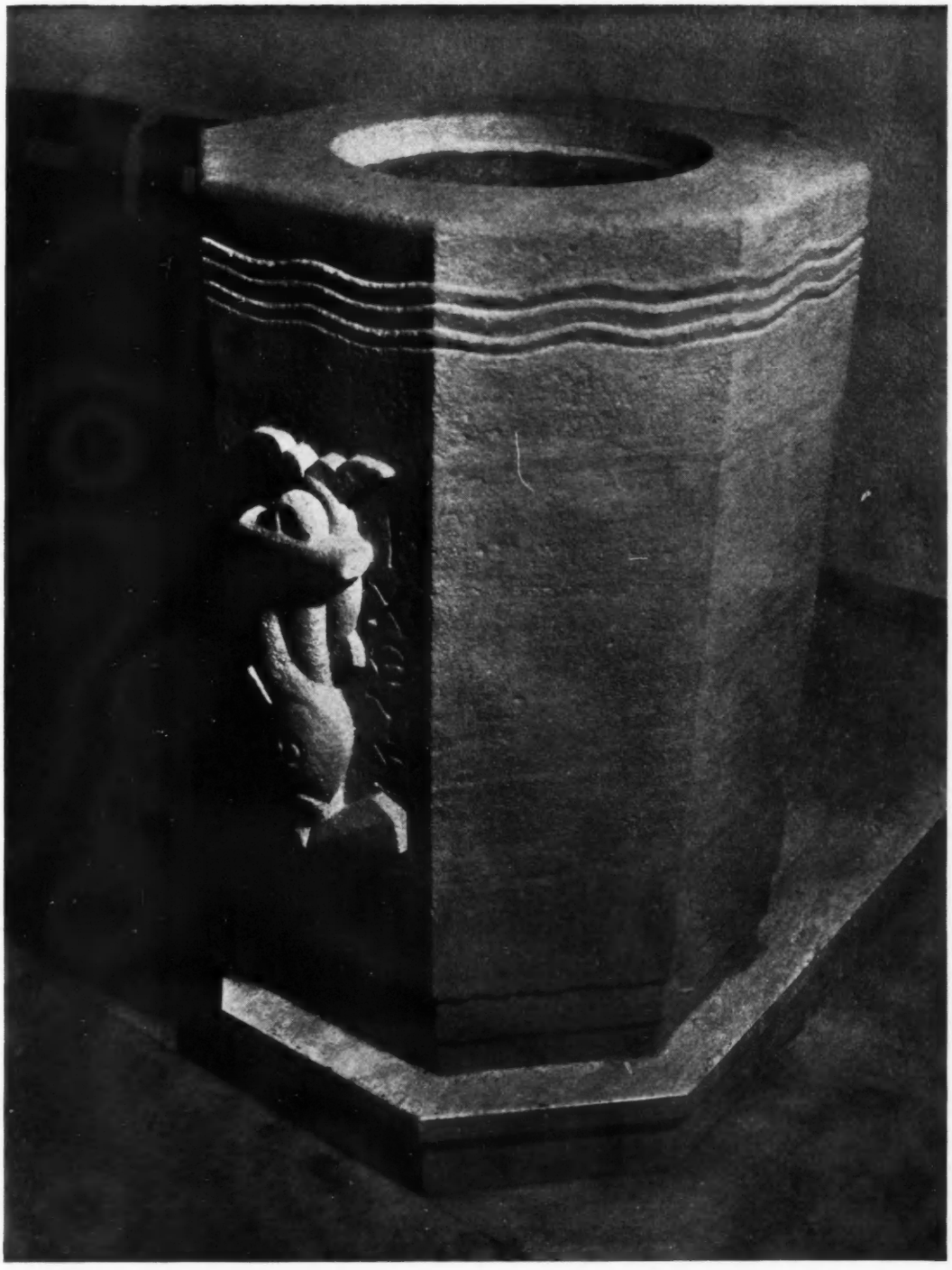


Vaulting at the east end of the church.



The morning chapel. Decorations on the ceiling were executed by Kathleen Roberts.

DESIGNED BY EDWARD MAUFE



The font at the west end of the church, carved by Vernon Hill.

LETTERS FROM READERS

ROBERT TOWNSEND, A.R.I.B.A.
JOHN EARLEY
CHARLES C. SPENCE
E. HOWARD SADLER

Buildings in Vienna

SIR,—Mr. Womersley, in his letter commenting on your caption to the photographs of the Karl Marx Hof in your issue for February 22, has given the "official" view of the Austrian rising, and although yours is an architectural journal, it would hardly be fair to allow this view to be accepted without any comment.

I should like to be allowed to bring your readers' attention to one or two points. First, your correspondent suggests the price paid for what are probably the finest working-class flats in the world was too great, involving, so he says, the disappearance of the middleman. I am not alone in my view that the compensations provided by better housing for workers, and the abolition of thousands of slums, by far outweigh the loss. Secondly, your remark on the photographs of the Karl Marx Hof was substantially correct. On Mr. Womersley's own statement, the flats were largely paid for by the middle-classes, and it is the middle-class that forms the strongest support of the Dollfuss government and the Heimwehr. The next point is that the secret doors and corridors referred to have been kept amazingly secret, for seldom have any buildings received greater publicity than the Vienna flats, which have not only been visited and studied carefully by hundreds of architects, but have been the subject of research by housing authorities.

The cause of the "riots" as they are termed by Mr. Womersley's correspondent—you describe the situation more correctly as civil war—was not the shooting of policemen searching for arms in Linz; it was the steadily deepening reaction of the Dollfuss government, culminating in the forcible removal of local government officials and the unconstitutional replacing of Socialist councils by Fascist commissioners, including that of Vienna, which had controlled that city since the war. The rising represented a desperate attempt on the part of the workers to resist this reaction.

Your correspondent describes the flats as fortresses; you are fairer in calling them well built. However, whether fortresses or sound construction, the care spent on them was justified, for had they not been strongly built, the loss of life from the shelling by government troops would have been even more terrible than it was.

ROBERT TOWNSEND

SIR,—I was very interested in Mr. Womersley's letter published in last week's issue of the JOURNAL, and fully appreciate the desire to enlighten his fellow countrymen.

Without for one moment doubting his informant's sincerity, it is well to remember that the Fascist-controlled press and radio in Austria do not necessarily constitute reliable sources of information.

The writer has lived in Vienna both before and since the war and is also in constant communication with residents of that city. He has also been asked to send British press reports, as an unbiased view of the facts was desired.

The recently formed Fascist dictatorship suddenly claims that the municipal dwellings erected in Vienna since the war are, in reality, modern fortresses. The absurdity of this suggestion is evident to any architect who has visited the settlements, and we have yet to hear the slightest hint of abnormal or suspicious construction from the many British architects who have inspected these structures. A modern steel-framed building, with brick filling and large window openings, cannot, by any stretch of imagination, be termed a steel-lined fortress.

It must in justice be noted that these Social Democrats whom Mr. Womersley's friend fears would have blown up Vienna by now unless so severely suppressed, did not wreck any industrial plant, destroy any building, nor blow up any gas factories; and though defending themselves under great hardships for three days, plundered not a single food store.

JOHN EARLEY

Restaurant on Snowdon

SIR,—I suppose that since the summit of Snowdon has already been desecrated with a railway, it is of little consequence what else is added to this apparently inevitable abomination (the railway, not Snowdon).

At the same time it does seem to me that Mr. Clough Williams-Ellis's new restaurant and shelter on Snowdon is not the most desirable type of building for such a site. Surely here is a place where Mr. Ellis might have given us a taste of his romantic genius, rather than this thing of glass and concrete.

I read that the walls must be largely of glass because of the view. It is idle to point out that the view can be seen admirably without walls or glass; the promoters think otherwise.

I notice, in the descriptive article published, that the writer is at much pains to point out that the object is scarcely visible to anybody, except a pilot in an aeroplane, until the unfortunates reach the top. Why not, then, alleviate the shock they may receive, having reached the summit of their ambition, and give us something a trifle less architectural and a little more rocky and romantic?

CHARLES C. SPENCE

The Younger Architect

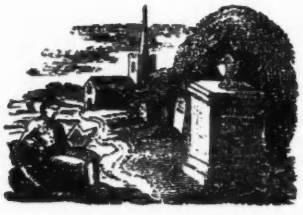
SIR,—As a younger member of the architectural profession I wish to point out the folly of, and the injustice involved by, exhibiting, in The Ideal Homes Exhibition, examples of modern domestic architecture designed by architects.

The ideal of educating the layman to the advantages of the employment of architects cannot be too strongly commended; but at the same time it must be realized that, though this may succeed to a small degree, it is found that these exhibitions furnish the visiting speculative builder and untrained so-called architects with free ideas and plans, which they incorporate crudely with their own attempts at house design.

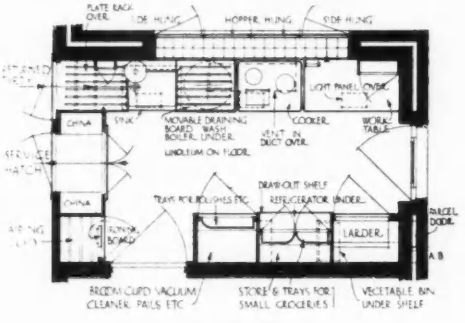
These people do not hesitate to pick the brains of designers, and offer them to the purchasing public, who think these domestic works are architecturally designed; these latter tend, in reality, to reflect a great discredit upon the architectural profession as a whole.

Similarly the smaller house competitions tend to give away free plans to speculative builders and the untrained so-called architects, who wait with eager hands and make great use of architects' plans.

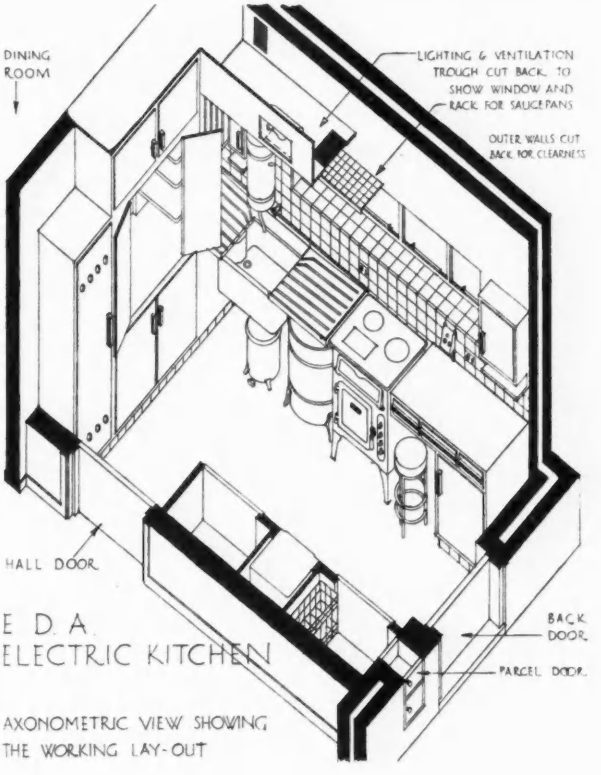
E. HOWARD SADLER



ELECTRIC KITCHEN AT THE BUILDING CENTRE



PLAN

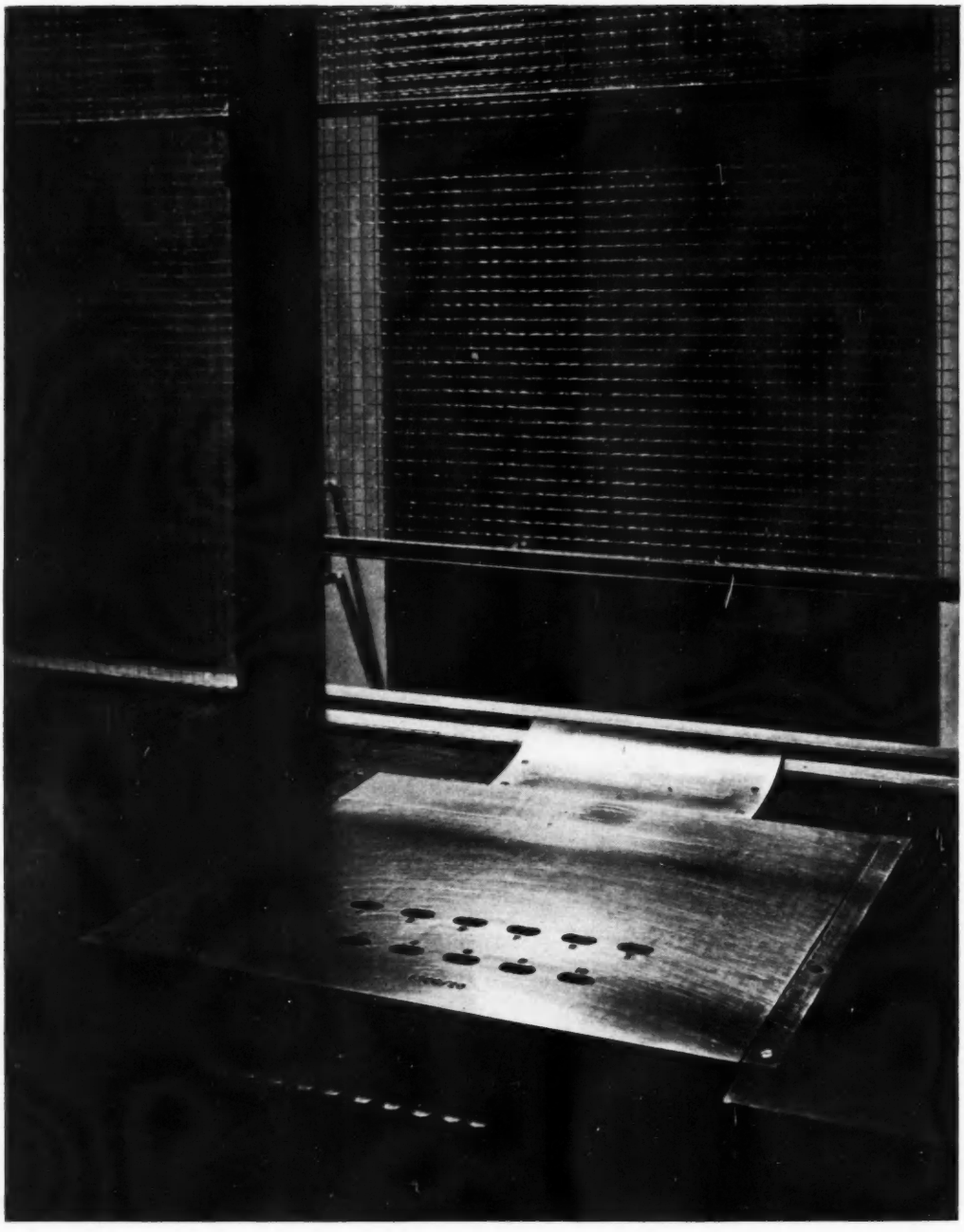


AXONOMETRIC VIEW SHOWING THE WORKING LAY-OUT

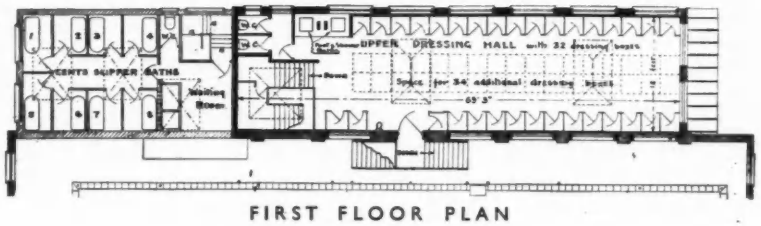
The British Electrical Development Association recently organized a competition among architects with the object of finding an ideal arrangement of equipment in electric kitchens for houses or flats valued at (1) £300-£400 and (2) £800-900. The winning design in the first competition, submitted by A. L. Osborne, has been executed at the Building Centre, and will be on view there until April 4. The above photographs were taken at the Building Centre.

DESIGNED BY A. L. OSBORNE

EXTENSION TO SWIMMING

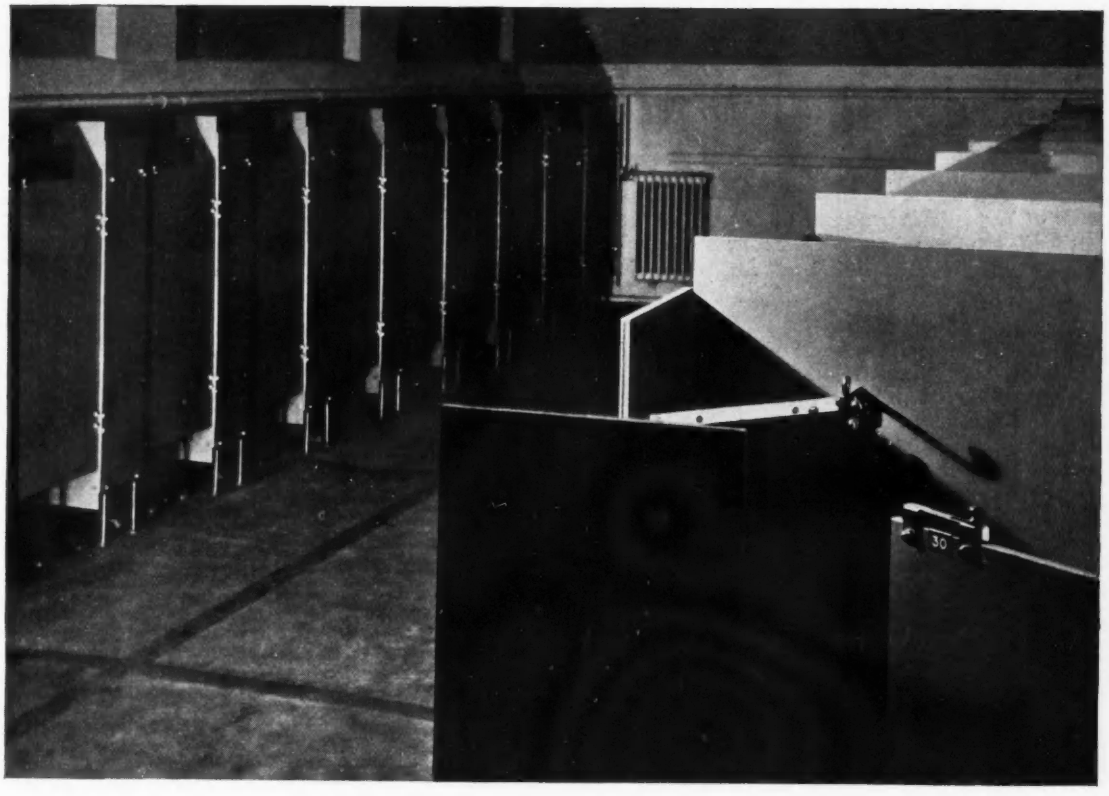


Above: The automatic ticket machines in the Superintendent's office. This office is designed to get complete visibility for both the dressing rooms and the bath. It is completely enclosed with sheets of Georgian wired glass. Right: First floor plan.



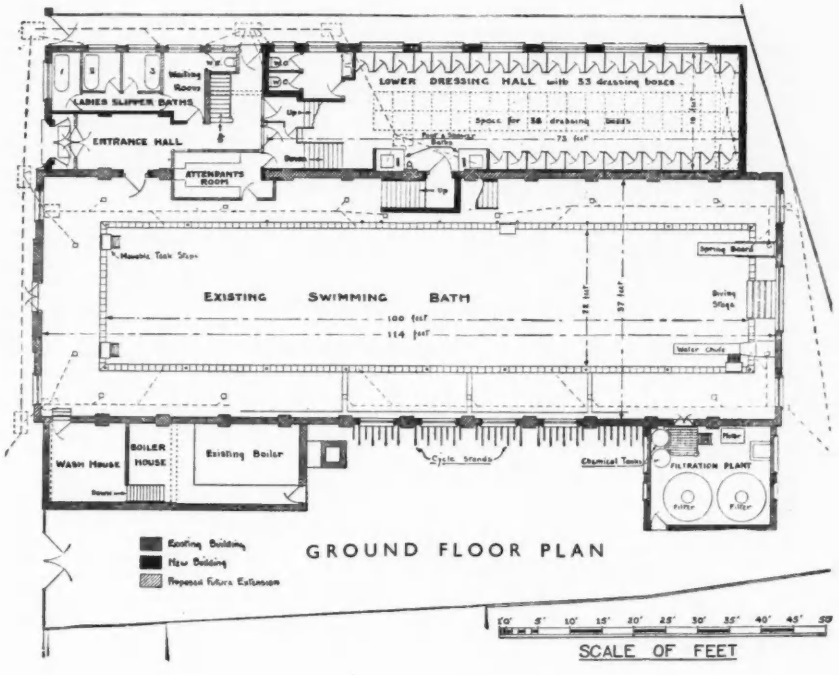
FIRST FLOOR PLAN

BATHS, SITTINGBOURNE: BY M. W. LASHMAR



The additions to these swimming baths comprised an entrance hall, attendant's room and two dressing halls. The upper hall has been equipped with 32 dressing boxes, and has space for the erection of a further 34 boxes. The lower hall has 33 dressing boxes, and there is space for an additional 38 boxes.

The dressing cubicles, shown in the photograph reproduced above, are made of Plymax, painted green, and supported on bronze uprights. The whole scheme of the cubicles has been worked out to use this material to the very best advantage. There is no framing and it demonstrates how completely independent of heavy structural framework modern materials of this light and rigid nature can be.



C

THE BODY OF THE TOWN

Following are some extracts from the Roscoe Lecture to the Liverpool Literary Philosophical Society, entitled "The Body of the Town," given by Professor C. H. Reilly, F.R.I.B.A., at the Royal Institution on Monday last, March 12.

A FEW years ago the Earl of Crawford, in giving this Roscoe Lecture, chose as his subject "The Soul of Cities." Mine is at a much lower level. He explored the romantic ideas, the poetry, the appeal to the imagination which the great cities of the world call forth. The task I have set myself is to dissect the actual bodies of our towns and to try to see whether under modern conditions these bodies are functioning satisfactorily and if not, what surgical operations it is our duty to perform upon them, painful as such may be to certain interests and nerve centres.

The town, it will be conceded, should be the finest, the most interesting, the most revealing work of man. It is certainly the latter.

At the present time in most of our large towns, the main roads straggle in from the country in various directions and are crossed and re-crossed by a network of narrower ones. In the centre, where was the market-place to which those roads once led, are generally a few quiet public buildings dating from an earlier century.

Near this inner centre is usually a slightly decaying Georgian quarter with straight and spacious streets and perhaps a square or two of similar houses. Next, and generally encircling the whole town, except perhaps along one of its main roads running west, is a vast area of small working class houses in narrow, dull streets, all slums or potential slums. Beyond this again is the ring of older suburbs, mainly for genteel people who, although their houses generally have gardens of their own, have public parks added to them, and then the new suburbs for the working classes. In most towns, and particularly in Liverpool, these new working class suburbs have the quietest and pleasantest little houses in the whole town. Interspersed with these new suburbs are areas of the little speculative houses of the modern builder for the smaller bourgeoisie. Beyond all this and far out into the country in every direction along the magnificent new roads leading to the neighbouring towns stretch the lines of similar little houses and bungalows in what is called ribbon development—a development we all deplore but, unlike other countries, and notably unlike the United States in its unspoilt parkways, seem unable to stop.

DISRUPTING ELEMENTS

Into this jelly-fish of an organism, pretty enough in parts but shapeless, clammy and suffocating as a whole, have appeared with almost alarming suddenness one or two exciting and disrupting elements. The first and most obvious are the new motor vehicles already multiplying like flies and travelling at anything up to sixty miles an hour. Speed might so obviously be a blessing, capable of shortening the hours of work of all by doubling or trebling the efficiency of each town considered as a machine for getting so much work done and done well. To bend this new form of traffic to our will instead of seeing it throttle our energies, very radical alterations will have to be made in our towns. That is, in my opinion, the first new factor.

The second disturbing factor is of a totally different kind. It is the demand of the new generation everywhere for sunlight, fresh air and exercise to a degree unknown before. The large number of educated people living today under almost slum conditions and knowing that such conditions are no longer necessary, will not be content to remain much longer housed as they are at present. Radical changes will have to take place. Whole sections of the towns now decaying and never anything to be proud of, must be destroyed, replanned and rebuilt, or new towns must be started and the old left to rot—a very much more feasible idea today than it was before the existence of the electrical grid distributing power everywhere, and almost inviting the moving of factories.

That the clearance of whole sectors of the town on a huge scale is necessary is clear from both these considerations. The new fast traffic on the one hand cannot be canalized and treated as it should be to make the most of its efficiency except by radical replanning, and the new standard of life demanded by all alike cannot be achieved except by rebuilding on a great scale.

What, then, is required to meet the new conditions and to keep pace with those continental and American cities which have already got a good start of us?

The first steps I suggest must be financial ones. Now that we have no longer great ground landlords with the power and the will to do the work for us, we must gain control of our towns ourselves. As the landlords of the London squares controlled the development of their land, whether they paid for the cost of that development or not, so must the public authority. It must take the place of the landlords and be as powerful over the whole as each was in his own sphere. As long as the individual owner of a small piece of land or of a building can stand out for exorbitant compensation, it is clear we can never have the efficient replanning of towns we need. The simplest and quickest way to obtain the necessary power is the one so often asked for by the larger municipalities. It is the power to tax land values. Once ground values are taxed so that the community gets a share at least of the increased value it creates, the private owner has not the same inducement to withhold a sale, and if in the end compulsory purchase has to be resorted to, his compensation is so much less. Already, fortunately, the authority has the right to purchase property unfit for human habitation at the bare value of the land. As our ideas develop of what fitness for human habitation means, larger and larger areas will fall in under this heading. If with us, as with the Viennese, State loans and subsidies should be cut off we can, as they did, build the new sections of the town out of income. It takes longer, of course, but, it has this great advantage, that buildings erected out of income and not on borrowed capital have no interest charges to earn. Rent is only required as far as the buildings are concerned to cover the cost of upkeep.

THE PLAN

Assuming then, as we must, that we can do what the Austrians have done, the first great need is a new plan of the city as a whole, in which the various zones of its work and activities are clearly laid down in the most convenient positions for the total efficiency. Having settled the main masses of the plan the next need today is to settle the lines of the main arteries, that is, the series of motor roads running directly towards the centre from the outskirts for fast traffic and connected by one or more similar circular roads. This system, which would only connect with the ordinary road system at special points by means of ramps, should either be a raised system, as already adopted in Italy, or a sunk system. The latter is obviously preferable when the land allows it. We know how tiresome and noisy elevated roads can be and how railway embankments or viaducts cut up and spoil a town. These sunken tracks, possibly running in the centre of a wide thoroughfare and with constant bridges crossing them, would deaden the sound of the swift traffic and by keeping it largely out of sight, lessen the strain on the nerves of onlookers.

Certain sites in the present business centres should be determined on which tower buildings might be erected on the understanding that they pay increased site taxes, care being taken that these sites are sufficiently far apart for the twenty thousand or so workers in each building—not at all an unusual number in New York—not to cause traffic congestion. Such tall buildings, for the sake of the town, must obviously be treated as towers. When it comes to buildings over a hundred feet high it is absurd to treat them as though they were merely lining a street in the ordinary way. Further, if high buildings are allowed in the commercial centre, wheeled traffic should be disallowed in the same area in certain hours. It should be remembered in favour of the isolated high building that it gives its users not only magnificent light and air but a sense of power and well-being, and that it provides, by its fast-running lifts, far quicker intercommunication between offices than is possible by horizontal travel.

It is the living quarters, however, of the mass of the people that are the important thing and where up till now we have made our greatest failure. Having cleared, say, a quarter of the town, how should we set about the rehousing? We shall never provide for all the amount of sun and air and opportunity for exercise the new generation is so rightly demanding except by building higher and by having, as a result, less land actually covered and much less land wasted on roads. It is calculated that by skilful planning and by building five-storey blocks the same number of people can be housed per acre on a quarter of the land, including the necessary approach roads, and that the remaining three-quarters can be open spaces for games and gardens. If lifts, automatic or otherwise, improve and come down in cost, as no doubt they would do if made in larger quantities, instead of five-storey, ten-storey buildings would become feasible, with a corresponding increase in the area for gardens and playing fields. Alternate open spaces might be parkland and playing fields, allotments and individual gardens with their unavoidable untidyness being kept to special places on the town plan.

That the moment is right architecturally for

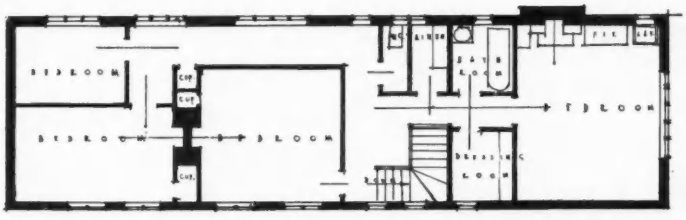
a great rebuilding and replanning of the decaying portions of our towns is clear when we consider the course architecture has pursued in common with the other arts during the present century—a course undisturbed by the war and indeed in the end only strengthened by it. In painting and sculpture there has been a wide movement away from superficial realism towards something the artist feels is more truly real, so in architecture the architect has tried to get behind the pomp and circumstance of classical, Renaissance and Gothic detail to something more fundamental. Such an attitude to his work means that the modern architect welcomes the arrival of each new invention which adds to his power of solving his practical problems.

The greater simplicity of form and surface which modern functional designing brings about and which is reinforced by the new materials, means the shedding not only of all the surface decoration, but also of the proportions which the Italian Renaissance palace has for the last three hundred years, directly or indirectly, forced upon the vast majority of our buildings. If they are not always among the most beautiful and typical things of our civilization already, our new modern buildings, following strictly upon our new needs, will very quickly become so, while those erected today in any of the traditional styles will as quickly become *démodé*.

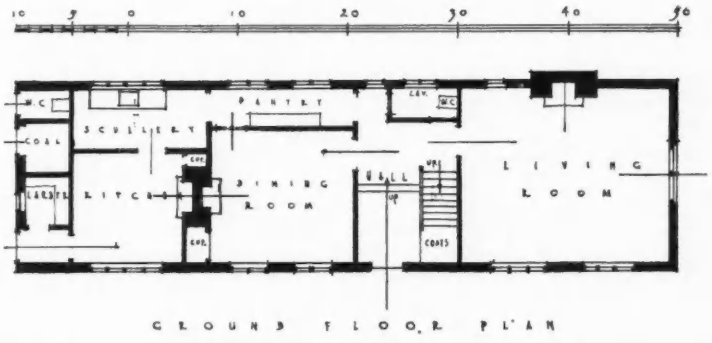
It remains to consider, with the vast work that is necessary to make our towns fit so that we can face the future with confidence, whether the type of public authority in charge of it is of the kind which can safely be trusted with so great a task. There is a great deal to be said for the American practice, a few years ago extended to Dublin, of handing over a town in an emergency to a small group of commissioners. There is more, I think, to be said for the German practice of having a town manager to think out in advance schemes in which conflicting interests have to be co-ordinated, while maintaining, or maintaining till recently, democratic control over the final decisions. This seemed to me a very wise way of proceeding, provided that each new building is part of a detailed plan for the whole city which has been very carefully studied beforehand by the best experts the town can employ. Complete drawings of every projected building have, of course, as with us, to be submitted to the municipality. The chief difference, however, is that as in Paris, or indeed any considerable French or German town, these drawings are considered by the architect or architects appointed by the town. With us, in nearly all our provincial cities, they go before a city engineer or city surveyor whose duty it is to advise on their architectural fitness as well as their safety. Liverpool, Bath, Brighton and other English towns today have, by special Acts of Parliament, complete control over the exteriors of all new buildings, yet none of these towns administer their Act through an architect. It is indeed very indicative of our general outlook that the advice given on the appearance of our towns should be tendered by a man whose chief duty is either, where there is a city surveyor, valuing land and buildings, or where there is a city engineer, constructing roads and sewers. It is equally indicative of our carelessness in all such matters that we have no regulations preventing architects and builders and speculators in property from sitting on the Council Committees which pass these plans. All these things show that the growth and rebuilding of towns in this country is not yet considered with sufficient seriousness. So far, except in rare cases and almost by accident, our towns are not, as towns, served by the best architectural brains. Town planning has become a blessed word covering a multitude of sins and lulling us to sleep. So long does the process take—five years seem to be the quickest the Acts of Parliament allow—that speculative builders go on covering the areas as if the plans did not exist.

HOUSE AT FINSTALL

This house was built in an old Worcestershire orchard, the walls being of white-washed brick and the roof of old tiles. There are two living rooms, four bedrooms, a bathroom and modern kitchen quarters. The cost worked out at approximately 1s. 1d. per cubic foot.



FIRST FLOOR PLAN



GROUND FLOOR PLAN

DESIGNED BY R. FURNEAUX JORDAN

Let us not be too pessimistic though. We have a way of amending Acts of Parliament after a few years' experience, and no doubt we shall soon be appointing Town Planning Commissioners for the whole country, as we have appointed electricity ones, railway ones and even ones on lunacy, each with a large district covering many towns and villages with the land between and helping to obliterate intermunicipal jealousy and other troubles. Private interests, masquerading as public ones on our local authorities—our peculiarly English form of graft—could, too, in this way be largely over-ridden. To such Commissioners might be assigned the difficult, but from a national point of view important, function of deciding which towns and villages or which parts of such, or which individual buildings, should be scheduled for preservation. Although we do not use them very much yet in their own

country, we are today producing young town planners whose work is appreciated abroad. With the plentiful supplies of architectural ability in this country today and the number of young architects trained to think in the new grand manner, so much simpler and grander really than the old, and able to construct in the new materials, and best of all with the old individualist outlook everywhere dying down and a new spirit of organization abroad, I cannot but think with the patent fact of the inefficiency and decay of our towns and the vast work to be done in them before our eyes, that our political good sense will find a way round our present obscurantist methods and lethargy and that the brave new world we all desire in our hearts will prove to be nearer at hand than most of us think.

LAW REPORT

ISLAND BUILDING SITE

Phillimore v. Morris.—King's Bench Division. Before Mr. Justice Macnaghten.

THIS was an action by Lord Phillimore against Mr. D. Morris, of Dorland House, Regent Street, to recover arrears of rent amounting to £1,300 10s. due under a lease of premises on the Phillimore Estate in High Street, Kensington, and for a declaration that the defendant was not entitled to determine the lease dated February, 1929.

Mr. Vaisey, K.C., for the plaintiff, said the defendant held his premises under a lease from plaintiff, and under it the landlord had the right of re-entry if the tenant failed to carry out the obligations set out, or if the tenant did not pay his quarter's rent within 28 days of its falling due. Three months' notice had to be given, the tenant also having the same right to conclude the lease if the landlord did not carry out certain provisions. The defendant did not pay the rent for the June quarter last year until September 19, and then gave the plaintiff three months' notice terminating the lease, which he contended he had the right to do under the clause relating to the non-payment of rent within 28 days.

Counsel contended that under the circumstances the defendant had no right to terminate the lease in the way he did, and that his client was entitled to judgment.

Sir Herbert Cunliffe, K.C., argued that the defendant here had practically the option of putting an end to the lease in certain events.

His lordship, in giving judgment, said, in his view, the only point for decision was the true construction of the lease which the parties had entered into. There were certain buildings on the site, and it appeared that the defendant agreed to spend about a quarter of a million of money on the erection of shops and flats. But since the date of the lease in 1929 the scheme had been gravely prejudiced by the trade depression that had swept the country. In a number of events the lease could be determined, but to his mind it was never intended that the defendant should practically have the option of putting an end to the lease at his own discretion by committing the default of not paying his rent, as a man could not take advantage of his own tort.

Judgment for the plaintiff with costs was entered.

WAREHOUSE AND

The façade to the railway siding.

This grocery warehouse and pork factory has recently been constructed at Sheffield for the Sheffield and Ecclesall Co-operative Society, Ltd.

The factory occupies the two bays at the south-west end of the building. The remaining five bays are used as a warehouse. Office accommodation has been provided on the first floor.

The loading and unloading platforms are protected by overhanging glass roofs and can be shut off from the building by steel roller shutters.

The building is of steel frame construction with reinforced concrete floors and brick walls. The external walls are in Woodside facing bricks. Internally, the walls to the factory are faced with ivory white glazed bricks, and the rest of the building is faced with common bricks, flush pointed and limewhited.

Generally, the steel windows are continuous except for the stanchion casings, and the staircase towers at each end of the railway frontage, the cills being 6 ft. above the floor level in order that goods may be stacked against the outer walls. There are two staircases of fireproof construction.

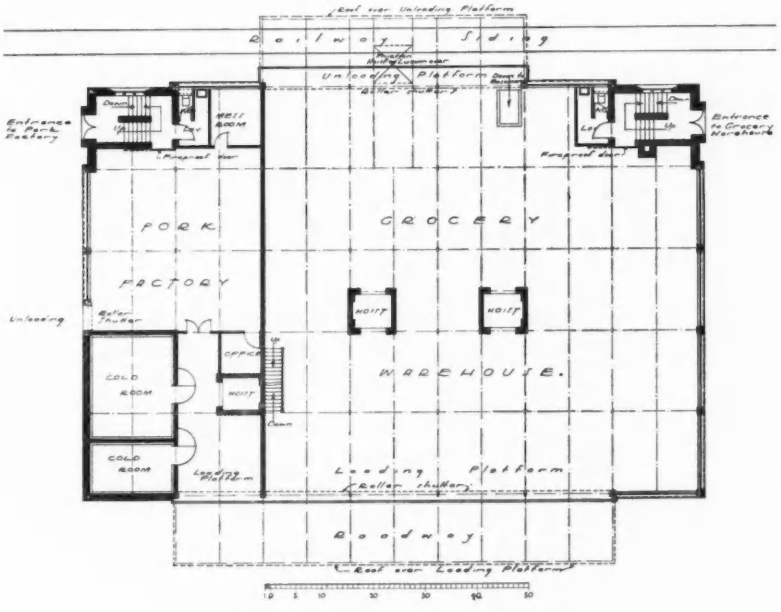
All the floors in the factory and the basement in the warehouse are finished with hardened granolithic, and the upper floors in the warehouse with maple boarding on counter boarding, laid on wood fillets.

To support the overhanging roofs to the loading and unloading platforms, the first floor beams were carried through the wall and cantilevered out a distance of 12 ft., the wall stanchions being stopped below and above the beam, the webs of which were suitably stiffened.

The factory is served by one, and the warehouse by two, electric goods hoists, placed so as to facilitate the movement of goods to and from all parts of the building. There is also a friction hoist immediately over the unloading platform in the lucum on the railway frontage.

FACTORY, SHEFFIELD: BY W. A. JOHNSON

The main façade, showing the loading platform.



GROUND FLOOR PLAN

PERIODICALS

FEBRUARY ANTHOLOGY

AMERICA

The Architectural Record
(Monthly, 50 cents)

JANUARY, 1934. Special issue: New house and construction systems. Many types of experimental house, illustrated with photographs and construction details and described technically.

The Architectural Forum
(Monthly, $1.00)

January, 1934. "Space House," designed by Frederick Kiesler as a setting for selling modern furniture. Built from plywood, glass and metal, with curtains of fabric, net and rubber (no plan). Domestic air-conditioning: small house, Philadelphia, by Richard Mecaskey, equipped with air-conditioning plant; with plant-capacity and operating costs kept to a minimum, in order to demonstrate to architects and the public the possibilities of domestic air-conditioning at low cost. Efficiency dependent upon 1½ in. cork insulation and double glazing. Aluminium foil for insulation; a research report by John Callender, illustrated by diagrams showing applications in timber-framed walls.

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BELGIUM

Architecture et Urbanisme
(Monthly, 10 fcs.)

No. 11, 1933. Review of projects submitted in competition for town planning Antwerp. Many schemes are illustrated. Those illustrated in detail are by Eggericx and Verwilghen, and Corbusier, Jeanneret, Hoste and Loquet.

La Cité
(Monthly, 5 fcs.)

No. 1. 1934. A house by Joss Franssen, built in brick and concrete; photographs, isometric projections of several floors, details of built-in furniture, and technical description.

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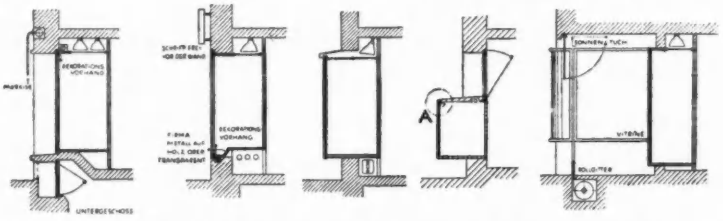
CZECHOSLOVAKIA

Stavitel
(16kc)

No. 5-6. Blocks of small modern flats, principally in Prague, by architects: Jan Gillar, Josef Stěpánek, Adolf Benš, Mart Stam (Frankfurt), J. Havlicek and K. Honzik.



Cross sections through shop fronts of several types, each with its own purpose, showing various means of lighting, heating, and blind arrangement.

[MODERNE BAUFORMEN]

FRANCE

L'Architecture
(Monthly, 6 fcs.)

No. 1, 1934. Planning scheme for the development and extension of Marseilles; M. J. Greber, architect; 20 pages, text plans and photographs.

Technical Supplement No. 14 (price 10 fcs.). Gas in Building, for heating, lighting, cooking, etc., with special articles on fittings, pipes, connections and lay-out of installations. Isometric drawings of typical kitchen and bathroom lay-outs.

L'Architecture d'Aujourd'hui
(25 fcs.)

No. 10, 1933. Entire issue, 140 pages, devoted to projects, executed works, and writings of Le Corbusier and Pierre Jeanneret: villa at Garches; villa at Poissy; town planning Algiers; Pavillon Suisse, Paris; Palais des Soviets; Palais du Centrosoyns, Moscow; town planning Antwerp; Salvation Army Building, etc.

No. 1, 1934. Issue devoted to plans and photographs of modern individual dwelling-houses.

La Technique des Travaux
(Monthly, 10 frs.)

January, 1934. Bathing establishment, Brünn, Czechoslovakia; architect, Bohuslav Fuchs. Large open-air swimming pools, sun-bathing court, restaurant, terraces and tennis courts. Reinforced concrete construction.

Group of offices, workshops, etc., for the Co-operative Association of the Chamber of Commerce, Rotterdam; architects, H. F. Mertens and Koeberg (architects for the Unilever Building, Rotterdam); reinforced concrete construction; photographs, plans, sections and technical notes.

Reinforced concrete jetty, landing stage and railway station, Verdon, Gironde; photographs, plans and construction details.

February, 1934. Government Building, Algiers; architect, J. Guiauchain. Triple hangars for seaplanes at Karoukla, Tunis; progress photographs, plans, sections and reinforced concrete details. Tunnels under the river Escaut, Antwerp; technical article dealing principally with problems of ventilation; general and detail photographs and diagrams. Interesting comparison with new Mersey Tunnel.

L'Architecte
(Monthly)

Nos. 11 and 12, 1933. The new hall and platforms at the railway station, Reims: plans, sections and photographs.

Article on the planning of modern schools, by Emile Decroix: many diagrams, and photographs of projects and completed work.

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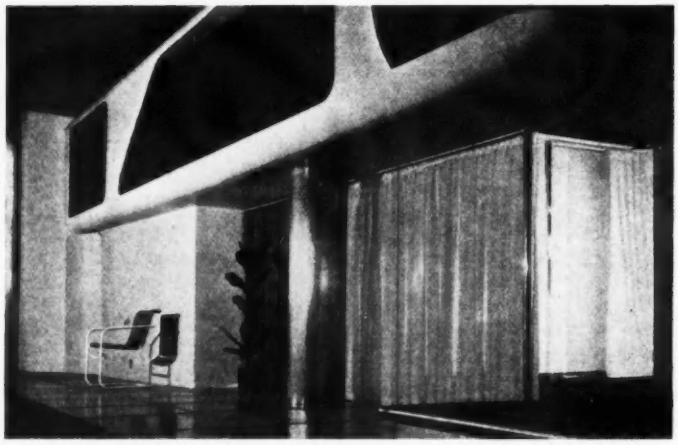
GERMANY

Bauwelt
(Weekly)

No. 6, 1934. Protection against explosive bombs in new buildings; article by



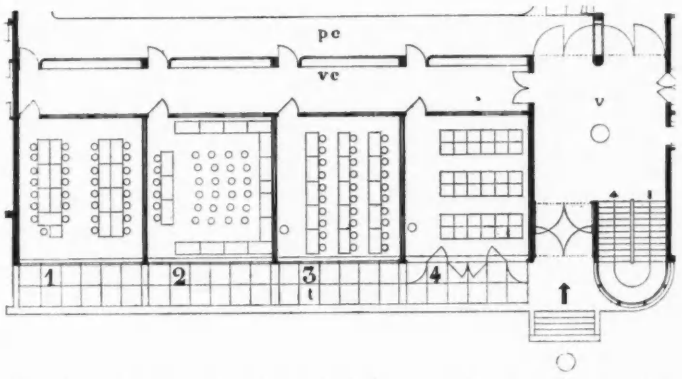
"Space House," built from plywood, glass and metal, as a showroom for furniture. Architect: Frederick Kiesler.

[ARCHITECTURAL FORUM]

Engineer Hans Scholsberger, illustrated by diagrams.

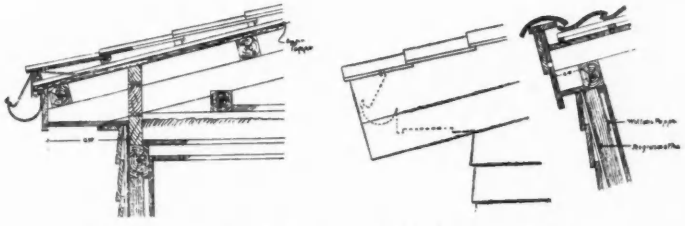
No. 7. Principally notes, photographs, and diagrams concerning timber construction; including photographs, plans and sections of three timber houses in Norway, by Andreas Bugge.

No. 8. Continuation of series: The Building Work of our Nordic Neighbours, by Ernst Neufert. In spite of the State assistance, there is still an appreciable lack of small dwellings in Germany. According to the latest Berlin Dwelling Regulations, therefore, untenanted dwellings, of less than three rooms, must be notified as from February 1, irrespective of the withdrawal of compulsion. And yet the private building industry is disinclined to erect small dwellings, as these are relatively expensive under normal German building methods. *Bauwelt* therefore publishes a review, by Prof. Ernst Neufert, on the building of small dwellings in Stockholm, which proceeds on quite different lines, and is precisely instructive in this respect, although not at all applicable to Germany without modifications. Blocks of dwellings, by Sven Wallander; plans, photographs and details of interior fittings, are illustrated in this issue.



Alternative seating arrangements in school classrooms, from an article on modern school planning.

[L'ARCHITECTE]



Eaves and verge of tiled wood roof to timber houses, Norway.

[BAUWELT]

Deutsche Bauzeitung
(Weekly)

No. 4. Farm Buildings: cow houses and piggeries; plans, sections and photographs.

No. 5. Designs premiated in competition for lay-out of bathing and water-sports establishment near Berlin.

No. 7. Designs premiated in a competition for a Railway Station, Florence. Planning for the installation of service pipes and sewers to blocks of dwellings; illustrated technical article. Street-car waiting room on the Plaerrer, Nuremburg, with insulated telephone booths and automatic restaurant; photographs, plans and details.

No. 8. "Slum" issue, including articles: Economic Sanitation and Slum Clearance; Five Year Plan to Solve the Housing Problem in England, by Dr. Block; Financing Old Town Improvement; The Improvement of the "City" of Berlin; The Question of Cost.

Entrance to swimming baths, Brünn, Czechoslovakia. Architect: Bohuslav Fuchs.

[LA TECHNIQUE DES TRAVAUX]

Moderne Bauformen
(Monthly, 3 R.M.)

No. 3, 1934. The architecture of shops, by Adolf Schuhmacher: a selection of specimen pages from a technical book on shops and business streets. Examples of good and bad shopping streets and arcades; shop-fronts and shop interiors; lettering, illuminated and unilluminated; cross-sections through shop windows for various purposes; the arrangement of sun-blinds, etc.

The new railway station at Havre; architect: Henri Pacon; plans, sections and photographs.

Necessities of Everyday Life (continued): cupboards and chests of drawers; 22 photographs.

Baugilde
(Fortnightly, 1.50 R.M.)

No. 3, 1934. Protection of buildings against aircraft; article with 16 diagrams (from directions issued by Reich Ministry for Air Undertakings).

A block of flats in Cairo. Architect: G. E. Falorni.

[RASSEGNA DI ARCHITETTURA]

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HOLLAND

Bouwkundig Weekblad Architectura

No. 6, 1934. The National Serum Institute, Rotterdam; architect: A. van der Steur; lay-out plan, floor plans, sections and photographs.

No. 7. Criticism of premiated designs in Stockholm town-planning competition; photographs and plans of town as existing and reproductions of successful projects.

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HUNGARY

Ter Es Forma
(Monthly)

No. 1, 1934. Modern houses, flats, and furniture; photographs and plans, by architects: Marcel Breuer, Istvan Bakos, Károly Dávid, Josef Fischer, Alfred Forbat,

Josef Körner, Pál Ligeti, and Farkas Molnar.

No. 2, 1934. Issue devoted to plans, exterior photographs and descriptions of small modern detached houses, principally in Hungary.

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ITALY

Architettura
(Monthly, 18 Lire)

No. 1, 1934. Project for the planning of a new central piazza at Lugo ; architect, Giuseppe Vaccaro. Small railway station at Cossato ; architect, Nicola Mosso. New entrance and reinforced concrete circular staircase to the Vatican Museum ; drawings and progress photographs ; architect, Giuseppe Momo.

No. 2, 1934. Institute of Pathology, Milan ; architect : Enrico Griffini ; plans and photographs, principally of the interior.

Hotel Atlantic, Rome ; architect : Mario Loretti ; large-scale plans and photographs.

Rassegna di Architettura
(Monthly)

No. 1, 1934. Institute of Pathology, Milan ; architect, Enrico Griffini. 14 pages photographs and plans.

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SPAIN

A.C.
(Quarterly, 2.75 Pesetas)

No. 12. Issue devoted to Conclusions of IV Congress C.I.R.P.A.C., with reproductions of maps exhibited in Athens and explanation of standardized symbols adopted by all groups associated with C.I.A.M.

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SWEDEN

Boet
(Monthly, 1.50 Kr.)

No. 1, 1934. Books in the modern interior ; article by H. Lindberg, illustrated by photographs of bookcases and small libraries in private houses.

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SWITZERLAND

Schweizerische Bauzeitung
(Weekly)

No. 7, 1934. Pumping station between the Black and White Lakes in the Vosges ; engineers : H. Blattner and H. Strickler ; Technical description and diagrams and photographs.

Small grandstand on racecourse, Yverdon ; architect : H. Decoppet ; photographs, plan and section.

A "new and perfect method of fixing ceramic plates to wall surfaces" ; illustrated article by Dr. P. Sponagel.

No. 8. The design of Swiss motor traffic roads. Ski-huts on the Braunwald Alp, and at Oberfeld.

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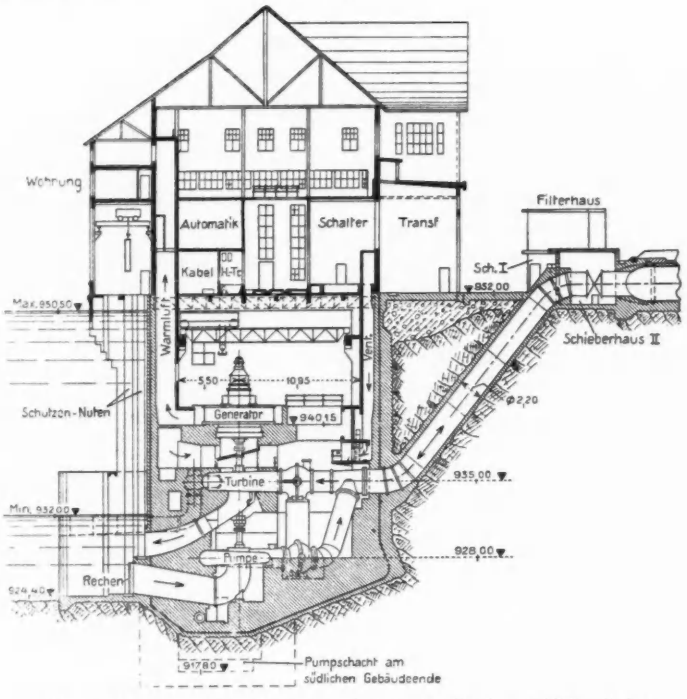
YUGOSLAVIA

Architektura
(Monthly)

February. Town planning the centre of Zagreb ; architect : Ivan Zemljak.



Cross section through pumping station between the Black and White Lakes in the Vosges.
[SCHWEIZERISCHE BAUZEITUNG]

SOCIETIES AND INSTITUTIONS

LIVERPOOL ARCHITECTURAL SOCIETY

Mr. Norman S. Henshaw (of the firm of Joshua Henshaw and Son, builders and contractors), lecturing on "Organization in Relation to Cost" before the Liverpool Architectural Society last week, said that in the earlier stages of working out their conceptions architects might find advantage for themselves and their clients in utilizing the experience and knowledge which builders acquired in relation to the best sources of supply, whether of materials or of specialist services.

Mr. Henshaw said that it was unfortunate that a large and growing proportion of bills of quantities placed before builders as a basis of tendering consisted of lump sums provided to cover the work of the so-called specialist firms. No details were given of the materials to be supplied or the labour to be spent upon these lump sum sub-contracts and it was difficult to estimate the reaction of the building owner if he knew that in accepting a tender for a £100,000 job, something like £25,000 had not been the subject of any competition among the tendering builders at all. In any case, however, under this system of tendering, it was obvious that for a large proportion of the works undertaken neither the architect nor the building owner derived any benefit from the skill, knowledge and business experience of the builders who tendered for their work in the matter of obtaining the most favourable prices.

In an effort to reduce delay in completion by careful organization at the very start of the contract builders were, in increasing numbers, making use of progress charts. Their advantages could hardly be over-estimated. But it could not be too strongly urged that these progress charts must be drawn up immediately the contract was signed and the usefulness would depend in no small degree upon the completeness of the information available at the time they were drawn up.

Without the full working drawings and the instructions as to specialist services the progress chart became a pious hope rather than a definite and practical proposition. A firm stand should be made against the pressure put upon the architect by the building owner to get the work started immediately the tenders had been opened if the architect had not yet completed his details and/or had not yet settled the specialist services.

Such premature commencement was not merely costly to the builder. It was in many instances against the client's own interests. Overheads suffered in direct proportion with labour and materials costs when the organization was faulty and a builder was frequently called upon to face a loss under a contract because there had been little or no co-operation between the architect and himself in the organization.

SOUTH WALES INSTITUTE OF ARCHITECTS

Mr Ernest E. Morgan, F.R.I.B.A. Swansea's borough architect, was elected as chairman of the branch at the annual meeting of the Western branch of the South Wales Institute of Architects. Mr. J. Herbert Jones, F.R.I.B.A., was re-elected hon. secretary.

WORKING DETAILS : 17

WALLS, ETC. ● RESTAURANT AT BROADCASTING HOUSE, LONDON ● RAYMOND McGRATH

Above is a general view of the Staff and Artists' Restaurant at Broadcasting House, and on the following pages will be found details of the walls, glazed screens, tables, and the fountain for washing tumblers, which is shown on the extreme right of this photograph.

The walls are finished with lemon yellow Finella lincrusta and the dado is covered with green rubber. All the metalwork is stainless steel and the wood cappings are red Nigerian mahogany.

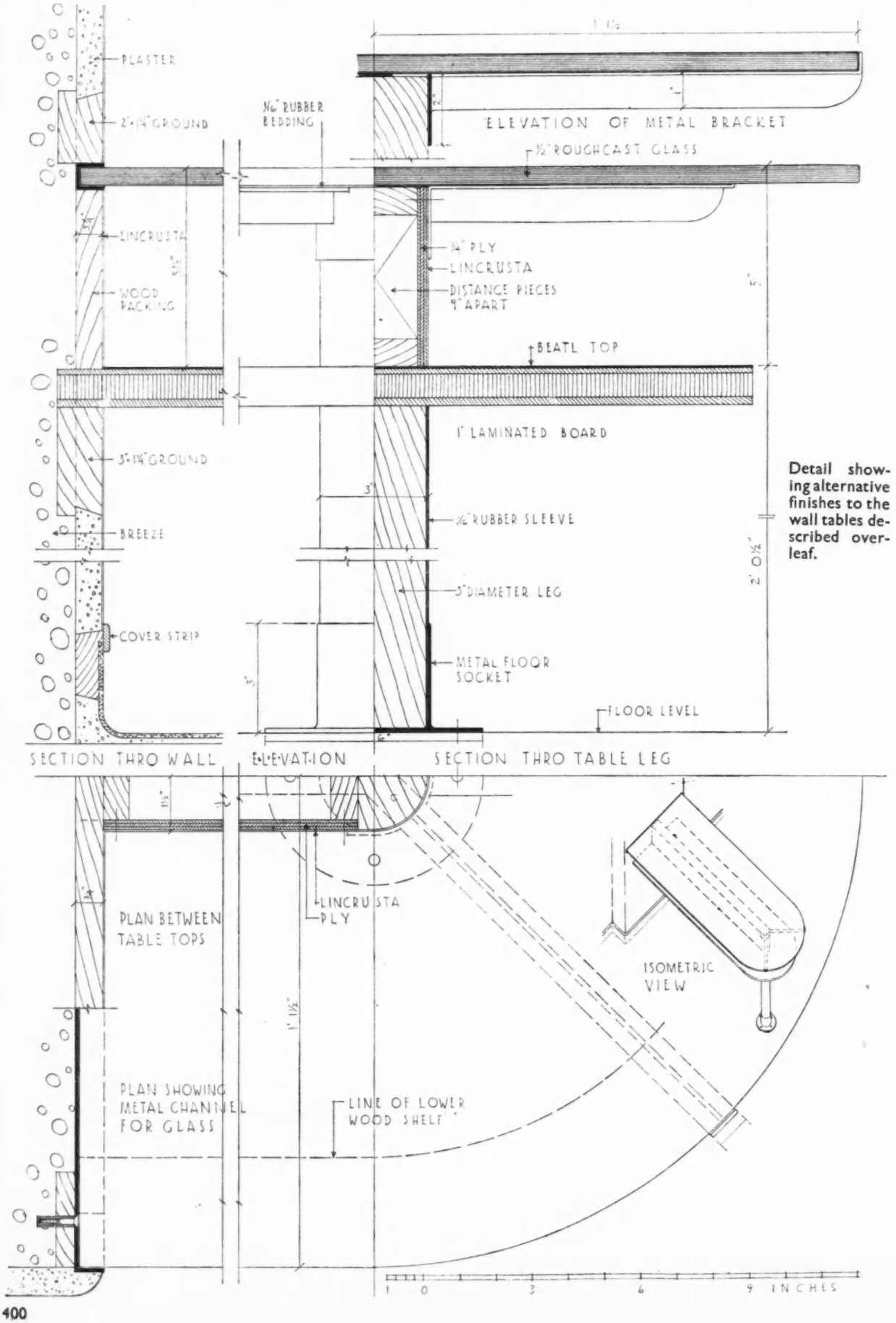
One of the restaurant tables, fixed to a pier, is shown on the left-hand side of this photograph. To ensure the maximum amount of leg room, these tables have only one free standing support. They are provided with a rubber covered under-shelf for handbags, books, etc., and the table tops are made from sheets of clear armourplate glass supported by cellulosed metal brackets.

The fountain for washing tumblers shown in detail No. 20, works automatically and consists of a metal lined concrete bowl with a fitting in the centre on which the soiled tumbler is placed upside down. A slight downward pressure then releases the water which sprays the tumbler thoroughly inside and out. The rubber topped shelf surrounding the fountain stands at table height from the floor.

The Restaurant was illustrated in our last issue.

WORKING DETAILS : 18

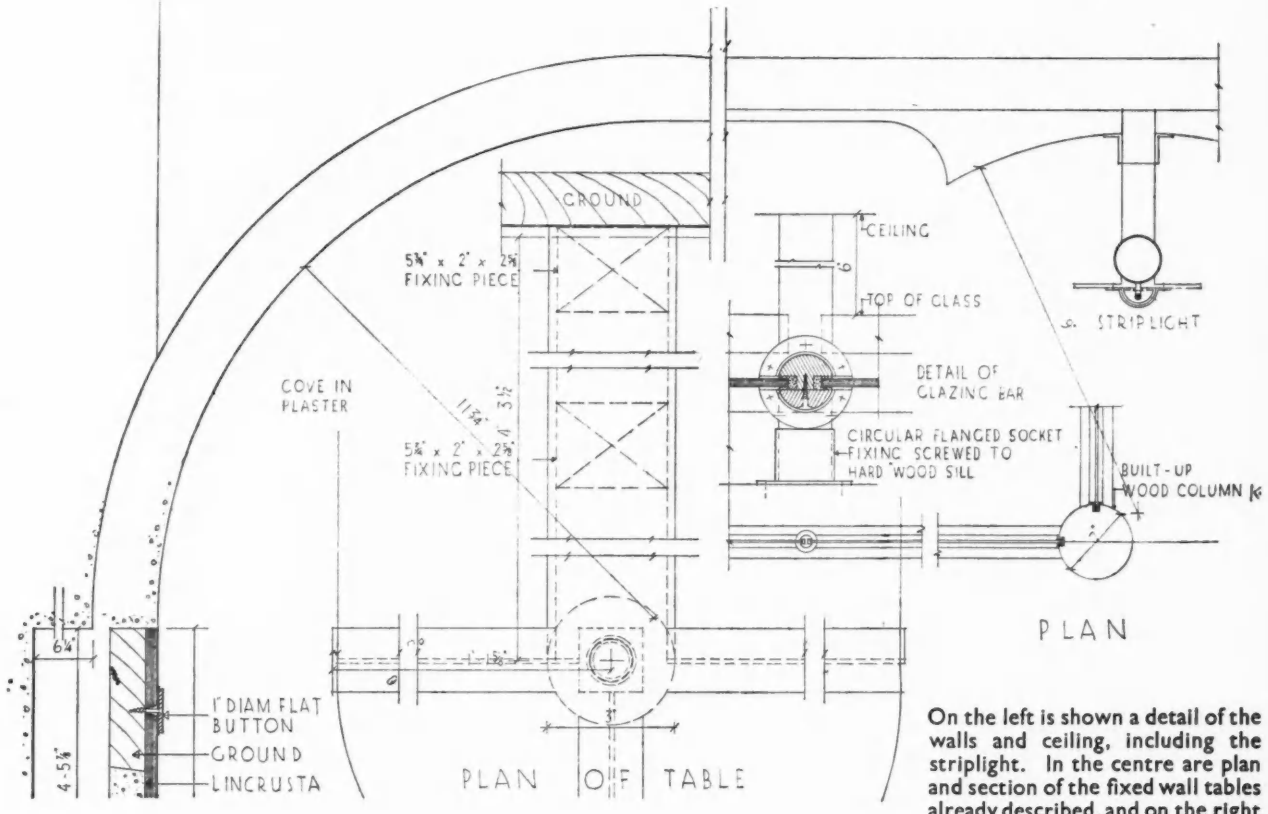
WALL TABLES • RESTAURANT AT BROADCASTING HOUSE, LONDON • RAYMOND McGRATH



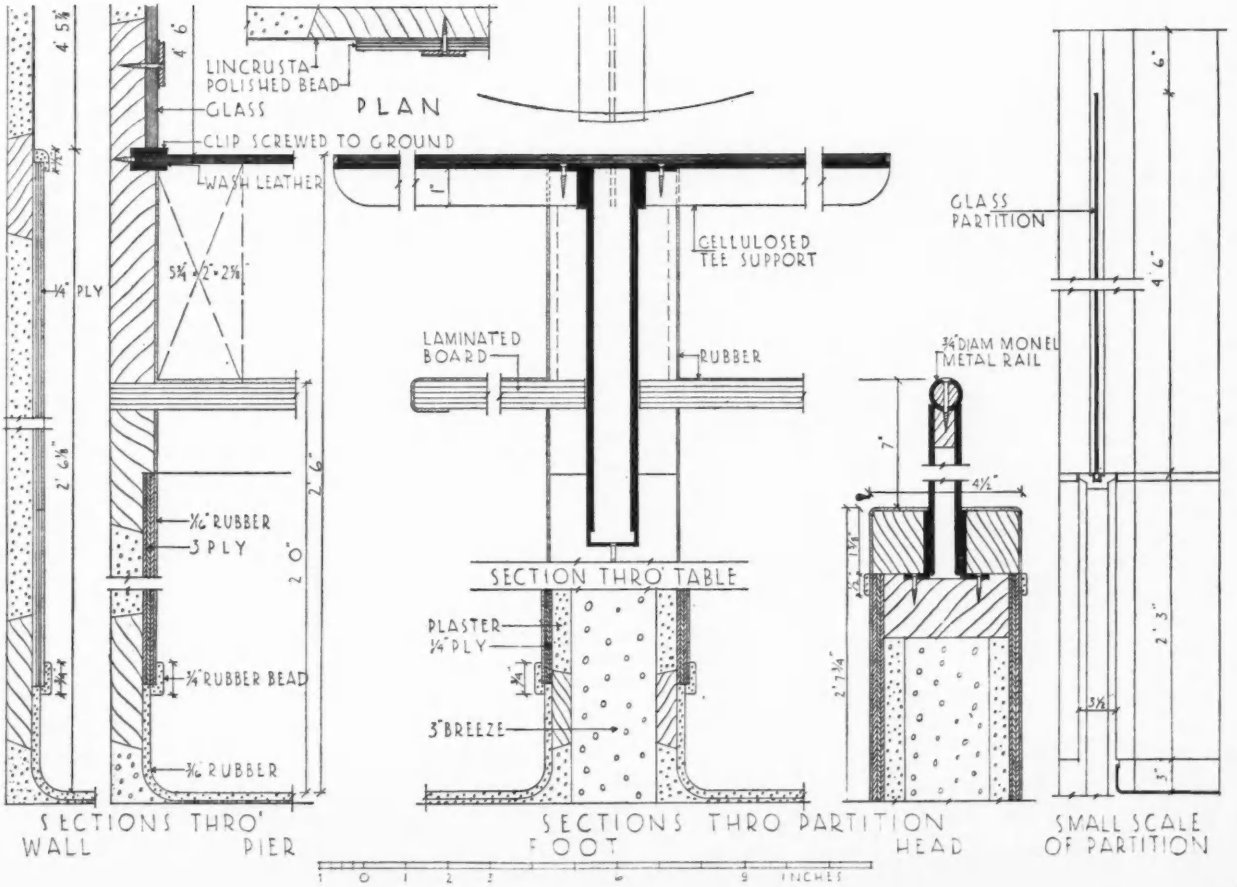
Detail showing alternative finishes to the wall tables described overleaf.

WORKING DETAILS : 19

WALL SECTIONS • RESTAURANT AT BROADCASTING HOUSE, LONDON • RAYMOND McGRATH

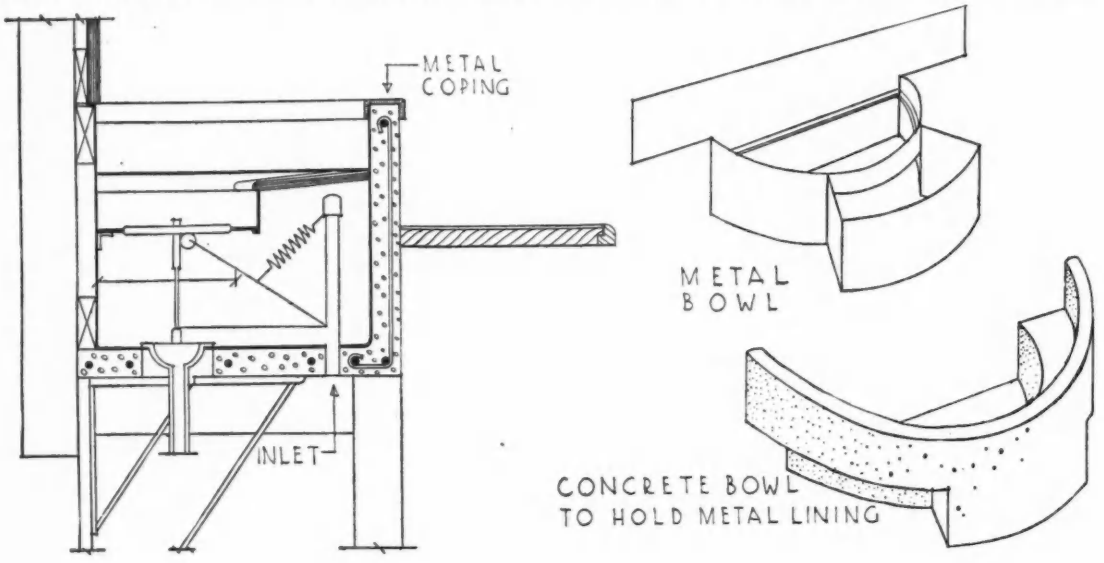


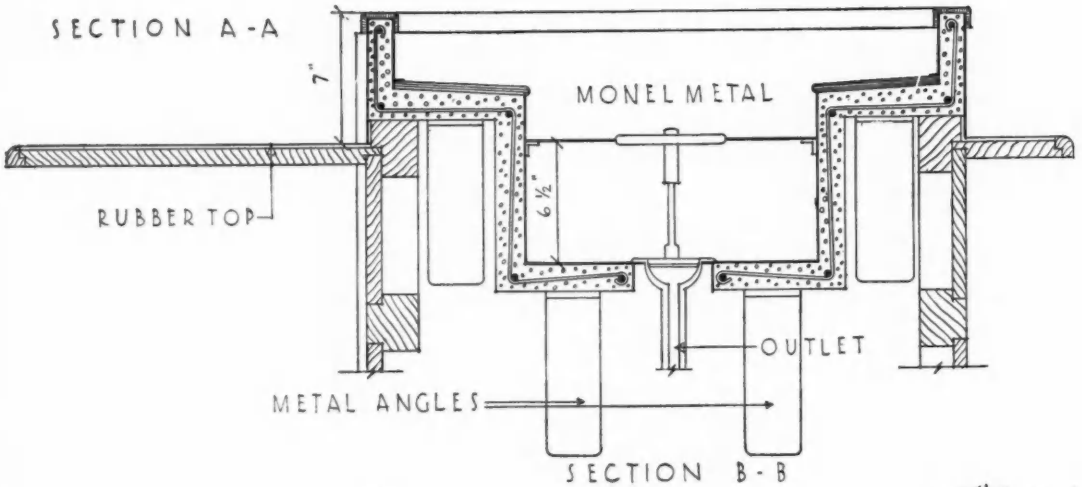
On the left is shown a detail of the walls and ceiling, including the striplight. In the centre are plan and section of the fixed wall tables already described, and on the right are details of the glazed screens and dwarf partitions.

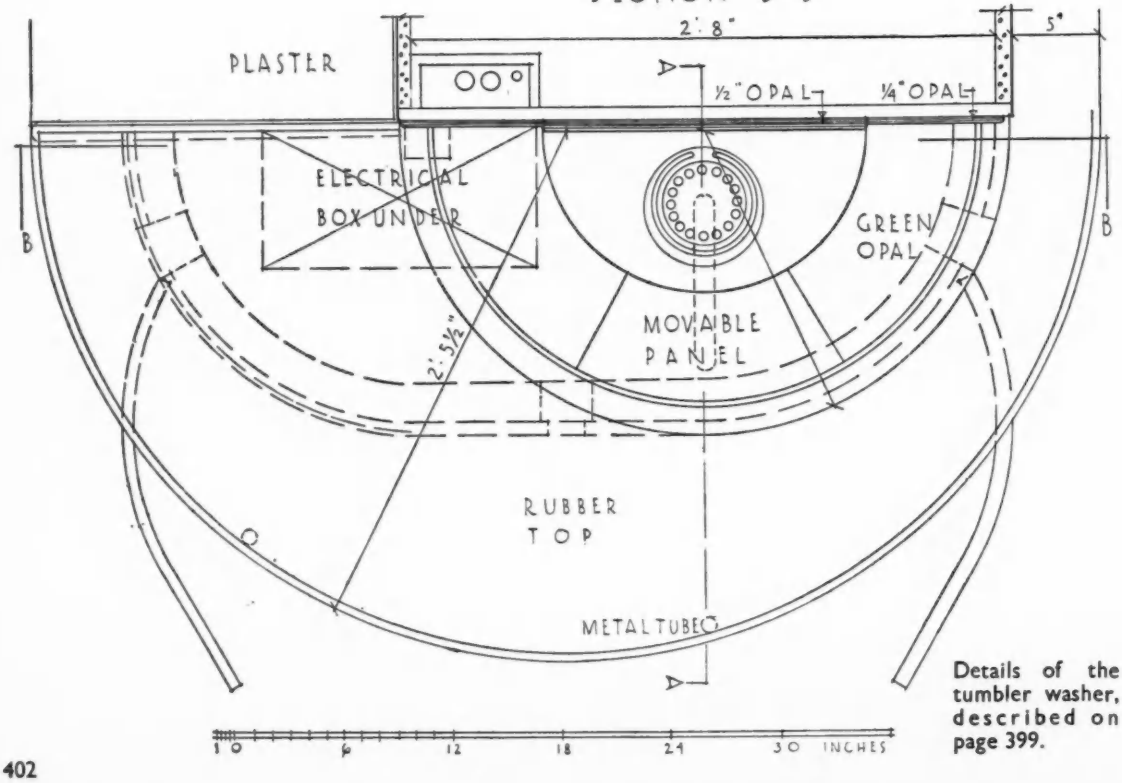


WORKING DETAILS : 20

TUMBLER WASHER • RESTAURANT AT BROADCASTING HOUSE, LONDON • RAYMOND McGRATH







Details of the tumbler washer, described on page 399.

LITERATURE

SPECIFICATION

[*By J. R. Leathart, F.R.I.B.A.*]

Specification, 1934. (Thirty-Sixth Edition.) Edited by Frederick Chatterton, F.R.I.B.A. London: The Architectural Press. Price 10s. 6d. net.

THE specification is the architect's book of instruction to his builder; it is, in fact, a guide book, and as all good guide books are composed with conciseness and precision, so should all good specifications be so written.

Unfortunately, there is evidence of too much rule-of-thumb method in modern specification writing, and like the hereditary characteristics—and faults which are handed down from generation to generation in family life, there are specifications begotten from a long forgotten sire with the identical ambiguities and discrepancies reproduced with perfect fidelity.

Specification writing is a most exacting and difficult task; the realization of the knowledge and skill necessary to produce a dispute-proof document may possibly account for the fact that so many architects "persuade" their quantity surveyors to undertake this important work for them. Many an architect is thus a complete stranger to the specification of his building, and when, and if he is called upon to make its acquaintanceship, it is with humility and apprehension that he does so.

This isolated feeling can be overcome by the almost simple procedure of the architect writing the "Specy" (as the consulting engineers call it) himself. As no one mind can contain the encyclopedic knowledge necessary for the task, it is, therefore, essential that reliance should be placed upon a trustworthy guide. It is for this exact purpose that *Specification* was conceived and first published over 30 years ago. The recently issued annual edition, under the able editorship of Mr. Frederick Chatterton, deals fully with established practice and, in addition, keeps abreast of modern building complications in a comprehensive manner. There are some 600 pages of closely packed information in the current issue, enough, indeed, to give pause to the most highly-skilled expert the profession possesses. When one considers that one is supposed to know all the essentials contained in this single volume, nothing but complete humbleness of mind can result from a cursory examination of its contents.

Of the greatest importance, next to the subject matter, is the style of the actual specification writing. The language is simple, concise and clear-cut, and conveys the architect's exact meaning of his intentions to the complete bafflement of that peculiar type of builder who possesses a sensitive nose for those carelessly-written ambiguities which so often enable him to scent fortuitous extras.

The sectional explanatory notes preceding the actual specification models for each trade are of the greatest possible value to the architect, and are, in themselves, indispensable aids in ensuring first-class materials and methods of workmanship. In America, specification writing is a separate branch of the architect's office organization, and the work is entrusted to specialists who do nothing else. The preparation of clearly defined specifications is regarded as being equal in importance to the preparation of clearly defined working drawings.

We do not bestow the same application to the drafting of the specification as we do to the drawings in this country; it would be better if we did.

The first section of *Specification* contains illustrated articles on town halls, dental hospitals, downpipes and gutters, sports grounds, pavilions and stands and public abattoirs; downpipes and gutters seem to be in distinguished company for once in a way.

Mr. Morton Shand reviews the R.I.B.A. London Architecture Medal and Diploma building of the year—Lloyds Bank Headquarters in Cornhill—in his usual entertaining style. What has the Assessor of the Bexhill Entertainments Hall Competition to say to Mr. Shand's criticism?

Specification is an astounding half-guinea's worth.

CECIL RHODES

[*By Alexander Walton*]

Cecil Rhodes. By his architect, Herbert Baker. Oxford University Press. Price 10s. 6d.

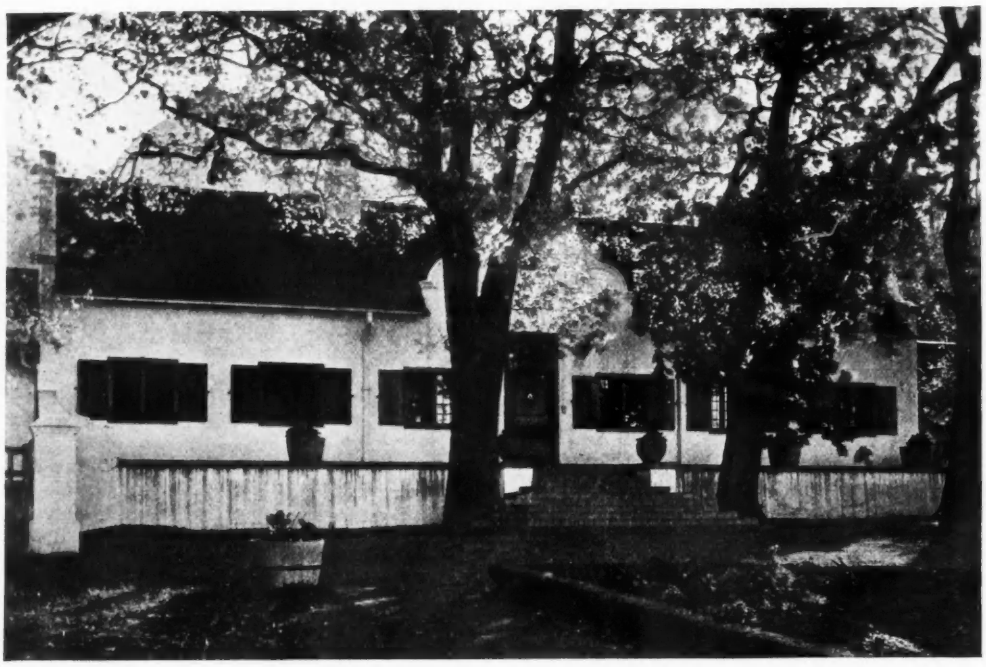
GENERAL SMUTS, in a foreword to this little book, points out that Sir Herbert Baker holds a unique position among writers on Cecil Rhodes as one who could sympathize with and understand the mystical qualities and aspirations which made of Rhodes something greater than the "jingo" imperialist with a good money sense that he is too often painted. That this is so, no one who reads this book can doubt. It is a fascinating and intimate study of one who, had he lived to a greater maturity, might have wielded powers which would have changed the course of world history. But, besides thus establishing an immediate claim to the attention of the general public, the work recommends itself in many ways to the architect, as such.

Here is a study in client psychology. The subject, it is true, is no ordinary client; indeed, such a client, for several generations, this starved Europe has not known. "My only instructions in this case were 'not to be mean,' which implied that, though he called it 'a cottage,' I was to spare no expense in making the small house strong and beautiful." Such directions as these must have preceded the inception of the Petit Trianon. Nothing less on the part of the public is required to revivify architecture today.

Then there is the influence of Ruskin upon Rhodes. One could wish that the author had been more explicit upon the extent of this discipleship. Beyond a common feeling for patriotism, morality, and discipline, it is hard to see what these two could share. Most interesting of all is what I feel inclined to call Rhodes's "primitive modernism." "I like the big and simple, the barbaric, if you like," Sir Herbert reports him as saying. Egypt and Epstein would meet in such a taste, and it is one which influenced Rhodes's every thought, so much so that he sent his architect to study "Rome, Pæstum, Agrigentum, Thebes and Athens." But the author seems, while admiring the sheer force of the trait, to deprecate its megalomania. Those who know his work in England will appreciate the fact that he has not himself become dominated by the large in scale. Not Rhodes's dreams of vastness, but Sir Herbert's individual neatness broods over Trafalgar Square, nor has the Old Lady of Threadneedle Street so far forgotten her sex as to adopt in her late rejuvenation any such aggressive masculinity. But perhaps this is due to the architect's sense of fitness for purpose.

On the subject of his own architectural work for Rhodes the author is regrettably diffident. Illustrations of two of his houses, or rather of their gardens, are included; in each case the beauties of the scenery are given prior consideration, only an elaborate dutch gable peering through the luxurious foliage to recall the fact that nature did not do it all. The Rhodes Memorial at Cape Town is more frankly illustrated, and here can be seen the germs of the architect's later work at Downing College, Cambridge. The *motif*, it will be admitted, looks more at home on the slopes of Table Mountain than it does besides Wilkins's masterpiece.

One word must be said of the author's Apologia in the Introduction. Sir Herbert has an easy mastery of English, and weaves the threads of his



Sir Herbert Baker, in his book on CECIL RHODES, *writing on the "Woolsack," illustrated above, says: "Rhodes told me it was to be a 'cottage in the woods for poets and artists,' whom he wanted to attract to the Cape. 'If they live in beautiful surroundings,' he said, 'they will be better inspired to interpret through their art the beauty and grandeur of the country.' The rooms of the Woolsack were built round an open atrium, a plan which, in spite of the heavy winter rains on the side of the mountain, has stood the test of the South African climate. My only instructions in this case were 'not to be mean,' which implied that, though he called it 'a cottage,' I was to spare no expense in making the small house strong and beautiful. It too had in front of its stoep old oak-trees, which with their checkered shadows softened the glare of the whitewashed walls. Both houses were furnished by him with old furniture or with new furniture of South African wood made by local craftsmen. When the Woolsack was nearing completion, he said to me that he had told Rudyard Kipling that he could come out every year and 'hang up his hat there.' This the Kiplings did for many Cape summers."*

recollections into a tapestry, happily, perhaps, rather than cleverly, composed. As biography, indeed, it is confusing. Time here has that God-like attribute by virtue of which a thousand years are but as yesterday. But taken as an adjunct to the existing works on Cecil Rhodes, which amply record his life, it is a vivid and striking portrait, emphasizing, as all good portraits do, the characteristics in the sitter which most pleased and interested the painter. Such qualities do not savour of "art alien to the artist." It is a pity that Sir Herbert spoils the line which follows by misquotation. "Once, and only once, and for one only," is what Browning wrote, and not the stumbling "Once, and once only, and for One only" which is this author's reading. It is to be hoped, however, that neither version is applicable in this case.

Publications Received

Practical Designing in Reinforced Concrete, Part 2. By M. T. CANTELL. London: E. and F. N. Spon, Ltd. Price 12s. 6d. net.

Paperhanging: A Practical Manual for the use of Instructors, Students and Craftsmen. By W. H. CANTELL and W. G. SUTHERLAND. Sutherland Publishing Co. Price 1s. net.

Examples of Steel Design under the New Code of Practice. By OSCAR FABER. Oxford University Press. London: Humphrey Milford. Price 7s. 6d. net.

A Home of your Own. Burnley Building Society. Price 1s. net.

Explanatory Handbook of the Reinforced Concrete Code of Practice. By Glanville Scott. London: Concrete Publications, Ltd.

British Journal Photographic Almanac, 1934. Henry Greenwood and Co., Ltd. Price 2s. net.

Smoke and the Atmosphere: Studies from a Factory Town. By J. R. ASHWORTH, D.SC. Manchester: University Press. Price 7s. 6d. net.

Elementary Concrete Design. By HADDON ADAMS. London: Concrete Publications, Ltd.

Reinforced Concrete Arch Design. By G. P. MANNING. London: Sir Isaac Pitman and Sons, Ltd. Price 12s. 6d. net.

A short account of the Evolution of the design of the Tivoli Corner of the Bank of England, designed by Sir John Soane, R.A., 1804-5. London: Trustees of Sir John Soane's Museum. Price 6d. net.

IN PARLIAMENT

[BY OUR SPECIAL REPRESENTATIVE]

Housing

Mrs. Tate asked the Minister of Health if he would state in how many cases he was assured that the slum-clearance programmes adopted by local authorities in accordance with Circular 1331 would be completed within five years.

Sir Hilton Young said that, with the exception of a few instances in which he was negotiating with the authorities concerned with a view to securing acceleration, and of London, the programmes adopted by local authorities were for completion within five years.

Mr. Joel asked the Minister of Health whether, to facilitate the reconditioning of old-fashioned houses, he would suggest to local authorities the possibility of converting two unsatisfactory houses into one habitable dwelling, seeing that this policy would improve dwellings, minimize public outlay, and enable available funds to be expended in other housing directions.

Sir Hilton Young said that the conversion of two houses into one was undoubtedly advantageous in suitable cases, but it was seldom practicable unless both houses were in the same ownership and care must be taken not to reduce unnecessarily the available housing accommodation. He did not think it was necessary to bring the matter specially to the attention of local authorities; his hon. friend's question would be of assistance.

Mr. Mitcheson asked the Minister if he would state for the latest available date the number of houses in England and Wales per 1,000 of the population and, for comparison, the corresponding numbers at the dates of the Censuses of 1911 and 1921.

Sir Hilton Young said the estimated num-

ber in September, 1933, was 245·8. The corresponding numbers at the Censuses of 1911 and 1921 were 214·9 and 211·9 respectively.

Major Nathan asked the Secretary to the Treasury, whether, in view of the large amount of money available for investment in gilt-edged securities, the Government was now prepared to reduce the minimum rate of interest on advances made by the Public Works Loan Board to local authorities for the purpose of housing and slum clearance from 3⅝ per cent. to some lower figure.

Mr. Hore-Belisha said he was afraid that the facts did not warrant any reduction in the rate at present.

New Buildings in Dean's Yard

Mr. Raikes asked the First Commissioner of Works if, in view of the proposals for the erection of new buildings in Dean's Yard, on the south side, he was prepared to take steps to ensure that in digging the foundations the stability of Westminster Abbey and other adjoining property of a religious or antiquarian character was not thereby affected.

Mr. Ormsby-Gore replied that the responsibility for the stability of Westminster Abbey was a matter for the Dean and Chapter. The Chapter House and the Chapel of the Pyx, for which his Department was responsible, were, in the opinion of his advisers, too far removed from the proposed building to be affected by the proposed reconstruction on the south side of Dean's Yard.

Trade Item

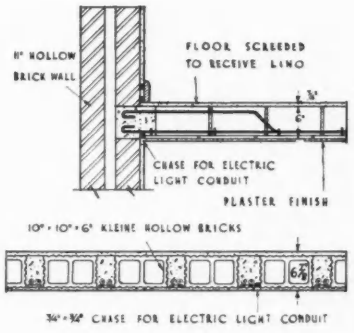
On Friday, February 9, Messrs. Electrolux Ltd. gave a dinner to 450 members of the staff and numerous distinguished guests to celebrate winning an International Sales Trophy for the second year in succession. This gold vase is competed for by the 43 companies comprising the Electrolux international organization, which operate in practically every civilized country in the world. The trophy is awarded to the country securing the highest percentage of its sales quota for the year.

In his opening speech, the chairman—Sir Harold Wernher, K.C.V.O.—referred to the rapid growth of the electrical and gas industries, both of which absorbed enormous quantities of coal to the material advantage of British coal-mining trade.

The Marquess of Milford Haven, G.C.V.O., a director of Electrolux Ltd., paid tribute to the great value of press advertising in acquainting the public with the cleaning system, refrigerators, water softeners and other labour-saving, money-saving, and health safeguarding appliances made by Electrolux. A properly equipped home, he stated, went far towards being a happy home—a real home.

Others who responded were Sir Francis Goodenough, C.B.E., of the British Commercial Gas Association, and J. Scrivener, managing director of Electrolux Ltd. The latter pointed out the value of team work in any organization and acknowledged his indebtedness to his colleagues, for their loyalty and co-operation which had made possible the victory they were celebrating. As their presence there testified, 1933 had been a year of record sales and he had every confidence that with the steady rise in the trade barometer, business would continue to expand and prosperity return once again.

Mr. H. G. Faulkner, managing director of the International Electrolux Organization, presented the trophy to Mr. Scrivener.



TRADE NOTES

[*BY F. R. S. YORKE, A.R.I.B.A.*]

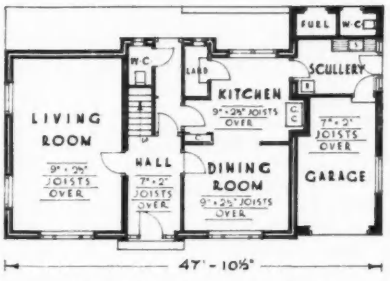
Hollow Brick Floors for Houses

IN response to a note under the above heading, including priced bills of quantities, comparing the costs of Kleine and timber floors for dwelling houses that appeared in Trade Notes on March 1, I have received the following correspondence :—

SIR,—I am interested to see in Trade Notes in your issue dated March 1 a comparison of the cost of timber and hollow tile floors for brick built domestic work. It would appear that a hypothetical case of detached houses built fifty at one time has been taken for the comparision, i.e., mass production speculative built houses of a small type. Working on this assumption the following points occur to me as of some importance in assessing the true value of the comparison.

1. Fir framed in floors (9 by 2½ in.) suggests a clear span of over 17 ft. ; this appears to be a large span in this type of building.

2. 1 in. rough boarding with firring to falls leaves a surface to receive asphalt, no screeding to falls to flats appears to have been added to the hollow tile slab to receive asphalt.



Ground floor plan showing timber floors at first floor level. [THE ALL-BRICK HOUSE]

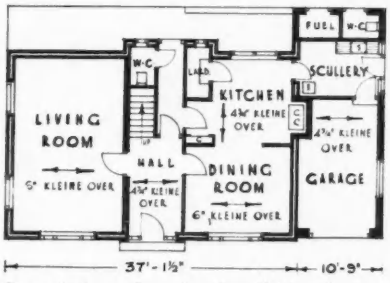
3. Why has 1¼ in. deal tongued and grooved flooring been taken to the timber floor when 1 in. straight joint is more usual ?

4. Is it considered reasonable from a sales point of view to offer an unfinished screeded surface only to prospective purchasers ? A boarded floor is a finished surface. Should the cost of this or some other covering be added to the Kleine floor ?

5. Are concrete lintols entirely dispensed with in the hollow floor ? If so how is this possible to all elevations with a floor spanning in one direction ? Are windows arranged to suit the span of the floor ?

6. Further details of plaster to soffite of Kleine floor priced at 1s. including builders' profit would be of interest.

7. Is the insulation against sound between floors in the second case as efficient as in the first, or should additional precautions be taken, at, of course, increased cost ?



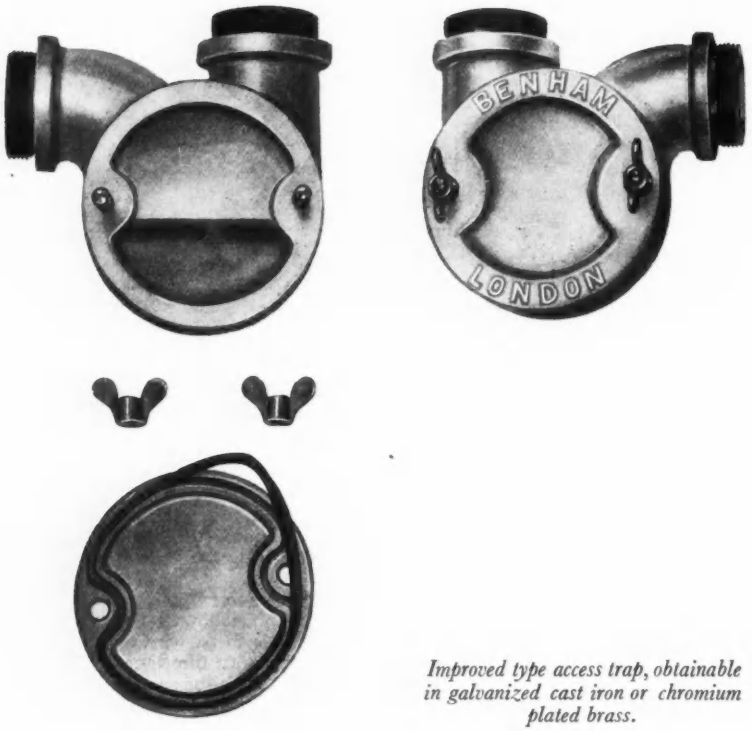
Ground floor plan showing Kleine floors at first floor level. [THE ALL-BRICK HOUSE]

8. The prices per unit for the various items under timber floors and for brickwork deducted under Kleine floor appear to be from 10 to 15 per cent. higher than current builders' prices, including profit, for this type of work. Do the prices for hollow tile floors carry this same margin over and above actual prices at which the work could be done ? What margin of profit is anticipated to the contractors in both cases ?

I must apologise for such a lot of questions, but I feel that the problem of timber versus hollow tile floors in domestic work is one of considerable importance. Comparisons can only be made assuming average practical conditions in all cases and consistent pricing.

Yours faithfully,
C. SWEETT
(P.A.S.I., Quantity Surveyor).

This letter was fowarded to the Kleine



Improved type access trap, obtainable in galvanized cast iron or chromium plated brass.

Company, who sent the following reply :—

SIR,—The letter received by you from a reader of THE ARCHITECTS' JOURNAL interests us greatly.

In reply to the queries he raises :—

(1) The spans over which 9 by 2½ in. timber joists are used are actually 16 ft. 6 in. (see plans reproduced from the *All Brick House*).

(2) The Kleine roof over the garage is built on a slight slope, and therefore no screeding to falls is necessary. It may be argued, of course, that in a similar manner the timber joists could be constructed on the slope, but this would necessitate packing on the wall bearings, which would probably cost just as much as the firring to falls. In any case firring to falls is a very small item as far as cost is concerned.

(3) The 1¼ in. deal tongued and grooved flooring, in the case of the timber floor, is actually what the architect specified when a timber floor was considered before the Kleine floor was proposed, and we therefore adopted the same type of flooring in the bill of quantities for the timber floor.

(4) In the *All-Brick House* booklet it will be seen, in the first example, that the Kleine floor is boarded, but in the second example, which was an actual case in practice, the client wished to lay linoleum direct on to the Kleine floor. This has in fact been done now, and has proved perfectly satisfactory.

(5) From the bill of quantities for the Kleine floors it will be seen that we have included an extra for reinforcement over window openings. The Kleine floor bears 4½ in. on all walls, and the thickness of the floor with extra lintel reinforcement forms the lintel.

(6) The price of 1s. per yard super for plastering is dealt with on page 12 of the booklet. Further information on this subject is best obtained from the makers of some plaster such as Pioneer.

(7) The hollow characteristic of the Kleine floor, and the porosity of the brick, effect an insulation against sound which is superior to that afforded by a timber floor, and we have no hesitation in recommending the use of our floors, from this point of view, without any additional precautions.

(8) All the prices in these bills of quantities are based on 10 per cent. for overhead charges and profit.

Access Traps

Cleaning the sink trap is usually an unpleasant business, but Benham's improved access trap appears to have distinct advantages over the normal type. In order to clean it, two butterfly nuts are unscrewed and the cover removed ; cleaning then becomes a simple matter. A removable rubber composition jointing ring is incorporated in the inner side of the cover, and it is claimed this makes a perfect seal, so that the cover may be replaced by an unskilled person, without resort to messy jointing material.

Prices for the trap, right or left hand pattern, are :—

Number	Size Gas Thread	Galvanized Cast Iron Finish A	Brass Chromium Plated Finish B
1312	1½ ins.	11/-	28/-
1314	2 ins.	12/-	32/6

THE BUILDINGS ILLUSTRATED

Sub-Contractors' List

Following are the names of the general contractors and some of the sub-contractors for the buildings illustrated in this issue.

Church of St. Thomas the Apostle, Hanwell (pages 383-386). General contractors, Dove Bros., Ltd., Consulting Engineer, A. Burnard Geen ; Sculpture, Eric Gill, Vernon Hill ; carving, James Woodford, F. P. Morton ; stained glass windows, Moira Forsyth : decorations to ceiling in Morning Chapel, Kathleen Roberts ; painting, E. M. Starling. Sub-contractors : The Tondu Brickworks Co., Ltd., facing bricks ; London Pipeless Heating Ltd., heating ; Thos. Elsley Ltd., rain water heads ; J. Starkie Gardner Ltd., ironwork ; Fredk. Braby & Co., Ltd., copper roofing ; Wainwright and Waring Ltd., windows, glazing, etc.; Haywards Ltd., dome lights ; Fenning & Co., Ltd., paving to chancel ; B. and B. Tate Ltd., electrical work ; J. W. Gray and Son, lightning conductors ; Haywards Ltd., circular iron stairs ; Mears and Stainbank, bell ; Newalls Acoustic Products Ltd., acoustic plaster ; Dent and Hellyer, sanitary fittings ; Carter & Co., gold tiles ; James Gibbons Ltd., door furniture ; Mealing Bros., Ltd., chairs ; J. W. Walker and Sons Ltd., reconditioning of organ ; Bratt Colbran & Co., Ltd., electric radiator ; Inlaid Ruboleum Tile Co., lintile flooring ; Bennet Furnishing Co., Ltd., clergy stalls ; Troughton and Young, Ltd., electric light fittings ; A. R. Mowbray & Co., Ltd., aumbry safe and alms boxes ; Heal and Son Ltd., J. Wippell & Co., Ltd., and Artificers Guild Ltd., furnishings ; Eric Munday, Ltd., memorial tablets and lettering.

Extension to Sittingbourne Baths (pages 390-391). General contractors, E. Bishop and Sons, Ltd. Sub-contractors : D. Anderson and Son, Ltd., flat roofing ; Automaticket, Ltd., automatic ticket machine ; Bell Brothers (Manchester, 1927), Ltd., bath filtration plant ; Cement Marketing Co., Ltd., Ferrocrete cement, white cement and Cullamix ; Diespeker & Co., Ltd., terrazzo to entrance hall and shower baths ; Henry Hope and Sons, Ltd., roof lantern lights and windows ; Kent Electric Power Co., Ltd., electric light installation ; Smith's English Clocks, Ltd., electric clocks ; John H. Turner and Lisney, Ltd., glazed scum trough, non-slip coping and sanitary ware ; "Twisteel" Reinforcement, Ltd., reinforcement to floors and stairways ; Venesta, Ltd., Plymax sheets for dressing boxes and door panels ; Walker and Wood, Ltd., fittings for dressing boxes and ironmongery ; Wills and Packham, Ltd., bricks.

Warehouse at Sheffield (pages 394-395). General contractors, Sheffield and Ecclesall Co-operative Society's Works Department, who were also responsible for the electric light and power installations. Sub-contractors : Etchells, Congdon and Muir, goods and friction hoists ; H. Braithwaite & Co., Ltd., plumbing ; C.W.S. Engineering Department, refrigeration plant and insulation of cold rooms ; John Booth and Sons, steelwork ; Wm. Proctor and Sons, slating ; Constone, Ltd., granolithic floor finishes, artificial stone and rendering to exposed concrete surfaces ; Haskins, Ltd., steel shutters ; Mellowes & Co., steel windows and patent glazing ; Brightside Foundry and Engineering Company, Ltd., low-pressure hot-water heating installation ; Mather and Platt, Ltd., fireproof doors ; F. J. Burgess, opal faced letters.

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We much regret that name of Mr. J. Lewis Womersley, A.R.I.B.A., author of the letter on "Buildings in Vienna," published in our last issue, was incorrectly printed.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILE RADIUS)

BERMONDSEY. *Flats.* The B.C. is to erect flats at Rotherhithe Street at a cost of £7,820, at Elim Street at a cost of £11,251, at Cherry Garden Place at a cost of £8,009, and on the Redriff estate at a cost of £5,458.

CAMBERWELL. *Re-housing.* The L.C.C. is to clear the Levant Street area, and provide re-housing accommodation for the 968 people who will be displaced, at a cost of £155,000.

CROYDON. *Houses and Garages.* Plans passed by the Corporation: four houses, Lake Road, for Messrs. Hooker and Rogers; two houses, Addison Close, for Messrs. Wylie and Berlyn, Ltd.; four houses, Briar Road, for Mr. F. H. Willcocks; two houses, Cempden Road, for Mr. P. Richardson; six houses, Tennison Road, for Mrs. J. W. Law; six houses, Biggin Hill, for Mr. G. W. Osborn; two houses, Hartland Way, for Messrs. Burcote, Ltd.; 12 houses, Green Lane, for Mr. P. Richardson; 100 houses, Kimberley Way, for Mr. J. G. Cooper; 13 garages, Gladeside Avenue, for Messrs. E. and L. Berg, Ltd.; 24 houses, Hermitage Road, for Mr. H. F. Buchan; six houses, Waverley Road, for Messrs. Warner and Watson; 24 houses, Hartland Way, for Hunt Construction Co.; 13 garages, Lansdowne Road, for Mr. C. E. Hanscombe.

CROYDON. *Houses.* Corporation is to obtain tenders for the erection of 90 houses on the Ham Farm estate.

CROYDON. *Cottage Flats.* The Corporation is to erect 24 cottage flats at an estimated cost of £11,525 at Gloucester Road.

EALING. *Estate Development.* The Corporation has approved the following development plans: Greenford Hall Estate, for Home Counties Builders, Ltd.; Shelley Avenue and Stanhope Park Estate, for the British Land Co., Ltd.; Boston Manor Estate, for Mr. H. A. Steel; Park Royal estate, for the Park Royal Development Co., Ltd.; and Home Town Estate, for Messrs. Tuberville, Smith & Co.

FINSBURY. *Tenements.* The B.C. is to erect tenements in Mantell Street at a cost of £15,500.

HAMMERSMITH. *School.* The L.C.C. Education Committee is to provide a school for 800.

HAMPTON. *Steam Generating Plant, etc.* The Metropolitan Water Board has passed an estimate of £365,200 for the provision of steam generating plant with nine turbines, operating centrifugal pumps, together with auxilliary machinery, buildings and working out mains for the remodelling of the Hampton works.

HILL END. *Hospital Extensions.* The Herts C.C. is to undertake further works and extensions at the Hill End Mental Hospital, at a total estimated cost of £27,556.

LAMBETH. *Hospital Improvements.* The L.C.C. is to carry out improvements at Lambeth hospital at a cost of £23,235.

LEWISHAM. *Houses, Flats and Shops.* Plans passed by the B.C.: 12 houses, Woodcombe Crescent, for Mr. A. G. Cole; two houses, Sydenham Park Road, for Messrs. Brett and Son; eight houses and three buildings, Upwood Road, for Messrs. Thos. Allen (Lee), Ltd.; shops and flats, Brockley Rise and Stondon Park, for Messrs. Thomas and Edge; three shops, Perry Hill, for Mr. S. F. Prior; two houses, Dunoon Road, for Messrs. Dunsmore Bros.

LEWISHAM. *School.* The L.C.C. Education Committee is to provide further school accommodation for about 400 children in the East Lewisham district.

PARK ROYAL. *Water Mains.* The Metropolitan Water Board has made arrangements with the Park Royal Development Co., Ltd. to lay mains at a cost of £21,500 at Park Royal, for new factories.

SOUTHWARK. *Slum Clearance.* The B.C. has approved the procedure relating to the revised Bear Lane clearance area to be developed for re-housing purposes by Church Army Housing, Ltd. This area comprises some 74 families, and Church Army Housing, Ltd. estimates that it will be able to provide about 30 dwellings on the site, consisting almost entirely of four-roomed flats and maisonettes.

TOTTENHAM. *Factories, Houses and Flats.* Plans passed by the U.D.C.: 10 houses, Stamford Road, for Messrs. Walter and Blake; 77 houses, Craven Park Road, for Messrs. S. and A. Foux; 13 shops, Stoneleigh Road, for Mr. S. C. Travil; six shops, Westbury Avenue, for Messrs. Newman and Co.; flats, 175, Northumberland Park, for Mr. J. Bridgeman; factory, West Road, for Pearlite Box Co., Ltd.; factory, Overbury Road, for Mr. J. Ephron; 120 flats, Green Lanes, for Mr. G. F. Seigerts; 146 flats, Green Lanes, for Mr. C. S. Harris.

SOUTHERN COUNTIES

BEXHILL. *Houses.* Plans passed by the Corporation: 13 houses, Woodgate Park, and 18 at Bancroft Road, for Mr. J. E. Maynard; two houses, Green Lane, for Mr. E. Bunce; three houses, Walton Park, for Messrs. Tubbs and Messer; two houses, Collington Rise, for Messrs. Chessums, Ltd.

BOURNEMOUTH. *Cinema, Houses, Showrooms, etc.* Plans passed by the Corporation: Cinema, Malmesbury Park, for Regal Cinema, Ltd.; car park and shelter, Hinton Road, for Messrs. Aldridge and Haydon; three houses, Carbery Avenue, for Mr. E. W. Patrick; two bungalows, Ringwood Road, for Mr. H. C. Barnes; two flats, Redhill Drive, for Mr. A. J. Shipton; four flats, Iford Lane, for Mr. J. B. Gosling; four houses, Leybourne Avenue, for Mr. J. C. Jones; showrooms and offices, Christchurch Road, for Bournemouth Gas Co.

BOURNEMOUTH. *Flats.* Messrs. Richard Lee, Ltd., propose to erect 20 flats at Annerley Road.

BOURNEMOUTH. *Baths.* At the Corporation drawings were submitted of a further revised scheme for the pier approach baths, at an estimated cost of £75,132. The Corporation asked the committee to consider the previous schemes prepared for baths at the pier approach, and to report further to the council on the whole matter.

CUMNOR, etc. *Schools.* The Berkshire Education Committee is to erect a new elementary school for about 320 children for the parishes of Cumnor and North and South Hinksey.

It is to erect a new council school for 320 senior children at Didcot, a new elementary school in the parish of Woodley for about 320 children, and to erect an assembly hall at Wallingford Grammar School, at a cost of £2,000.

FARNBOROUGH. *School.* The Hampshire Education Committee is to proceed with the erection of a secondary school, at a cost of £30,000.

MIDLAND COUNTIES

HANLEY. *Houses.* Plans passed: Two houses, Clifton Street, for Mr. J. Mee; two houses, High Street, for Mr. J. Beresford; six houses, Werrington Road, for Messrs. Leese and Peers.

MANSFIELD, etc. *Schools.* The Notts Education Committee proposes to proceed with the following schemes: West Bridgeford County Secondary School, new building to be erected on the Loughborough Road site; Queen Eliazbeth's Grammar School for girls, Mansfield, extensions and improvements; Henry Mellish county secondary school for girls, new building to be erected on site at Burwell; Newark Lilley and Stone girls' high school, completion of extensions by addition of classroom accommodation; the Brunts school, Mansfield, completion of extensions by addition of classroom accommodation; King Edward VII grammar school for boys, Retford, erection of a school hall.

RANSOME. *Sanatorium.* The Notts C.C. states it has received a report for the Ransomes Sanatorium with regard to the condition of the administrative block excluding the kitchen wing. The block is approximately 32 years old and is of the semi-temporary type. It is estimated that the sum of £1,550 will be required to effect necessary repairs. Plans are to be prepared for rebuilding the block and verandahs. The plans will provide for a new administrative block on the existing site, and a separate ward block on another site to replace the verandahs, at a total estimated cost of £40,000.

STOKE-ON-TRENT. *Houses.* Plans passed by the Corporation: Two houses, Beechwood Avenue, for Mr. Rees T. C. Jones; two houses, Sandon Road, Meir, for Mr. J. Bartholomew; four bungalows, Heathcote Street, for Mr. S. Mason; 10 houses, Blurton Road, for Mr. A. Milward; four houses, Chaplin Road, Longton, for Mr. J. E. Simester; two houses, New Inn Lane, for Mr. H. J. Emery.

STOKE-ON-TRENT. *Swimming Bath.* At the Corporation plans were submitted of the proposed new swimming baths on the site previously occupied by the Public Works Department in Wharf Street, Stoke. The plans were approved, and the scheme is to be forwarded to the Ministry of Health for approval.

STOKE-ON-TRENT. *Houses.* The Corporation recommends acceptance of a revised offer by Messrs. Thornley to erect 558 houses in Stanfield, Burslem, as follows: houses £295 per house, roads and sewers £55 per house, plus the sum of £1,600 in respect of half the cost of levelling and making up the south-east boundary road.

NORTHERN COUNTIES

BLACKPOOL. *Houses, Flats, Shops.* Plans passed by the Corporation: Two houses, Bentinck Avenue, for Mr. T. Southworth; nine houses, St. Luke's Road, for Messrs. Pickover and Sykes; shops, flats and offices, Church Street and Caunce Street, for Borough Engineer; six houses, Ventnor Road, for Mr. A. Fletcher; eight houses, Argyll Road, for Messrs. Bryning and Done; four houses, Wetherby Avenue, for Mr. W. B. Snape; two houses, Dunes Avenue, for Mr. A. Turner; 12 houses, St. Luke's Road, for Arnold Estates, Ltd.; five houses, England Avenue, for Messrs. R. Fielding and Son; 18 houses, Devonshire Road, for Mr. N. Rideout; 19 houses, Swanage Avenue, for Messrs. A. and G. R. Fletcher; eight houses, St. Luke's Road, for Mr. H. D. Whiteside; four houses, Harcourt Road, for Mr. H. Suthers; two houses, Luton Road, for Messrs. Findley and Watson; six houses, Albany Avenue, for Mr. T. Foster; six houses, Hartford Avenue, for Mr. S. A. Howard; four houses, St. Martin's Road, for Mr. J. Midgley.

CHORLEY. *Houses.* Plans passed by the Corporation: 17 houses, Carrington Street, for Messrs. G. Heaton and Sons; eight houses, Russell Square, for Mr. Wm. Hampson; 42 houses, Collingwood Road, for Messrs. A. Derbyshire & Co.; 40 houses, off Collingwood Road, for Gillibrand Estates, Ltd.; 78 houses and eight shops, Pilling Lane, for Mr. T. H. Kevill; two houses, Isleworth Drive, for Messrs. J. W. Lee, Ltd.

ECCLES. *Houses.* The Corporation is to erect 14 houses in Regent Street and 16 houses on the Haddon Road estate.

STOCKTON-ON-TEES. *Swimming Pool.* The Corporation has inspected the preliminary plans and viewed the site where a swimming pool is proposed to be placed and considered slipper baths, dressing-rooms and accommodation for the Superintendent. The Borough Engineer estimated the cost at £26,000 apart from any provision which might be made for alternative accommodation for the washhouses and the superintendent. He was asked to prepare fresh plans to bring the cost down to £20,000, eliminating additional slipper baths.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I s. d.	II s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A_1	Abergavenny ..	S Wales & M.	1 5	1 0½
A_3	Abingdon ..	S. Counties	1 4	1 0
A_3	Accrington ..	N.W. Counties	1 5½	1 1½
A_3	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1½
A	Airdrie ..	Scotland	*1 5½	1 1½
C	Aldeburgh ..	E. Counties	1 1½	10½
A	Altrincham ..	N.W. Counties	1 5½	1 1½
B_2	Appleby ..	N.W. Counties	1 2	10½
A	Ashton-under-Lyne	N.W. Counties	1 5½	1 1½
A_2	Atherstone ..	Mid. Counties	1 4	1 0
B_2	Aylesbury ..	S. Counties	1 2½	11
B_1	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_3	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1½
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow ..	N.W. Counties	1 5½	1 1½
A	Barry ..	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke ..	S.W. Counties	1 3	11½
A_2	Bath	S.W. Counties	1 4½	1 0½
A	Batley ..	Yorkshire	1 5½	1 1½
A_2	Bedford ..	E. Counties	1 4½	1 0½
A_2	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_2	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	*1 7	1 2½
A	Birmingham ..	Mid. Counties	1 5½	1 1½
A_1	Bishop Auckland	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1½
A	Blackpool ..	N.W. Counties	1 5½	1 1½
A	Blyth ..	N.E. Coast	1 5½	1 1½
B_1	Bognor ..	S. Counties	1 3	11½
A	Bolton ..	N.W. Counties	1 5½	1 1½
A_3	Boston ..	Mid. Counties	1 4	1 0
A_3	Bournemouth ..	S. Counties	1 4	1 0
B_2	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1½
A_1	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M.	1 5½	1 1½
B_1	Bridgwater ..	S.W. Counties	1 3	11½
A_1	Bridlington ..	Yorkshire	1 5	1 0½
A	Brighouse ..	Yorkshire	1 5½	1 1½
A_3	Brighton ..	S. Counties	1 4	1 0
A	Bristol ..	S.W. Counties	1 5½	1 1½
B_2	Brixham ..	S.W. Counties	1 2½	11
A_2	Bromsgrove ..	Mid. Counties	1 4½	1 0½
B_2	Bromyard ..	Mid. Counties	1 2	10½
A	Burnley ..	N.W. Counties	1 5½	1 1½
A	Burslem ..	Mid. Counties	1 5½	1 1½
A	Burton-on-Trent	Mid. Counties	1 5½	1 1½
A	Bury ..	N.W. Counties	1 5½	1 1½
A_1	Buxton ..	N.W. Counties	1 5	1 0½
A_1	CAMBRIDGE	E. Counties	1 5	1 0½
B_1	Canterbury ..	S. Counties	1 3	11½
A	Cardiff ..	S. Wales & M.	1 5½	1 1½
A	Carlisle ..	N.W. Counties	1 5½	1 1½
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Carnforth ..	N.W. Counties	1 5½	1 1½
A	Castleford ..	Yorkshire	1 5½	1 1½
B	Chatham ..	S. Counties	1 3½	11½
A_3	Chelmsford ..	E. Counties	1 4	1 0
A_3	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester ..	N.W. Counties	1 5½	1 1½
A	Chesterfield ..	Mid. Counties	1 5½	1 1½
B_1	Chichester ..	S. Counties	1 3	11½
A	Chorley ..	N.W. Counties	1 5½	1 1½
B_1	Cirencester ..	S. Counties	1 3	11½
A	Clitheroe ..	N.W. Counties	1 5½	1 1½
A	Clydebank ..	Scotland	1 5½	1 1½
A	Coalville ..	Mid. Counties	1 5½	1 1½
A_3	Colchester ..	E. Counties	1 4	1 0
A	Colne ..	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_1	Consett ..	N.E. Coast	1 5	1 0½
A_2	Conway ..	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1½
A_2	Crewe ..	N.W. Counties	1 4½	1 0½
A	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1½
A	Darwen ..	N.W. Counties	1 5½	1 1½
B_1	Deal	S. Counties	1 3	11½
A_2	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby ..	Mid. Counties	1 5½	1 1½
A	Dewsbury ..	Yorkshire	1 5½	1 1½
B	Didcot ..	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1½
B_2	Dorchester ..	S.W. Counties	1 2½	11
A_2	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley ..	Mid. Counties	1 5½	1 1½
A	Dundee ..	Scotland	1 5½	1 1½
A	Durham ..	N.E. Coast	1 5½	1 1½
A_2	EASTBOURNE	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1½
A_1	E. Glamorganshire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter ..	S.W. Counties	*1 4½	1 0½
B	Exmouth ..	S.W. Counties	1 3½	11½
A_2	FELIXSTOWE	E. Counties	1 4	1 0
A_3	Filey	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1½
B_1	Folkestone ..	S. Counties	1 3	11½
A_1	Frodsham ..	N.W. Counties	1 5½	1 1½
B_2	Frome	S.W. Counties	1 2½	11
A	GATESHEAD	N.E. Coast	1 5½	1 1½
B	Gillingham ..	S. Counties	1 3½	11½
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole	Yorkshire	1 4½	1 0½
A_2	Gosport ..	S. Counties	1 4½	1 0½
A_3	Grantham ..	Mid. Counties	1 4	1 0
A_2	Gravesend ..	S. Counties	1 5	1 0½
A_1	Greenock ..	Scotland	*1 5½	1 1½
A	Grimsby ..	Yorkshire	1 5½	1 1½
B	Guildford ..	S. Counties	1 3½	11½
A	HALIFAX ..	Yorkshire	1 5½	1 1½
A	Hanley ..	Mid. Counties	1 5½	1 1½
A	Harrogate ..	Yorkshire	1 5½	1 1½
A	Hartlepools ..	N.E. Coast	1 5½	1 1½
B	Harwich ..	E. Counties	1 3½	11½
B_1	Hastings ..	S. Counties	1 3	11½
A_2	Hatfield ..	S. Counties	1 4½	1 0½
B	Hereford ..	S.W. Counties	1 3½	11½
A_2	Hertford ..	E. Counties	1 4½	1 0½
A	Heysham ..	N.W. Counties	1 5½	1 1½
A	Howden ..	N.E. Coast	1 5½	1 1½
A	Huddersfield ..	Yorkshire	1 5½	1 1½
A	Hull ..	Yorkshire	1 5½	1 1½
A	ILKLEY ..	Yorkshire	1 5½	1 1½
A	Immingham ..	Mid. Counties	1 5½	1 1½
A_2	Ipswich ..	E. Counties	1 4½	1 0½
B_2	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1½
A	KEIGHLEY ..	Yorkshire	1 5½	1 1½
B	Kendal ..	N.W. Counties	1 3½	11½
B	Keswick ..	N.W. Counties	1 3½	11½
A_2	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster	Mid. Counties	1 4½	1 0½
B_1	King's Lynn ..	E. Counties	1 3	11½
A	LANCASTER ..	N.W. Counties	1 5½	1 1½
A_1	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester ..	Mid. Counties	1 5½	1 1½
A	Leigh	N.W. Counties	1 5½	1 1½
B_2	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln	Mid. Counties	1 5½	1 1½
	Liverpool ..	N.W. Counties	*1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly ..	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12-15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1½
A	Loughborough	Mid. Counties	1 5½	1 1½
A_3	Luton	E. Counties	1 4	1 0
A	Lytham ..	N.W. Counties	1 5½	1 1½
A_1	MACCLESFIELD	N.W. Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11½
A_3	Malvern ..	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1½
A	Mansfield ..	Mid. Counties	1 5½	1 1½
B_1	Margate ..	S. Counties	1 3	11½
A	Matlock ..	Mid. Counties	1 4	1 0
A_1	Merthyr ..	S. Wales & M.	1 5	1 0½
A	Middesbrough	N.E. Coast	1 5½	1 1½
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1 2½	11
A	Morecambe ..	N.W. Counties	1 5½	1 1½
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson	N.W. Counties	1 5½	1 1½
A	Newcastle ..	N.E. Coast	1 5½	1 1½
A	Newport ..	S. Wales & M.	1 5½	1 1½
A	Normanton ..	Yorkshire	1 5½	1 1½
A	Northampton	Mid. Counties	1 5½	1 1½
A	North Staffs ..	Mid. Counties	1 5½	1 1½
A	North Shields ..	N.E. Coast	1 5½	1 1½
A_1	Norwich ..	E. Counties	1 5	1 0½
A	Nottingham ..	Mid. Counties	1 5½	1 1½
A	Nuneaton ..	Mid. Counties	1 5½	1 1½
A_2	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham ..	N.W. Counties	1 5½	1 1½
A_2	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford ..	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	*1 5½	1 1½
B_3	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth	Scotland	*1 5½	1 1½
A_2	Peterborough ..	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	*1 5½	1 1½
A	Pontefract ..	Yorkshire	1 5½	1 1½
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_2	Portsmouth ..	S. Counties	1 4½	1 0½
A	Preston ..	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate ..	S. Counties	1 3½	11½
A_3	Retford ..	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A_2	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1½
B	Rochester ..	S. Counties	1 3½	11½
A_1	Ruabon ..	N.W. Counties	1 5	1 0½
A	Rugby ..	Mid. Counties	1 5½	1 1½
A_2	Rugeley ..	Mid. Counties	1 4½	1 0½
A	Runcorn ..	N.W. Counties	1 5½	1 1½
A_1	ST. ALBANS ..	E. Counties	1 5	1 0½
A	St. Helens ..	N.W. Counties	1 5½	1 1½
B_2	Salisbury ..	S.W. Counties	1 2½	11
A_1	Scarborough ..	Yorkshire	1 5	1 0½
A	Scunthorpe ..	Mid. Counties	1 5½	1 1½
A	Sheffield ..	Yorkshire	1 5½	1 1½
A	Shipley ..	Yorkshire	1 5½	1 1½
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton ..	Yorkshire	1 4½	1 0½
A_2	Slough ..	S. Counties	1 4½	1 0½
A_1	Solihull ..	Mid. Counties	1 5	1 0½
A_2	Southampton ..	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport ..	N.W. Counties	1 5½	1 1½
A	S. Shields ..	N.E. Coast	1 5½	1 1½
A_1	Stafford ..	Mid. Counties	1 5	1 0½
A	Stockport ..	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud ..	S.W. Counties	1 3½	11½
A	Sunderland ..	N.E. Coast	1 5½	1 1½
A	Swadlincote ..	Mid. Counties	1 5½	1 1½
A	Swansea ..	S. Wales & M.	1 5½	1 1½
A_3	Swindon ..	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton ..	S.W. Counties	1 3½	11½
A	Teesside Dist. ..	N.E. Counties	1 5½	1 1½
A_2	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1½
A_1	Torquay ..	S.W. Counties	1 5	1 0½
B_2	Truro	S.W. Counties	1 2½	11
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall ..	Mid. Counties	1 5½	1 1½
A	Tyne District ..	N.E. Coast	1 5½	1 1½
A	WAKEFIELD	Yorkshire	1 5½	1 1½
A	Walsall ..	Mid. Counties	1 5½	1 1½
A	Warrington ..	N.W. Counties	1 5½	1 1½
A_1	Warwick ..	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid. Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby ..	Yorkshire	1 4½	1 0½
A	Widnes ..	N.W. Counties	1 5½	1 1½
A	Wigan	N.W. Counties	1 5½	1 1½
B	Winchester ..	S. Counties	1 3½	11½
A_2	Windsor ..	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_2	Worksop ..	Yorkshire	1 4	1 0
A_1	Wrexham ..	N.W. Counties	1 5	1 0½
A_3	Wycombe ..	S. Counties	1 4	1 0
B_1	YARMOUTH ..	E. Counties	1 3	11½
B_1	Yeovil	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	1 1½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	£ s. d.
Bricklayer . . . . . per hour	1 7
Carpenter . . . . . ,,	1 7
Joiner . . . . . ,,	1 7
Machinist . . . . . ,,	1 8
Mason (Banker) . . . . . ,,	1 7
,, (Fixer) . . . . . ,,	1 8
Plumber . . . . . ,,	1 7
Painter . . . . . ,,	1 6
Paperhanger . . . . . ,,	1 6
Glazier . . . . . ,,	1 7
Slater . . . . . ,,	1 7
Scaffolder . . . . . ,,	1 3
Timberman . . . . . ,,	1 3
Navvy . . . . . ,,	1 2½
General Labourer . . . . . ,,	1 2½
Lorryman . . . . . ,,	1 5
Crane Driver . . . . . ,,	1 6
Watchman . . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£ s. d.
Grey Stone Lime . . . . . per ton	2 2 0
Blue Lias Lime . . . . . ,,	1 16 6
Hydrated Lime . . . . . ,,	3 0 9
Portland Cement . . . . . ,,	2 6 0
Rapid Hardening Cement . . . . . ,,	2 13 6
White Portland Cement . . . . . ,,	8 15 0
Thames Ballast . . . . . per Y.C.	6 3
¾" Crushed Ballast . . . . . ,,	6 9
Building Sand . . . . . ,,	7 3
Washed Sand . . . . . ,,	8 3
2" Broken Brick . . . . . ,,	8 0
¾" ,, ,, ... ,,	10 3
Pan Breeze . . . . . ,,	6 6
Coke Breeze . . . . . ,,	8 9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

	4" s. d.	6" s. d.
Straight Pipes . . per F.R	0 9	1 1
Bends . . . . each	1 9	2 6
Taper Bends . . ,,	3 0	5 3
Rest Bends . . ,,	4 3	6 3
Single junctions . . ,,	3 6	5 3
Double . . . ,,	4 9	6 6
Straight channels . per F.R.	1 6	2 6
¾" Channel bends . . each	2 9	4 0
Channel junctions . ,,	4 6	6 6
Channel tapers . . ,,	2 9	4 0
Yard gullies . . ,,	6 5	8 9
Interceptors . . ,,	16 0	19 6

IRON DRAINS:

Iron drain pipe . . per F.R.	1 6	2 6
Bends . . . . each	5 0	10 6
Inspection bends . . ,,	9 0	15 0
Single junctions . . ,,	8 9	18 0
Double junctions . . ,,	13 6	30 0
Lead wool . . . lb.	6	—
Gaskin . . . ,,	5	—

BRICKLAYER

	£ s. d.
Flettons . . . . . per M.	2 18 0
Grooved do. . . . . ,,	3 0 0
Phorpres bricks . . . . ,,	2 17 3
Phorpres Cellular bricks . . ,,	2 17 3
Stocks, 1st quality . . . ,,	4 11 0
,, 2nd ,, . . . ,,	4 2 6
Blue Bricks, Pressed . . . ,,	8 17 6
,, Wirecuts . . . ,,	7 17 6
,, Bridles . . . ,,	7 0 0
,, Bullnose . . . ,,	9 0 0
Red Sand-faced Facings . . ,,	6 18 6
Red Rubbers for Arches . . ,,	12 0 0
Multicoloured Facings . . ,,	7 10 0
Luton Facings . . . ,,	7 10 0
Phorpres White Facings . . ,,	3 17 3
Phorpres Rustic Facings . . ,,	3 12 3
Midhurst White Facings . . ,,	5 0 0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:	
Stretchers . . . . . ,,	21 0 0
Headers . . . . . ,,	20 10 0
Bullnose . . . . . ,,	27 10 0
Double Stretchers . . . ,,	29 10 0
Double Headers . . . ,,	26 10 0
Glazed Second Quality, *Less* . . ,,	1 0 0
,, Buffs and Creams, *Add* . ,,	2 0 0
,, Other Colours . . . ,,	5 10 0
2" Breeze Partition Blocks . . per Y.S.	1 7
2½" ,, ,, ,, . . ,,	1 10
3" ,, ,, ,, . . ,,	2 1
4" ,, ,, ,, . . ,,	2 6

MASON

The following d/d F.O.R. at Nine Elms:	s. d.
Portland stone, Whitbed . . F.C.	4 4½
,, ,, Basebed . . ,,	4 9
Bath stone . . . . ,,	2 11
York stone . . . . ,,	6 6
,, ,, Sawn templates . . ,,	7 6
,, ,, Paving, 2" . . F.S.	1 8
,, ,, ,, 3" . . ,,	2 6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£ s. d.
24" × 12" Duchesses . . per M.	28 17 6
22" × 12" Marchionesses . . ,,	24 10 0
20" × 10" Countesses . . ,,	19 5 0
18" × 10" Viscountesses . . ,,	15 10 0
18" × 9" Ladies . . . ,,	13 17 6
Westmorland green (random sizes) . per ton	8 10 0
Old Delabole slates d/d in full truck loads to Nine Elms Station:	
20" × 10" medium grey per 1,000 (actual)	21 11 6
,, green ,, ,,	24 7 4
Best machine roofing tiles . . ,,	4 10 0
Best hand-made do. . . . ,,	5 0 0
Hips and valleys . . . each	9½
,, hand-made . . . ,,	10
Nails, compo . . . . lb.	1 4
,, copper . . . ,,	1 6

CARPENTER AND JOINER

	s. d.
Good carcassing timber . . F.C.	2 2
Birch . . . . as 1" F.S.	9
Deal, Joiner's . . . ,, ,,	5
,, ,, 2nds . . ,, ,,	4
Mahogany, Honduras . . ,, ,,	1 3
,, African . . ,, ,,	1 1
,, Cuban . . ,, ,,	2 6
Oak, plain American . . ,, ,,	1 0
,, Figured ,, . . ,, ,,	1 3
,, Plain Japanese . . ,, ,,	1 2
,, Figured ,, . . ,, ,,	1 5
,, Austrian wainscot . . ,, ,,	1 6
,, English . . . ,, ,,	1 11
Pine, Yellow . . . ,, ,,	1 0
,, Oregon . . . ,, ,,	4
,, British Columbian . . ,, ,,	4
Teak, Moulmein . . . ,, ,,	1 3
,, Burma . . . ,, ,,	1 2
Walnut, American . . . ,, ,,	2 3
,, French . . . ,, ,,	2 3
Whitewood, American . . ,, ,,	1 1
Deal floorings, ¾" . . . Sq.	18 6
,, 1" . . . ,,	1 1 6
,, 1¼" . . . ,,	1 2 0
,, 1½" . . . ,,	1 3 0
,, 1¾" . . . ,,	1 10 0
Deal matchings ¾" . . . ,,	14 0
,, 1" . . . ,,	15 6
Rough boarding ¾" . . . ,,	1 4 0
,, 1" . . . ,,	16 0
,, 1¼" . . . ,,	18 0
Plywood, per ft. sup.	1 6 0

Thickness	¼"			½"			¾"			1"		
Qualities	AA.	A.	B.	AA.	A.	B.	AA.	A.	B.	AA.	A.	B.
	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.
Birch	4	3	2	5	4	3	7½	6	4½	8½	7	6
Alder	3½	3	2	5	4	3	6½	5½	4½	8	7	6
Gaboon Mahogany	4	3	3	6½	5½	4½	9½	7½	–	1/0½	10	–
Figured Oak 1 side	8½	7	–	10	8	–	11½	–	–	1/6	–	–
Plain Oak 1 side	6½	6	–	7½	7	–	9½	–	–	1/–	–	–
Oregon Pine	5	4	–	5½	5	–	6	–	–	–	–	–

	d.
Scotch glue . . . . . lb.	8

SMITH AND FOUNDER

Tubes and Fittings:

(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	¼"	½"	1"	1¼"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9
,, 3"-11½" long ,,	7	9	1/3	1/8	3/–
Long screws, 12"-23½" long ,,	11	1/3	2/2	2/10	5/3
,, ,, 3"M-½" long ,,	8	10	1/5	1/11	3/6
Bends . . . . ,,	8	11	1/7½	2/7½	5/2
Springs not socketed . ,,	5	7	1/1½	1/11½	3/11
Socket unions . . ,,	2/–	3/–	5/6	6/9	10/–
Elbows, square . . ,,	10	1/1	1/6	2/2	4/3
Tees . . . . ,,	1/–	1/3	1/10	2/6	5/1
Crosses . . . ,,	2/2	2/9	4/1	5/6	10/6
Plain Sockets and nipples ,,	3	4	6	8	1/3
Diminished sockets . ,,	4	6	9	1/–	2/–
Flanges . . . ,,	9	1/–	1/4	1/9	2/9
Caps . . . . ,,	3½	5	8	1/–	2/–
Backnuts . . . ,,	2	3	5	6	1/1
Iron main cocks . . ,,	1/6	2/3	4/2	5/4	11/6
,, ,, with brass plugs ,,	—	4/–	7/6	10/–	21/–

Discounts: TUBES.

	Per cent.		Per cent.
Gas . . .	65	Galvanized gas .	52½
Water . . .	61½	,, water	47½
Steam . . .	57½	,, steam	42½
	FITTINGS.		
Gas . . .	57½	Galvanized gas .	47½
Water . . .	52½	,, water	42½
Steam . . .	47½	,, steam	37½

SMITH AND FOUNDER—*continued*

	s. d.
Rolled steel joists cut to length . . cwt.	10 9
Mild steel reinforcing rods, ⅜" . . ,,	8 6
,, ,, ½" . . ,,	8 3
,, ,, ⅝" . . ,,	8 0
,, ,, ¾" . . ,,	7 6
,, ,, ⅞" . . ,,	7 6
,, ,, 1" . . ,,	7 6
,, ,, 1¼" . . ,,	7 6
,, ,, 1½" . . ,,	7 6

Cast-iron rain-water pipes of ordinary thickness metal .	3" s. d.	4" s. d.
	F.R 8	10
Shoes	each 2 0	3 0
Anti-splash shoes . .	,, 4 6	8 0
Boots	,, 3 0	4 0
Bends	,, 2 7	3 9
,, with access door . .	,, —	6 3
Heads	,, 4 0	5 0
Swan-necks up to 9" offsets .	,, 3 9	6 0
Plinth bends, 4½" to 6" .	,, 3 9	5 3

Half-round rain-water gutters of ordinary thickness metal .	4" s. d.	6" s. d.
	F.R. 5	6
Stop ends	each 6	6
Angles	,, 1 7	1 11
Obtuse angles . . .	,, 2 0	2 6
Outlets	,, 1 9	2 3

PLUMBER

	£ s. d.
Lead, milled sheets . . . cwt.	1 0 0
,, drawn pipes . . . ,,	17 0
,, soil pipe . . . ,,	1 0 0
,, scrap . . . ,,	10 6
Solder, plumbers' . . . lb.	9½
,, fine do. . . . ,,	1 0
Copper, sheet . . . ,,	8½
,, tubes . . . ,,	11

L.C.C soil and waste pipes:	3"	4"	6"
Plain cast . .	F.R. 1 0	1 2	2 6
Coated . .	,, 1 1	1 3	2 8
Galvanized . .	,, 2 0	2 6	4 6
Holderbats . .	each 3 10	4 0	4 9
Bends . . .	,, 3 9	5 3	10 3
Shoes . . .	,, 2 10	4 4	9 6
Heads . . .	,, 4 8	8 5	12 9

PLASTERER

	£ s. d.
Lime, chalk . . . . per ton	2 5 0
Plaster, coarse . . . ,,	2 10 0
,, fine . . . ,,	4 15 0
Hydrated lime . . . ,,	3 0 9
Sirapite . . . . ,,	3 6 0
Keene's cement . . . ,,	5 0 0
Sand, washed . . . Y.C.	11 6
Hair . . . . lb.	6
Laths, sawn . . . bundle	2 4
,, rent . . . ,,	3 9
Lath nails . . . lb.	3½

GLAZIER

	s. d.	s. d.
Sheet glass, 21 oz., squares n/e 2 ft.	s. F.S.	2½
,, ,, 26 oz. ,, ,, ,, ,,		3½
Arctic glass, white . . ,,		7
Cathedral glass, white, dbl.-rolled, plain, hammered, rimpled, waterwite,		6½
¼" Hartley's rough rolled . . ,,		7
¼" ,, wired cast . . ,,		10
¼" Georgian wired cast . . ,,		11
¼" Polished plate, n/e 1 ft. . ,,	†10 to‡1	1
,, ,, 2 . ,,	†1 2 ,, ‡1	4
,, ,, 3 . ,,	†1 8 ,, ‡1	11
,, ,, 4 . ,,	†2 3 ,, ‡2	6
,, ,, 6 . ,,	†2 7 ,, ‡2	9
,, ,, 8 . ,,	†2 9 ,, ‡3	2
,, ,, 12 . ,,	†3 1 ,, ‡3	7
,, ,, 20 . ,,	†3 7 ,, ‡4	2
,, ,, 45 . ,,	†3 11 ,, ‡4	7
,, ,, 65 . ,,	†4 4 ,, ‡4	11
,, ,, 90 . ,,	†4 9 ,, ‡5	5
,, ,, 100 . ,,	†5 0 ,, ‡5	7
Vita glass, sheet, n/e 1 ft. . ,,		1 0
,, ,, ,, ,, 2 . ,,		1 3
,, ,, ,, over 2 . ,,		1 6
,, ,, plate, n/e 1 ft. . ,,		3 0
,, ,, ,, 2 . ,,		4 0
,, ,, ,, 5 . ,,		5 0
,, ,, ,, 7 . ,,		6 0
,, ,, ,, 15 . ,,		7 6
,, ,, over 15 . ,,		
Putty, linseed oil . . lb.		3

†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

	£ s. d.
White lead in 1 cwt. casks . cwt.	2 6 0
Linseed oil . . . . gall.	2 2½
Boiled oil . . . . ,,	2 4½
Turpentine . . . . ,,	4 1½
Patent knotting . . . ,,	14 0
Distemper, washable . . . cwt.	2 6 0
,, ordinary . . . ,,	2 0 0
Whitening . . . . ,,	4 0
Size, double . . . . firkin	3 0
Copal varnish . . . . gall.	13 0
Flat varnish . . . . ,,	14 0
Outside varnish . . . ,,	16 0
White enamel . . . ,,	1 15 0
Ready-mixed paint . . . ,,	13 6
Brunswick black . . . ,,	7 6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR		£	s.	d.
Digging over surface n/e 12" deep and cart away	Y.S.		2	9
" to reduce levels n/e 5' 0" deep and cart away	Y.C.		8	6
" to form basement n/e 5' 0" deep and cart away	"		9	0
" " 10' 0" deep and cart away	"		9	6
" " 15' 0" deep and cart away	"		10	0
If in stiff clay	add "		2	6
If in underpinning	" "		4	0
Planking and strutting to sides of excavation	F.S.		1	0
" " to pier holes	"			5
" " to trenches	"			5
" " extra, only if left in	"			3
Hardcore, filled in and rammed	Y.C.		10	0
Portland cement concrete in foundations (6-1)	"	1	6	0
" " (4-2-1)	"	1	12	6
" " underpinning	"	1	16	0
Finishing surface of concrete, spade face	Y.S.			7

DRAINLAYER		4" s.	d.	6" s.	d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1	6	2	3
Extra, only for bends	Each	2	8	3	9
" junctions	"	3	9	4	6
Gullies and gratings	"	16	6	18	0
Cast iron drains, and laying and jointing	F.R.	4	9	6	9
Extra, only for bends	Each	10	6	15	6

BRICKLAYER		£	s.	d.
Brickwork, Flettons in lime mortar	Per Rod	27	10	0
" " in cement	"	28	15	0
" Stocks in cement	"	35	0	0
" Blues in cement	"	52	0	0
Extra only for circular on plan	"	2	0	0
" backing to masonry	"	1	10	0
" raising on old walls	"	2	0	0
" underpinning	"	5	10	0
Fair Face and pointing internally	F.S.			1½
Extra over fletton brickwork for picked stock facings and pointing	"			8½
" " " red brick facings and pointing	"			11
" " " blue brick facings and pointing	"		1	4
" " " glazed brick facings and pointing	"		3	6
Tuck pointing	"			7
Weather pointing in cement	"			3½
Slate dampcourse	"			10
Vertical dampcourse	"		1	1

ASPHALTER		s.	d.
½" Horizontal dampcourse	Y.S.	4	6
½" Vertical dampcourse	"	6	9
½" paving or flat	"	4	0
1" paving or flat	"	5	6
1"×6" skirting	F.R.	1	0
Angle fillet	"		2
Rounded angle	"		2
Cesspools	Each	5	0

MASON		s.	d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C.	17	9
Bath stone and do., all as last	"	13	6
Artificial stone and do.	"	13	0
York stone templates, fixed complete	"	10	6
" thresholds	"	13	6
" sills	"	1	0	6

SLATER AND TILER		£	s.	d.
Slating, Bangor or equal, laid to a 3" lap, and fixing with compo nails, 20"×10"	Sqr.	3	10	0
Do., 18"×9"	"	3	7	0
Do., 24"×12"	"	3	17	0
Westmorland slating, laid with diminished courses	"	6	0	0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course	"	3	0	0
Do., all as last, but of machine-made tiles	"	2	16	0
20"×10" medium Old Delabole slating, laid to a 3" lap (grey)	"	4	6	0
" " " " " " (green)	"	4	15	0

CARPENTER AND JOINER		£	s.	d.
Flat boarded centering to concrete floors, including all strutting	Sqr.	2	5	0
Shuttering to sides and soffits of beams	F.S.			8
" to stanchions	"			8
" to staircases	"		1	8
Fir and fixing in wall plates, lintols, etc.	F.C.		3	9
Fir framed in floors	"		4	6
" " roofs	"		6	6
" " trusses	"		7	6
" " partitions	"		8	6
¾" deal sawn boarding and fixing to joists	Sqr.	1	14	6
1" " " " " "	"	1	17	6
1¼" " " " " "	"	2	3	0
3"×2" fir battening for Countess slating	"		9	6
Do. for 4" gauge tiling	"		12	0
Stout feather-edged tilting fillet	F.R.			4½
Patent inodorous felt, 1 ply	Y.S.		2	3
" " " 2 "	"		2	9
" " " 3 "	"		3	3
Stout herringbone strutting to 9" joists	F.R.			10½
1" deal gutter boards and bearers	F.S.		1	2
1¼" " " " "	"		1	6
2" deal wrought rounded roll	F.R.			8
1" deal grooved and tongued flooring, laid complete, including cleaning off	Sqr.	2	1	0
1¼" do.	"	2	10	0
1½" do.	"	2	17	0
1" deal moulded skirting, fixed on, and including grounds plugged to wall	F.S.		1	6
1¼ do.	"		1	9

CARPENTER AND JOINER—*continued*		s.	d.
1¼" deal moulded sashes of average size	F.S.	1	9½
2" " " "	"	1	11½
1¼" deal cased frames double hung, of 6"×3" oak sills, 1¼" pulley stiles, 1¼" heads, 1" inside and outside linings, ½" parting beads, and with brass faced axle pulleys, etc., fixed complete	"	3	7
2" " " " "	"	3	10
Extra only for moulded horns	Each		6
1¼" deal four-panel square, both sides, door	F.S.	2	0
2" " " " "	"	2	8
1¼" " but moulded both sides	"	2	4
2" " " " "	"	3	0
4" × 3" deal, rebated and moulded frames	F.R.	1	0
4½" × 3½" " " "	"	1	4
1¼" deal tongued and moulded window board, on and including deal bearers	F.S.	1	9
1¼" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	"	2	6
1¼" deal moulded wall strings	"	2	1
1½" " outer strings	"	2	4
Ends of treads and risers housed to string	Each	1	9
3" × 2" deal moulded handrail	F.R.	1	3
1" × 1" deal balusters and housing each end	Each	2	0
1½" × 1½" " " "	"	2	9
3" × 3" deal wrought framed newels	F.R.	1	3
Extra only for newel caps	Each	6	0
Do., pendants	"	6	0

SMITH AND FOUNDER		£	s.	d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt.		15	6
Riveted plate or compound girders, and hoisting and fixing in position	"		19	6
Do. stanchions with riveted caps and bases and do.	"		10	0
Mild steel bar reinforcement, ½" and up, bent and fixed complete	"		17	6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S.			11
Wrot-iron caulked and cambered chimney bars	Per cwt.	1	10	0

PLUMBER		£	s.	d.
Milled lead and labour in flats	cwt.	1	13	6
Do. in flashings	"	1	17	0
Do. in covering to turrets	"	2	3	0
Do. in soakers	"	1	9	0
Labour to welted edge	F.R.			3½
Open copper nailing	"			3½
Close " "	"			4½

	½" s.	d.	¾" s.	d.	1" s.	d.	1½" s.	d.	2" s.	d.	4" s.	d.
Lead service pipe and fixing with pipe hooks, F.R.	1	0	1	2	1	5	2	1	3	0	—	
Do. soil pipe and fixing with cast lead tacks	—		—		—		—		—		5	9
Extra, only to bends, Each	—		—		—		—		2	3	6	3
Do. to stop ends, "	6½		8		9		11		1	0	—	
Boiler screws and unions, "	3	3	3	9	5	0	8	0	—		—	
Lead traps, "	—		—		—		6	3	8	9	—	
Screw down bib valves, "	6	9	9	6	11	0	—		—			
Do. stop cocks, "	9	0	11	0	14	6	20	6	47	1	—	

		£	s.	d.
4" cast-iron ½-rd. gutter and fixing	F.R.		1	0
Extra, only stop ends	Each		1	0
Do. angles	"		1	6
Do. outlets	"		2	9
4" dia. cast-iron rain-water pipe and fixing with ears cast on	F.R.		1	2
Extra, only for shoes	Each		1	3
Do. for plain heads	"		5	6

PLASTERER AND TILING		s.	d.
Expanded metal lathing, small mesh	Y.S.	2	3
Do. in n/w to beams, stanchions, etc.	"	3	6
Lathing with sawn laths to ceilings	"	1	4
½" screeding in Portland cement and sand for tiling, wood block floor, etc.	"	1	8
Do. vertical	"	2	1
Rough render on walls	"	1	3
Render, float and set in lime and hair	"	1	11
Render and set in Sirapite	"	2	1
Render, backing in cement and sand, and set in Keene's cement	"	2	10
Extra, only if on lathing	"		4
Keene's cement, angle and arris	F.R.		6
Arris	"		2
Rounded angle, small	"		3
Plain cornices in plaster, including dubbing out, per 1" girth	"		1½
1" granolithic pavings	Y.S.	3	6
1½" "	"	4	6
6" × 6" white glazed wall tiling and fixing on prepared screed	"	17	6
9" × 3" " " " "	"	1	2	6
Extra, only for small quadrant angle	F.R.			8

GLAZIER		s.	d.
21 oz. sheet glass and glazing with putty	F.S.		7½
26 oz. do. and do.	"		8½
Arctic glass and glazing with putty	"	1	1
Cathedral glass and do.	"	1	2
Glazing only, British polished plate	"		7
Extra, only if in beads	"		2
Washleather	F.R.		4

PAINTER		s.	d.
Clearcolle and whiten ceilings	Y.S.		6½
Do. and distemper walls	"		9
Do. with washable distemper	"	1	1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	"	3	3
Do. on woodwork	"	3	6
Do. on steelwork	"	3	0
Do. and brush grain and twice varnish	"	5	6
Stain and twice varnish woodwork	"	1	11
Stain and wax-polish woodwork	"	4	6
French polishing	F.S.	1	2
Stripping off old paper	Piece	2	0
Hanging ordinary paper, from	"		9

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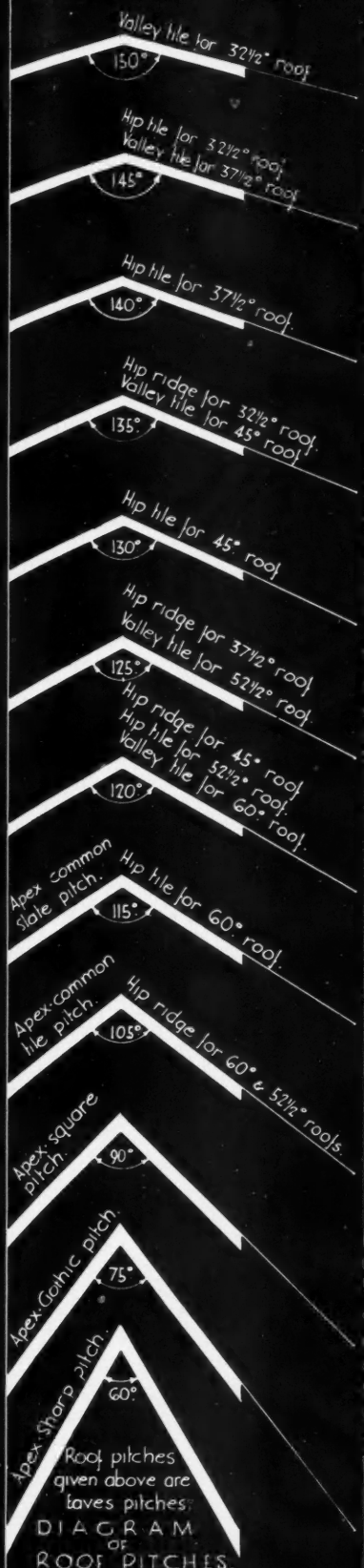

HIP & VALLEY TILES FOR EQUAL-SIDED ROOFS.

	1. SADDLE PITCH AT RIDGE OR APEX OF ROOF	2. EAVES (FOOT) PITCH OR INCLINATION TO THE HORIZONTAL	3. PITCH OF TIMBERS (HIP PITCH FOR RIDGE)	4. PITCH OF HIP TILE	5. PITCH OF VALLEY TILE	6. OCTAGON HIP TILE OCTAGONAL ON PLAN.	7. HEXAGON HIP TILE HEXAGONAL ON PLAN
Sharp Pitch.	60°	60°	104½°	113°	118°	145°	134°
(5/6 Pitch = 59°)	65°	57½°	107°	115½°	120½°	146½°	.
(3/4 Pitch = 56°)	70°	55°	109½°	118°	123°	147½°	.
(2/3 Pitch = 53°) Gothic Pitch.	75°	52½°	112°	121°	126°	149°	139½°
(5/8 Pitch = 51°)	80°	50°	114½°	124°	129°	150½°	.
(7/12 Pitch = 49°)	85°	47½°	117°	127°	132°	152°	.
½ or Square P.	90°	45°	120°	130°	135°	153½°	145°
	95°	42½°	123°	133°	138°	155°	.
5/12 Pitch.	100°	40°	126°	136°	141°	156½°	.
Common Pitch.	105°	37½°	129°	139½°	144½°	158½°	152°
(3/8 Pitch = 37°)	110°	35°	132°	143°	148°	160°	.
⅓ Pitch	113°	33½°	134°	145°	150°	161°	155°

N.B. The difference in the figures between Columns 3 & 4 is caused by the hilt of the tiles. The contained angle of Hip tiles is flatter than the angle of the timbers. The flatter the roof the less variation in cuts. For a Hexagon or Octagon roof the tile tilt is reduced.

PITCH. Architects & builders generally use the foot pitch (col. 2) Manufacturers the apex pitch. (Col. 1)

HIP & VALLEY TILES FOR UNEQUAL SIDED ROOFS SQUARE ON PLAN.

1. SADDLE PITCH AT RIDGE OR APEX OF ROOF	2. EAVES (FOOT) PITCH OR INCLINATION TO THE HORIZONTAL	3. PITCH OF TIMBERS	4. ANGLE OF HIP TILE	5. ANGLE OF VALLEY TILE
60° & 75°	60° & 52½°	108¼°	117°	122°
60° & 90°	60° & 45°	112¼°	121½°	126½°
75° & 90°	52½° & 45°	116°	125½°	130½°
75° & 105°	52½° & 37½°	120½°	130¼°	135¼°
75° & 110°	52½° & 35°	122°	132°	137°
75° & 113°	52½° & 33½°	123°	133°	138°
90° & 105°	45° & 37½°	124½°	134¾°	139¾°
90° & 110°	45° & 35°	126°	136½°	141½°
90° & 113°	45° & 33½°	127°	137½°	142½°
105° & 113°	37½° & 33½°	131½°	142¼°	147¼°

N.B. When tiling roofs of unequal slopes, the flatter of the two slopes should be tiled first. On intersecting roofs of unequal pitches, the tile laths are laid to different gauges, e.g. on 45° & 52½° roofs, if laid at 4" gauge on the 45° roof, the gauge on the 52½° roof would be approximately 3½". This alters the number of tiles required on the roof.

LENGTHS OF HIP, VALLEY & COMMON RAFTERS per foot run of span.

1. EAVES (FOOT) PITCH, OR INCLINATION TO THE HORIZONTAL	2. RISE OF COMMON RAFTERS PER FOOT RUN	3. LENGTH OF COMMON RAFTERS PER FOOT OF SPAN	4. LENGTH OF HIP OR VALLEY RAFTERS PER FOOT OF SPAN
60°	20 3/4"	1·00	1·12
57½°	19"	·93	1·05
55°	17"	·87	1·00
52½°	15 3/4"	·82	·96
50°	14½"	·78	·93
47½°	13"	·74	·90
45°	12"	·71	·87
42½°	11"	·68	·84
40°	10"	·65	·82
37½°	9 1/4"	·63	80
35°	8½"	·61	·79
33½°	8"	·60	·78

By the use of Columns 3 & 4, the lengths of Common & Hip & Valley rafters can be obtained without setting out the roof.

HIP OR VALLEY TILE QUANTITIES.

Number of ordinary Hip or Valley Tiles required per 100 ft run of Hip or Valley rafter, with plain tiles fixed at:	PITCH OF ROOF (foot pitch) 60°	52½°	45°	37½°	33½°
2½" Lap	270	258	247	236	231
3" Lap	288	275	263	252	246
3½" Lap	308	294	282	270	264

The Hip rafter takes the same number of tiles as the Common rafter, but if the length of the Hip or Valley rafter is measured the figures in this table should be used.

Information from *Wheatly & Co, Springfield Tileries Newcastle, Staffs.* *and* *The Silverdale Tileries Co Ltd. Silverdale Staffs.*

INFORMATION SHEET : ROOFING TILES : GENERAL DATA.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS 9 ST MARTIN'S PLACE BEDFORD SQUARE LONDON WC1

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

• 91 •

ROOFING TILES

Name of Product: Triton Tiles and Silverdale Tiles

METHOD OF FIXING PLAIN TILES:

1. PITCH.
   Generally the greater the pitch the better, within reason.
   Minimum pitch generally, 37½°.
   Minimum in special cases with suitable conditions, 33½°.
2. LAP.
   Lap is the overlap of the third course of tiles over the first.
   Lap should not be less than 2½ in., giving 4 in. gauge with 10½ in. tiles.
   Generally the flatter the pitch of the roof the greater should be the lap.
3. VENTILATION.
   Should always be provided, especially with machine-made tiles; may be provided by means of ventilating ridges and or ventilating tiles.

LAYING:

1. Generally dry laid roofs are regarded as best.
2. Torching, common practice in some districts, is not recommended, as it provides a continuous capillary path by which water may gain access to the timbers.
3. The finest method is to dry lay on lathing, counter battens, felt and boarding on the rafters.
   Fibre boards and waterproof paper, etc., are sometimes used for economy.
   Provision should always be made for percolated water to run off at the eaves.

QUANTITIES AND COVERING CAPACITY:

The covering capacity of roofing tiles is the area of the exposed surface when fixed. If fixed at 4 in. gauge the exposed surface of every tile would be 4 × 6½ in. (6½ in. being the width) = 26 sq. in. 26 divided into the number of inches in a square yard, viz: 1296 — about 50 tiles per square yard.

GAUGE:

To obtain the gauge, deduct the lap from the length of the tile and divide by 2.

LAP:

To obtain the lap, deduct twice the gauge from the length of the tile. For tiles, a 4 in. gauge is almost universally adopted.

TILE AND HALF TILES are used alternately, and 1½ tiles per foot run of gable should be calculated. Usually about 40 tile and half tiles to 1,000 of ordinary plain tiles are required.

EAVES TILES: 5½ tiles per linear yard.

VERTICAL ANGLE TILES:

Square on plan	91½°
Hexagonal on plan	120½°
Octagonal on plan	135½°

Gauge.	Lap or Cover.	No. of Tiles per yard.	No. of Tiles per square of 100 ft.
4 in.	2½ in.	50	554
3¾ ,,	3 ,,	53	589
3½ ,,	3½ ,,	57	633

NOTE.—All tables in this Sheet are copyright by the Silverdale Tileries Co. Ltd.

Name of Manufacturers: Wheatly & Co., and The Silverdale Tileries Co., Ltd.

Address: Springfield Tileries, Newcastle, Staffs, and Silverdale, N. Staffs

Telephones: Wheatly & Co.:
6251 and 6252 Newcastle, Staffs
Silverdale Tileries Co., Ltd.:
10 Silverdale, Staffs

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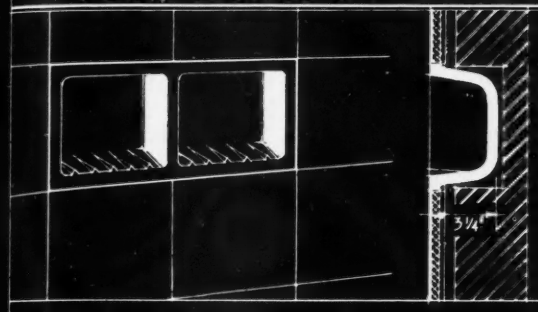
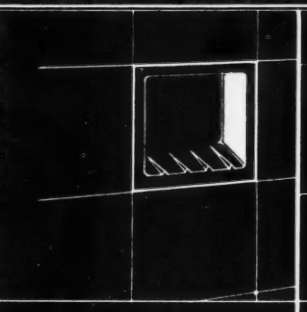
1. SOAP, SPONGE & TUMBLER HOLDERS IN GLAZED EARTHENWARE.



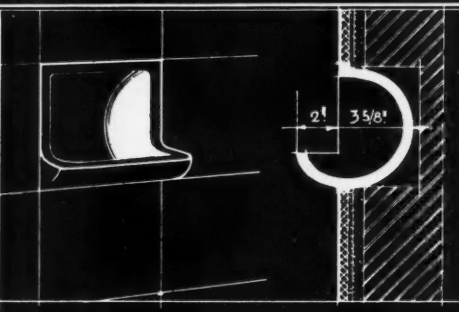
DOUBLE :— 12" x 6"

Nº 25. SPONGE & SOAP HOLDER, FLUSH FRONT, AS SHOWN.
Nº 43. SPONGE & SOAP HOLDER, FLUSH FRONT, NO PARTITION



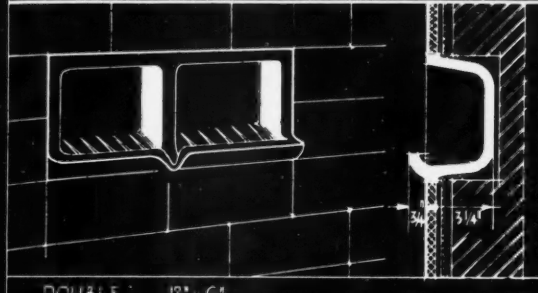
SINGLE :— 6" x 6"

Nº 4 SOAP HOLDER, FLUSH FRONT, AS SHOWN.
Nº 24. TUMBLER HOLDER, FLUSH FRONT & FLAT BOTTOM.



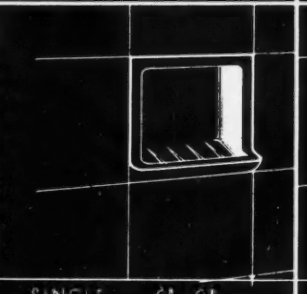
SINGLE :— 6" x 6"

Nº 6 SPONGE HOLDER, WITHOUT DRIP HOLE.



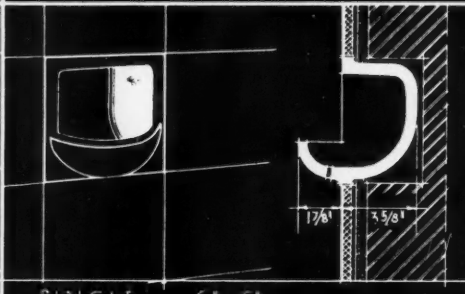
DOUBLE :— 12" x 6"

Nº 26. SPONGE & SOAP HOLDER, PLAIN LIP.
Nº 27. SPONGE & SOAP HOLDER, TONGUED LIP, AS SHOWN.
Nº 32. TUMBLER & SOAP HOLDER, PLAIN LIP & FLAT BOTTOM ONE SIDE.
Nº 44. SPONGE & SOAP HOLDER, PLAIN LIP, NO PARTITION.
Nº 45. SPONGE & SOAP HOLDER, TONGUED LIP, NO PARTITION



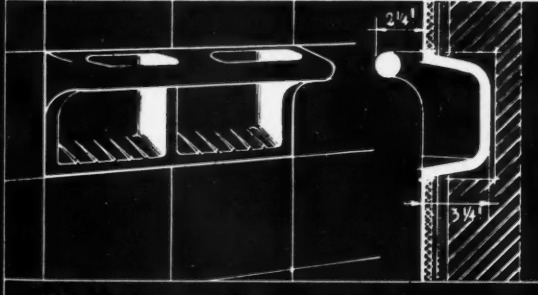
SINGLE :— 6" x 6"

Nº 1. SOAP HOLDER, PLAIN LIP AS SHOWN
Nº 19. SOAP HOLDER, TONGUED LIP.
Nº 23. TUMBLER HOLDER WITH PLAIN LIP & FLAT BOTTOM.



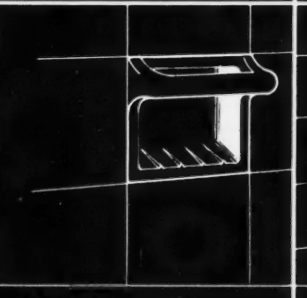
SINGLE :— 6" x 6"

Nº 37. SPONGE HOLDER, ROUNDED FLANGE & DRIP HOLE.



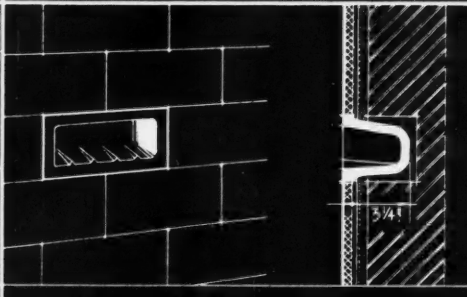
DOUBLE :— 12" x 6"

Nº 28. SPONGE & SOAP HOLDER & GRIP, FLUSH FRONT AS SHOWN.
Nº 29. SPONGE & SOAP HOLDER & GRIP, WITH PLAIN LIP.
Nº 30. SPONGE & SOAP HOLDER & GRIP, WITH TONGUED LIP.



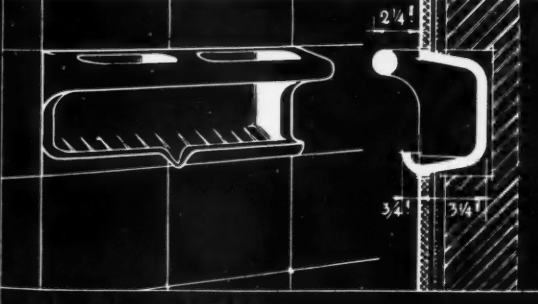
SINGLE :— 6" x 6"

Nº 21. SOAP HOLDER & GRIP FLUSH FRONT.



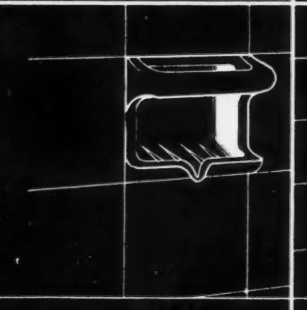
SINGLE :— 6" x 3"

Nº 7. SOAP HOLDER, FLUSH FRONT.



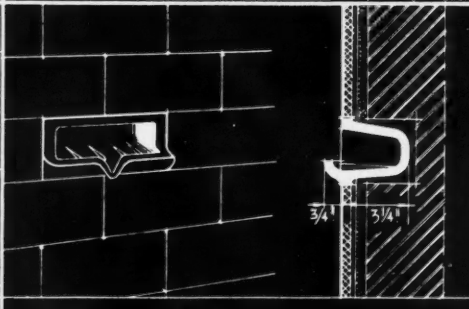
DOUBLE :— 12" x 6"

Nº 95. SPONGE ETC. HOLDER & GRIP, WITH PLAIN LIP.
Nº 96. SPONGE ETC. HOLDER & GRIP, WITH TONGUED LIP, AS SHOWN.



SINGLE :— 6" x 6"

Nº 2. SOAP HOLDER & GRIP WITH PLAIN LIP.
Nº 20. SOAP HOLDER & GRIP WITH TONGUED LIP, AS SHOWN.



SINGLE :— 6" x 3"

Nº 8. SOAP HOLDER, PLAIN LIP.
Nº 22. SOAP HOLDER, TONGUED LIP, AS SHOWN.

Information from Richards Tiles Limited.

INFORMATION SHEET : BATHROOM EQUIPMENT : RECESSO FITTINGS I.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.I.

THE ARCHITECTS' JOURNAL
LIBRARY OF PLANNED INFORMATION

INFORMATION SHEET

• 92 •

BATHROOM EQUIPMENT

IN GLAZED EARTHENWARE

Name of Product: Recesso Fittings

Types illustrated: Soap, Sponge and Tumbler Holders, Grips, etc.

Colours:

These Fittings can be supplied in white glaze and in an almost unlimited range of colour glazes, self-coloured or mottled.

Fittings and wall tiling can be supplied to match, in the same colour and finish.

Finish:

Any colour of glaze can be obtained in either bright or matt finish.

Building-in:

The sizes and depths required for building-in are shown on the drawings.

Semi-recessed fittings designed for use in thin partitions will be given on further Sheets.

List of Fittings:

Makers' Number		
1.	6×6″	Plain-lipped Soap Holder
2	,,	,, grip Soap Holder
3	,,	Flush-fronted Toilet-paper Holder
4	,,	,, Soap Holder
5	,,	Hooded Toilet-paper Holder
6	,,	Sponge Holder, without drip hole
7	6×3″	Flush-fronted Soap Holder
8	,,	Plain-lipped ,, ,,
10	,,	Tooth-brush Rack
11	3×3″	Shelf Brackets, for 5″ shelf
12	,,	Towel-rail Brackets, for square rail
12A	,,	Centre Bracket to ditto
15	,,	Tumbler and Tooth-brush Holder
19	6×6″	Tongue-lipped Soap Holder
20	,,	,, grip Soap Holder
21	,,	Flush-fronted ,, ,, ,,
22	6×3″	Tongue-lipped Soap Holder
23	6×6″	Plain-lipped Tumbler Holder
24	,,	Flush-fronted ,, ,,
25	12×6″	,, Sponge and Soap Holder
26	,,	Plain-lipped ,, ,, ,, ,,
27	,,	Tongue-lipped ,, ,, ,, ,,
28	,,	Flush-fronted grip Sponge and Soap Holder
29	,,	Plain-lipped ,, ,, ,, ,,
30	,,	Tongue-lipped ,, ,, ,, ,,
32	,,	Plain-lipped Tumbler and Soap Holder
33	9×3″	Tooth-brush, Tooth-paste and Tumbler Holder
34	6×3″	Tooth-brush and Tooth-paste Holder
35	3×3″	Towel-rail Brackets, for round rail
35A	,,	Centre Bracket to ditto
36	6×3″	Projecting Soap Holder
37	6×6″	Round-fronted Soap Holder, with drip hole
38	6×3″	Grip
39	9×3″	Projecting Toilet-paper Holder
40	3×3″	Razor Strop Hook
42	,,	Coat Hook
43	12×6″	Flush-fronted Sponge and Soap Holder, without partition
44	,,	Plain-lipped Sponge and Soap Holder, without partition
45	,,	Tongue-lipped Sponge and Soap Holder, without partition
46	6×3″	Coat Hook
47	,,	Projecting Tumbler and Tooth-brush Holder
52	8×4″	Flush-fronted Soap Holder
53	,,	Plain-lipped ,, ,,
54	,,	Tongue-lipped ,, ,,
55	,,	Flush-fronted grip ,, ,,
56	,,	Plain-lipped ,, ,, ,,
57	,,	Tongue-lipped ,, ,, ,,
58	,,	Projecting Toilet-paper Holder
59	4×4″	,, Tumbler and Tooth-brush Holder
60	,,	,, Soap Holder
61	4×4″	Coat Hook
62	,,	Towel-rail Brackets, for square rail
62A	,,	Centre Bracket to ditto
63	,,	Shelf Brackets, for 5″ shelf
64	,,	Tooth-brush and Tooth-paste Holder
66	3×3″	Used Razor Blade Receptacle
67	6×3″	Towel-rail Brackets, for round rail
67A	,,	Centre Bracket, to ditto
69	3×3″	Shelf Brackets, for 5″ shelf
70	6×6″	Semi-recessed Toilet-paper Holder
71	,,	,, ,, Hooded Toilet-paper Holder
72	6×3″	,, ,, Plain-lipped Soap Holder
73	,,	,, ,, Tongue-lipped ,, ,,
74	6×6″	,, ,, Plain-lipped ,, ,,
75	,,	,, ,, Tongue-lipped ,, ,,
76	,,	,, ,, Plain-lipped grip ,, ,,
77	,,	,, ,, Tongue-lipped,, ,, ,,
78	,,	,, ,, Plain-lipped Tumbler ,,
79	,,	,, ,, Sponge Holder
81	6×4½″	Sill Soap Dish
82	4×4″	Gargoyle
83	6×3″	Tongue-lipped projecting Soap Holder
86	6×6″	Toilet-paper Box
88	9×6″	Sponge Holder
89	6×6″	Toilet-paper Holder
90	6×4″	Lamp Bracket (with 4×4″ tile support)
91	6×6″	Projecting Soap Holder
93	4×4″	,, Ash Tray
94	6×6″	,, ,, ,,
95	12×6″	Plain-lipped grip Sponge and Soap Holder without partition
96	,,	Tongue-lipped grip Sponge and Soap Holder without partition
97	8×8″	Toilet-paper Holder
98	4×4″	Double Coat Hook
		MIRRORS
16	Oval Mirror,	24×18½″
17	Round ,,	19″
18	Oblong ,,	17½×13½″, with shelf
41	,, ,,	19×15″, without shelf
92	"Octo" ,,	21¼×16½″

Name of Manufacturers: Richards' Tiles, Limited

Address: Tunstall, Stoke-on-Trent

Telephone: Hanley 7215-8

London Office: 25 Victoria Street, S.W.1

Telephone: Victoria 9128

Glasgow Office: 53 Bothwell Street, Glasgow, C.2

Telephone: Central 1768

A SYNAGOGUE IN POLAND

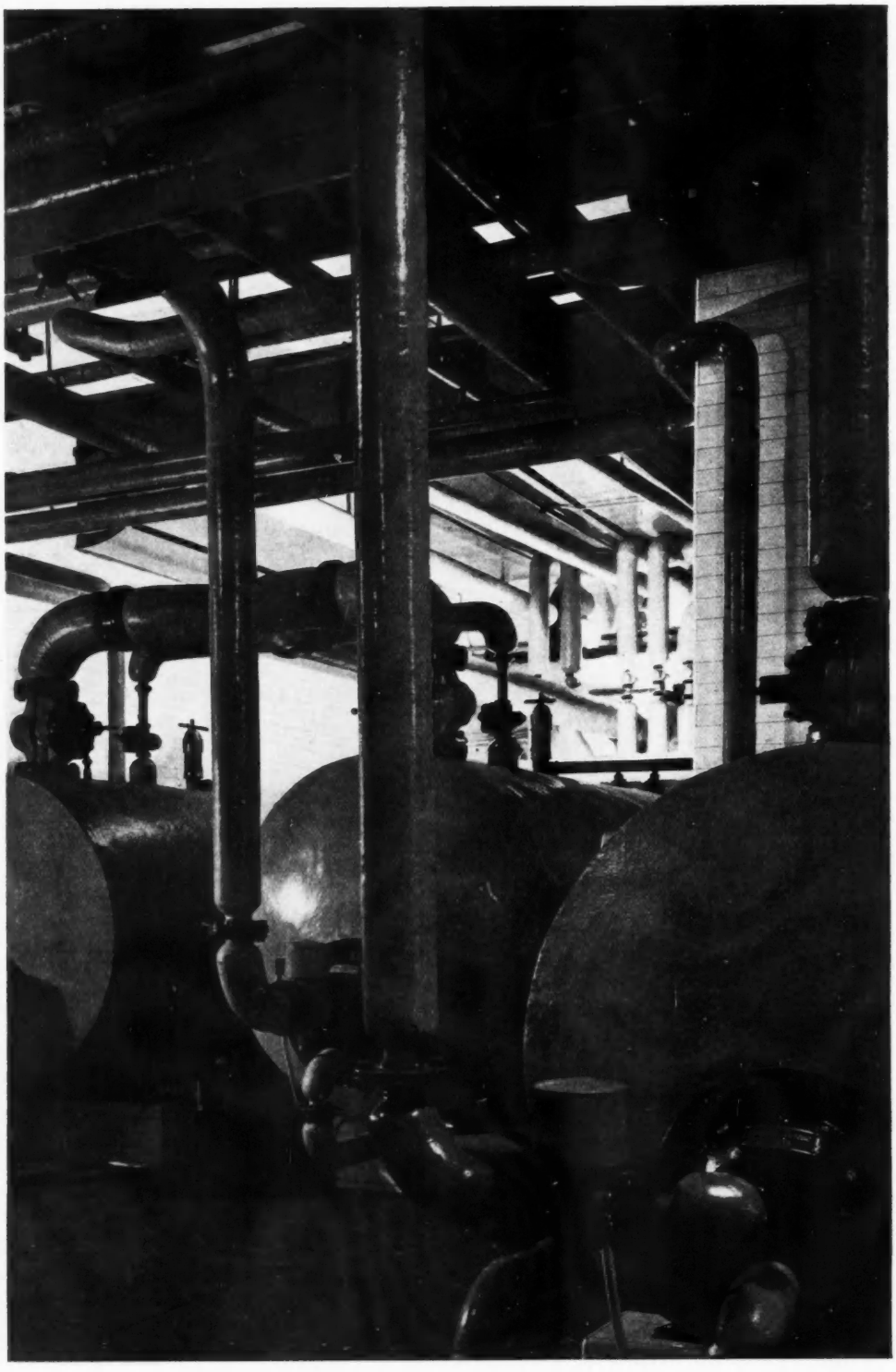
FROM THE R.I.B.A. EXHIBITION

AN exhibition of crayon and wash drawings of Jewish Synagogue Architecture in Poland from the fifteenth to the eighteenth centuries, was held in the R.I.B.A. Galleries from March 19 to 21. The drawings are the work of Prof. Arch. G. K. Lukomski.

Jewish Art has developed in Poland since the fifteenth century, but only recently has the attention of the public been called to its strong originality and ancient existence.

Prof. Lukomski, whose drawings reproduce remarkably well the strange beauty of the Ghetto, lectured on the history of Jewish Art in Poland, following the opening of the exhibition by H.E. the Polish Ambassador, M. Konstanty Skirmunt.

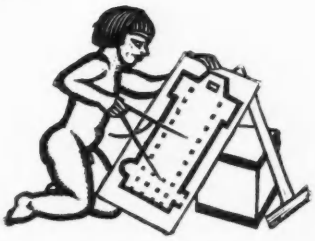
The above drawing is of the Synagogue at Ianón.



MODERN VENTILATION

A corner of the main air-conditioning plant-room in the basement of Shell-Mex House, London. Architects: Messrs. Joseph. The air is washed by means of water-sprays and may be humidified and heated or cooled at will, before circulating in ducts to outlets in the principal rooms.

The fifth of the series of Information Supplements, devoted to heating and ventilation, appears on pages 429–441 of this issue.



SLUM AND SUBSIDY

WE must offer to the Minister of Health our congratulations both for his achievement in forcing local authorities to produce slum clearance plans providing for the demolition of more than four times as many houses in the next five years as he himself contemplated at the beginning of the crusade, and for a belated appreciation of the fact that the clearance of the slums is not the whole of the housing problem.

Plans are at present in hand for the demolition of 266,851 houses, and the building of 285,189 houses in replacement. In comparison with what has been done in past years, these figures strike hope into our hearts. The contemplated rehousing of nearly one and a quarter million people in England and Wales in five years may be contrasted with the pitiful fact that since 1875 we have rehoused just over 200,000. Local authorities therefore propose to work on slum clearance about seventy times as fast as their predecessors.

But, let us look upon the other side of the picture. No responsible housing authority, other than an official one, has placed the number of unfit houses in England and Wales at less than half a million, most estimates being considerably higher. So that the programmes at present envisaged will deal with half the slums at most—a slum being considered in its technical sense as a home unfit for habitation.

Nor must it be forgotten by the public, that this campaign simply replaces one good house for every bad one it pulls down. At the end of the five years, as we show on page 418, there will hardly be any more houses under this scheme than there are today, and as a consequence of population increase, overcrowding, the chief cause of slum, will be worse. The withdrawal of the Wheatley subsidy at a time when unemployment was severe, money cheap and building costs low—at a time when at last it might have been practicable to build under the Wheatley Act houses at rents payable by the lower paid wage-earners—was an action which we cannot cease to deplore. For nearly a decade "Wheatley" had failed to provide houses sufficiently cheaply. It had made possible the building of Becontrees and Wythenshawes and their smaller equivalents —at rents of thirteen shillings per week or more. Cheap money and the decline in building costs by one-sixth between 1924 and 1933 would have reduced these rents very considerably. Let it not be forgotten that one per cent. off the rate of interest means about one and sixpence a week off the rent of a £300 house. The Acts of 1924 and 1930 were parts of a single policy—intended to be worked together. The 1930 Act was intended to destroy the slums—the 1924 Act to catch up with the shortage of houses, to provide for the increase of population, and to prevent, therefore, the setting up of fresh slums through overcrowding. It is impossible to isolate the problem of the slums from the problems of house shortage and overcrowding. There are hundreds of thousands of persons needing new, small and cheap houses who are not able to get them and are not now living in scheduled slums.

Overcrowding is the chief cause of slum. And until overcrowding is tackled as such, the primary factor in the making of slum will not have been eradicated.

It has become clear that the encouragement of the building societies and the speculative builders—under the 1933 Act—is not having the results which the Government anticipated. The reception of the scheme by the building societies was, to say the least, mixed, and further consideration has increased the number of societies which do not propose to take action under it. Mr. G. S. Harding assured the public nearly eleven months ago that the private builder was not prepared to take on a job which subsidized local authorities had found too big. The subsidy, after all, was worth roughly four shillings a week off the rent, and the private builder must make *some* profit. If local authorities could have got down to eight shillings a week inclusive with the Wheatley subsidy, it is difficult to imagine unsubsidized private enterprise getting below twelve and sixpence.

However, a very rapid change of front is now apparent. As late as March 3, Sir Hilton Young was still talking on private enterprise having its great opportunity. But in his speech of March 16 he announced a new Bill for the next session in which action was to be taken to relieve overcrowding and otherwise to make use of the proposals of the Moyne Committee, which have been available for six months already.

It seems unfortunate that this is to be delayed until economic recovery is well on its way, because then building costs and money will inevitably be dearer. Perhaps, however, the large Budget surplus for the present year may encourage the grant of a generous subsidy. We cannot ask for less than half of the "Wheatley," and it may be that as a result we shall get double. But even then the Government's troubles will not be over, for although we shall then get housing, we shall get housing without planning, and the unfortunate consequences thereof which include rising prices. In our view, something in the nature of a Housing Board, whether attached to the Ministry of Health or not, is an inevitable consequence of the Government's present action.

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NOTES & TOPICS

REPORT OF THE ROYAL FINE ART COMMISSION

I HAVE read, and re-read several times, this year's report of the Royal Fine Art Commission. It is difficult to find exactly where its shortcomings originate.

*

The list of matters upon which the Commission's opinion has been sought is varied and, on the whole, disappointing; but that is not the fault of the Commission. It is the fault, mainly, of its terms of reference.

*

The report itself deals almost entirely with London, as though that were the "be-all-and-end-all" of fine art, whether architecturally or otherwise. That is a great pity. I should like to see the provinces making use of this panel of experts to a far greater degree.

*

But can one blame the provinces? My own feeling is that the Royal Fine Art Commission is regarded generally as a *very* learned body, which deals (rather academically) with the siting of memorials, the preservation of historic buildings, monumental or governmental planning schemes—and then only when invited to do so.

*

If the Commission is really to play its part, there must be a far wider appreciation and acceptance of its ideals. And this applies not alone to the provinces but to London as well.

*

This year is the tenth birthday of the Fine Art Commission. May I express the hope that the occasion will be suitably and properly celebrated by the widening of the terms of reference.

*

For example, where the force of informed local opinion avails nothing, and the local council is fast bound by its own very practical bye-laws, might not the building owner, or architect, or local council, have the right to appeal to the Commission?

*

The local council, of course, already can, being a "public or quasi-public body." But does it? I have a feeling that if (by, of course, some legally circuitous means) *anybody* could have that valuable and skilled opinion, it would be invited more often by the people who need it most—in sheer self-defence.

*

In point of fact I do not think the Commission would object to this idea; because in one paragraph of the report it is actually admitted that the "private owners might be persuaded to follow."

*

Meanwhile, the list of matters upon which the Commission's advice has been sought is, as I say, disappointing. Some points are good, but there seems to be no plan behind it all—terms of reference again! (And some of the points are, if you ask me, silly.)

A NEW STREET IN LONDON

How many people realize that the centre of London has recently become possessed of a new street? Its name is Mart Street, and it is in Covent Garden. Not only has the street come into being quietly and unostentatiously, but for its construction some very famous structures have been pulled down—to wit, part of Inigo Jones's Piazza and the Tavistock Hotel.

*

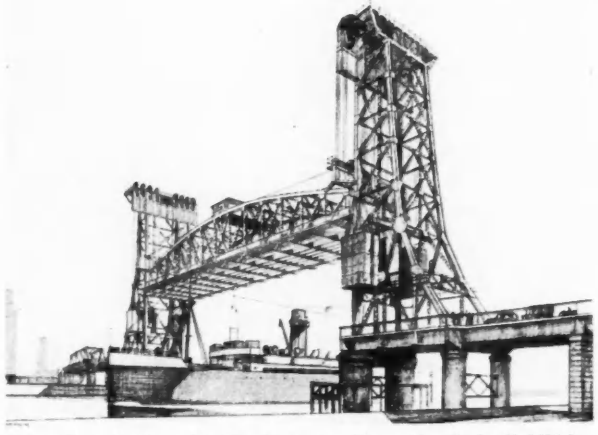
The preservation mongers must have been asleep not to notice and make a tremendous fuss. Yet the change was not effected in a hole-in-the-corner manner; indeed, circumstances were such that it would have seemed impossible for it to have been overlooked, for Mart Street is immediately behind the Royal Opera House, which was recently threatened with destruction.

*

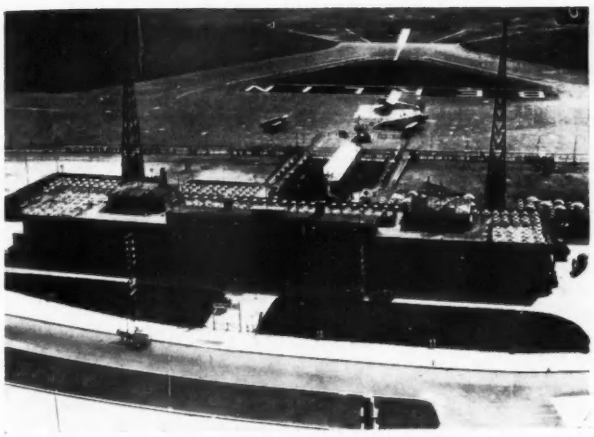
It is good news that a new company has been formed and that the Opera House is safe and will again provide, this summer, a Grand Opera Season for London.

THE EDUCATIONAL NATURE OF WINDOW DISPLAY

It was said at a discussion on the economic value of good design, at a recent meeting of the Design and Industries Association, that the window display methods adopted by



The Tees Bridge, Northumberland. From the A.A. Exhibition of Modern Transport, opened on Tuesday last.



An air view of the Tempelhof Aerodrome, Berlin. From the Exhibition of Modern Transport now being held at the Architectural Association.

intelligent retailers did more to educate the public in appreciation of good design than anything else.

*

I have been talking to a man with architectural training who has been out of England for twelve years, and his chief impression on returning to London is the change that has taken place in window-dressing, and the increasing use of neon lighting.

*

"Windows are alive now," he told me. "They're clean and lucid and decently arranged, and the displays are usually miles ahead of the goods shown in them." Of Regent Street he said: "You don't notice the buildings, thank God! for the window dressing's so attractive."

*

He hadn't noticed traffic congestion either, because he was so enthralled by the increased luxury and good design of public vehicles.

*

Incidentally he said: "What's all this fuss about trackless trams? They ought to have them everywhere in London: they don't stink like 'buses." When I reminded him of the unsightly standards and cables, and mentioned that even in Tottenham Court Road such things would be intolerable he said: "Why, they're there already. Every street lamp in Tottenham Court Road is suspended from cables slung between posts; just like tram cables."

*

Now I'd never noticed that. How many people have, I wonder?

SHOWROOMS FOR BUILDINGS MATERIALS

I suppose there is no greater idiocy practised by any firm manufacturing materials used in interior decoration than to show those materials in sample trays, instead of in action, doing their job in decoration. How often showrooms fail utterly because they either show too little or too much, or lack intelligent arrangement.

*

The new West End showrooms of the British Vitrolite Company, which were opened last week at 7 Albemarle Street, are what showrooms should be: a demonstration of suggestive and intelligent uses of this rather exciting material. They were designed by an architect, Mr. Kenneth Cheesman, who has regarded his function to be that of an illustrator of the possibilities of Vitrolite.

*

The new and vigorous technique of sandblasted decoration on black and coloured Vitrolite alone makes a visit a stimulating experience.

ARCHITECTURAL INTERESTS OF T. E. LAWRENCE

Captain B. H. Liddell Hart, that most accomplished writer on military subjects, has abandoned his practice of debunking Clausewitz and recording the abundant incompetence of the generals, English, French and German, who in the last war were disciples of that Teutonic tactician, and has written a book on T. E. Lawrence.

*

Indisputably it is the best book yet written about Lawrence. From its pages one gathers a picture of the immense erudition of that strange character. It is unusual to think of Lawrence as an expert architectural photographer; but he was apparently one of the pioneers of "new angles" in this art.

*

Before the war, "within the span of a few years he saw every twelfth-century castle in France, England and Wales, and became an expert in roof climbing through his practice of going up towers and roofs in order to get new angles of photography for architectural purposes."

*

A book to read, this, if only for the salutary effect it has upon one's own ideas of the extent and value of any personal search for knowledge in the fields Lawrence explored. Its pages will humble the student and even sober the expert.

THE HOUSING COMMITTEE OF THE L.C.C.

Mr. Silkin, the new chairman of the Housing Committee of the L.C.C., will have a mixed Committee to handle. There will be two ex-chairmen of the Committee: Mr. H. R. Selley, M.P., and Sir Cecil Levita.

*

The Committee will be strengthened by the advent of men like Mr. Fred Montague, who started as a newsboy, and was Under-Secretary of State for Air in 1929. He has been an Alderman of the Islington Borough Council and is a co-opted member.

*

Mr. Richard Coppock, the Secretary of the National Federation of Building Trade Operatives, returns to the Committee on which he served until his defeat three years ago.

B.I.F., BIRMINGHAM

A fortnight ago, discussing the few tolerably well-designed stands at the Castle Bromwich B.I.F., I stated that all of those for Imperial Chemical Industries had been done by Mr. John B. Surman. Mr. Surman has written to say that he was, in fact, only responsible for two of them, and that one was the work of Mr. St. John Harrison.

*

I am grateful for the correction, not only because it allows me to pay tribute where, it belongs, but, also, because it gives me satisfaction to reflect that *four* (instead of three) architects have been associated with the Exhibition. Better and better. ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

Let it not be forgotten that one per cent. off the rate of interest, means about one and sixpence a week off the rent of a £300 house 413

The International Bath Association have recently decided on a policy of improvement and standardization of design and manufacture, and have appointed a special committee to deal with the question.... 417

When the external temperature is 30 deg. F. and its relative humidity 50 per cent.—quite common conditions—the process of air entering the building and being heated to 65 deg. F. immediately reduces its relative humidity to approximately 15 per cent., which is far drier than is normal in desert regions..... 439

Complete domestic air-conditioning apparatus can now be produced within the price range of ordinary furnace and oil-burner installations..... 441

THE ARCHITECTS' DIARY

Thursday, March 22

DESIGN AND INDUSTRIES ASSOCIATION. *At the London School of Hygiene and Tropical Medicine, Gower Street, W.C.1. "Are we Civilized? The Place of the Artist in a Modern Civilization." By Professor Herbert Read.* 8.15 *p.m.*

BUILDING CENTRE. *At 158 New Bond Street, W.1. "Metal Finishes Used in Modern Architecture." By Dr. S. Weinick.* 8 *p.m.*

L.C.C. GEFFRYE MUSEUM. *At Kingsland Road, E.2. "Steps in Furniture Development." By Charles A. Hindley.* 7.30 *p.m.*

ARCHITECTURAL ASSOCIATION. *At 36 Bedford Square, W.C.1. Exhibition, "Architecture of Transport." Until March 31.*

Friday, March 23

ROYAL SANITARY INSTITUTE. *At the White Rock Pavilion, Hastings. Sessional meeting. Discussion on "Certain Problems of the Housing Situation, both Present and Future," to be opened by Dr. G. R. Bruce, O.B.E., David Edwards, M.Inst.C.E., H. T. Taylor and Councillor W. J. Beck.* 5 *p.m.*

Saturday, March 24

L.C.C. HORNIMAN MUSEUM. *At Forest Hill, S.E.23. "Early Christian Art in the British Isles." By T. D. Kendrick, M.A.* 3.30 *p.m.*

FACULTY OF ARCHITECTS AND SURVEYORS. *(London and Home Counties Branch.) At the Science Museum, Exhibition Road, S.W.7. "British and Foreign Building Laws as Applied to Structures." By C. H. Cottew, A.M.Inst.C.E., M.I.Struct.E.* 6.30 *p.m.*

Monday, March 26

ROYAL SOCIETY OF ARTS. *At John Street, Adelphi, W.C.2. "The Life and Work of William Morris, II." By Paul Bloomfield.*

Tuesday, March 27

BUILDING CENTRE. *At 158 New Bond Street, W.1. "Plastics: The Fourth Material of Construction." By W. Owen Griffiths, A.M.I.Mech.E.* 8 *p.m.*

Wednesday, March 28

L.C.C. CENTRAL SCHOOL OF ARTS AND CRAFTS. *At Southampton Row, W.C.1. Lecture XXIV. "Belgian and Dutch Medieval Architecture." By Sir Banister Fletcher, F.S.A., F.R.I.B.A.* 6 *p.m.*

REGISTRATION: UNATTACHED ARCHITECTS

On Tuesday last it was announced that the following three architects have been elected to serve on the Architects' Registration Council as representatives of the 1,060 registered persons who are *not* architect members of the R.I.B.A., I.A.A.S., F.A., A.A. (London), A.A.S.T.A., or of their provincial associations:

A. Randall Wells (334 votes); E. W. Chapman (234 votes); and Raymond Walker (172 votes).

The other candidates nominated for election were: L. E. Baker, A. E. Heckler, A. B. Houchin, E. J. Messent, Claude E. New, L. E. G. Reynolds and J. B. Wikeley.

MANCHESTER HOUSING APPOINTMENT

Mr. John Hughes, A.R.I.B.A., has been recommended to the Manchester City Council for appointment as Deputy Director of Housing at a salary of £650 a year. Mr. L. H. Keay, the Liverpool Housing Director, in a broadcast talk last week, described Mr. Hughes as "one of my most brilliant assistants."

L.C.C.: CHAIRMEN OF COMMITTEES

The London Labour Party have issued a list of members of the London County Council that it is proposed shall be chairmen and vice-chairmen of committees of the Council. The list contains the following appointments:

Building Acts: H. Berry and J. Kaylor. Finance: Charles Latham and G. R. Strauss. Housing and Public Health: L. Silkin and C. W. Gibson. Parks: Richard Coppock and Mrs. A. Salter. Town Planning: Harry Barnes, F.R.I.B.A., and W. H. Green.

GIFT TO LIVERPOOL CATHEDRAL

At a meeting of the Liverpool Cathedral Executive Committee, held last week, it was announced that Lord Vestey and Sir Edmund Vestey had arranged to give to the building fund amounts which will enable the committee in due course to erect the great central tower of the cathedral at a cost of about £220,000. The tower will rise above the great central space of the building now in course of erection to a total height of 327 ft. above the ground level, or 308 ft. above floor level.

TOWN PLANNING IN IRELAND

The Irish Free State Town and Regional Planning Bill passed its final stage in the Dail on March 15, when Mr. S. O'Kelly, Minister for Local Government, expressed the hope that local authorities, architects and builders would co-operate with the Government in bringing about a more beautiful Ireland. The best town-planners Ireland ever had, he said, were the Wide Street Commissioners of Grattan's Parliament; he hoped local town-planners of the present day would follow their example as far as possible.

NATIONAL LIBRARY OF SCOTLAND

Mr. Guy, in the House of Commons last week, asked the First Commissioner of Works if he was now in a position to make any statement as regarded the appointment of the architect for the extension of the National Library of Scotland.

Mr. Ormsby-Gore said he hoped to be in a position to announce the appointment in question at an early date, after the settlement of certain outstanding points in connection with the schedule of requirements for the new building.

NOTTS, DERBY AND LINCOLN ARCHITECTURAL SOCIETY

The practising members in Derby entertained the Nottingham and Lincoln members of the above Society to an informal dinner on March 6. The dinner was followed by a lecture on "When Building, Behave Yourself," by Mr. T. Graham Crump, L.R.I.B.A.

The lecturer stressed particularly the Town and Country Planning Act, and asked for support from all architects, as he was of opinion that only by repeated and constant pressure by individuals could anything be done to prevent the ribbon building and the unorganized planning of our urban and rural districts.

In the discussion suggestions were made that architects should get in touch with speculative builders and offer to design them a model house, free of cost, in an endeavour to prove that, as a business proposition, architects could erect a better house than builders who erected without help from the architectural profession.

INSTITUTION OF STRUCTURAL ENGINEERS

The annual dinner of the Institution of Structural Engineers will be held at the Dorchester Hotel, W.1, on Friday, March 23 (6.45 for 7.15 p.m.).

WEST YORKSHIRE SOCIETY OF ARCHITECTS

Mr. B. R. Gribbon, F.R.I.B.A. (President), occupied the chair at a meeting of the above Society, held at Keighley on March 15, when a lecture entitled "The Unarchitectural Octopus" was given by Mr. Norman Culley, F.R.I.B.A.

The lecturer said that he failed to discover in the Town and Country Planning Act any indication of a movement towards a view of civic life as a complete whole. There were evidences that the Act was strangled by the political party electoral system. That the architect might or might not be called in consultation regarding certain matters of elevational control

was an admission that something was wrong, there being no attempt to initiate professional control over what was essentially an architectural matter.

A vote of thanks to the lecturer was moved by Mr. B. M. Bailey, and seconded by Mr. A. H. Rodway.

FACULTY OF ARCHITECTS AND SURVEYORS

"British and Foreign Building Laws as Applied to Structures" is the title of a paper to be read by Mr. Charles H. Cottew, A.M.INST.C.E., at a meeting of the Faculty of Architects and Surveyors (London and Home Counties Branch) on March 23. The meeting will be held at the Science Museum, Exhibition Road, S.W., at 6.30 p.m. The lecturer will deal with building laws in other countries and discuss them in relation to building laws in this country, and more particularly the London Building Act and the recent Codes of Practice for Structural Steelwork and Reinforced Concrete.

SOUTH-EASTERN SOCIETY OF ARCHITECTS

The Monthly Social Evening of the Guildford Chapter of the above Society was held at Ayre's Room, Guildford, on March 14, under the chairmanship of Mr. A. J. Stedman, F.R.I.B.A.

A criticism of students' drawings was given by Mr. F. N. Peace, A.R.I.B.A.; and Mr. Joseph Hill, F.R.I.B.A., delivered a lecture on "Stores," illustrated by lantern slides of examples from both this country and abroad.

ANNOUNCEMENTS

Mr. A. V. Montague, A.R.I.B.A., Dip. Arch. (Leeds), Architect and Surveyor, has commenced practice at Camden House, Camden Terrace, Woodhouse Lane, Leeds, 2, where he will be pleased to receive trade catalogues, etc.

Mr. Charles W. Long, F.R.I.B.A., states that the practice of Alkinson and Long will be carried on under his name only at 4 Trumpington Street, Cambridge, and at his London office at 21 Bloomsbury Square, W.C.1.

Mr. George A. Allan, F.R.I.B.A., Architect and Surveyor, has removed his offices to No. 14 Gray's Inn Square, W.C.1. Telephone No.: Chancery 7689.

R. I. B. A.

THE REBUILDING OF ROME

A paper entitled "The Via dell' Impero and the Imperial Fora," by Dr. Guido Calza, was read by Dr. Camillo Pellizzi (in the absence of Dr. Calza), at the R.I.B.A., on Monday last. Sir Giles Gilbert Scott, F.R.I.B.A., presided.

In the course of the paper it was stated that "in order to appreciate the Via dell' Impero to the full, and to feel it in all its beauty and magnificence, it must be viewed not only with the bodily eye but with the spiritual eye as well. It is a truly Roman road, because it passes through the finest monumental relics of a great empire, and thus synthesises in one single vision the Imperial *Romanitas*. But it is no less an Italian road, the road of a modern nation, which joins modern initiative to the cult of her past.

"Only one modern palace will be built in the near future on this road, and all Italian architects are called to compete for the plans of the Palace of the Littorio and of the Fascist Revolution, which is to be built at the beginning of the Via Cavour. It is a difficult task, and one that presents an architectural problem of the highest interest, inasmuch as this twentieth-century building will be close to and must bear comparison with the architecture of Imperial Rome. Perhaps never before has a more solemn subject been submitted to the mind of an artist. It is not a question of building in a new environment, but in a centre of ancient monuments. Let us hope that the result will be worthy of this environment, where the beauties of ancient Rome have been brought to light again, and which inspires us, not only to a sense of humility towards the works of the past, but also to feelings of optimism and of faith in the future."

COMPETITION

NEWS

COUNCIL OFFICES, SLOUGH

The conditions of the competition for the proposed Council Offices, Slough, are now available. See Competitions Open, below.

BELFAST ARCHITECTURAL COMPETITION

The proposed Belfast sanatoria architectural competition, which has been in abeyance for many months, will probably be launched in April (states our Belfast correspondent). Owing to financial stringency, a decision on the subject had been deferred, but now that the city rate for 1935 has been struck, the Tuberculosis Committee of the Corporation have been reconsidering the suggested conditions, and a special meeting has been fixed at which it is expected the final decision will be taken.

The Committee have already decided that for the guidance of competitors £120,000 be set out as the cost of the Whiteabbey extension. In view of the understanding that the City Medical Superintendent of Health (Dr. Thomson) intends to press for tuberculosis being made a compulsorily notifiable disease, the Committee feel that the scheme should be undertaken immediately.

I.B.A. BATH IMPROVEMENTS COMPETITION

We have received the following letter from the Controller of the International Bath Association :—

SIR,—The International Bath Association have recently decided on a policy of improvement and standardisation of design and manufacture, and have appointed a special committee to deal with the question.

The Committee feel that those interested in the sales side of the trade must have many practical and useful suggestions made to them from time to time. This applies particularly to the salesmen and assistants in the showrooms of ironmongers and builders' merchants and probably also to architects' assistants and draughtsmen. It is the desire of the Committee to secure suggestions of all possible improvements, for incorporation in new registered and patented designs which they are at present engaged in producing.

I am instructed, therefore, to offer on their behalf a first prize of £25, for the best accepted suggestion, with a second prize of £10, and three consolation prizes of £5 each.

Readers desirous of entering the competition should submit their suggestions written on one side of the paper only, in envelopes marked, "Bath Improvements," addressed to the Controller, I.B.A., Condor House, 13/14, St. Paul's Churchyard, E.C.4, so as to reach their destination not later than the first post on April 16th next, it being understood, of course, that all entrants accept the decision of the Committee as final.

Yours faithfully,
International Bath Association,
G. H. BERRY,
Controller.

Competitions Open

March 24.—Sending-in Day. Alterations and additions to the Masonic Hall, London Road, Leicester. Open to architects who are subscribing members to any Lodge in the province of Leicestershire and Rutland. Assessor: Mr. Arthur H. Hind, F.R.I.B.A. Premiums: 50, 30 and 20 guineas. Designs should be submitted to the Secretary, Masonic Hall Committee, 80 London Road, Leicester.

March 26.—Sending-in Day. Façade in grey Cornish granite, for the Cornish Quarry Masters' Association. Open to all architects, architects' assistants, and architectural students. Assessors: C. Lovett Gill, F.R.I.B.A., Professor A. B. Knapp-Fisher, F.R.I.B.A., and Howard Robertson, F.R.I.B.A. Also, two members of the Cornish Quarry Masters' Association. Premium: £50. The design, etc., is to be sent to the Secretary, Architectural Association, 34-36 Bedford Square, W.C.1, by Monday, March 26. Full particulars of the competition may be obtained from the Secretary of the A.A.

June 26.—Sending-in Day. Proposed Council Offices, Slough, for the Slough U.D.C. Assessor: H. S. Goodhart-Rendel, V.P.R.I.B.A. Premiums: £250, £150 and £100 for designs placed first, second and third, respectively. Conditions, etc., may be obtained from F. R. Duxbury, Clerk to the Council, Council Offices, Slough. (Deposit £1 1s.). Last day for sending in questions: April 23. Last day for submission of designs: June 26.

THIS ARSHETECTURE

The front of the theatre has been designed to represent the old-time music hall with all the old perforated gas piping illuminations and the old-fashioned crystal glass advertisements.

From VARIETY NEWS.

S L U M

In our issue for October 26 we published a survey dealing with the housing needs in 14 of the largest cities of England. Figures from the Ministry of Health, which include these towns, have now been published in a White Paper (Cmd. 4535 of 1934), and we give below a comparison of our figures with those issued by the Minister, together with a forecast of the needs in five years' time. This is interesting as it gives some idea of how much more must be done *after* the present slum campaign is put into operation. Overcrowding—the chief cause of slum—will actually be *worse* than it is now, unless the Government gets busy with *housing* as well as *rehousing*.

" In pursuance of the policy stated on the Second Reading of the Housing (Financial Provisions) Bill in 1932 that there should be a national effort to get rid of slums, a review was made by the Ministry of Health of the position as it then stood, and, after preliminary conferences with the representative Associations of Local Authorities, a circular (1331) was, on April 6, 1933, issued to all housing authorities in England and Wales. . . . .

" In response to this circular, programmes have been received providing for the demolition of a total of 266,851 houses, and for the building with the assistance of subsidy under the Act of 1930 of 285,189 houses in replacement. The number of persons to be rehoused is estimated at 1,240,182." (*From Particulars of Slum Clearance Programmes Furnished by Local Authorities, Cmd. 4535.*)

The following table compares the figures for demolitions proposed and persons to be rehoused, in the twelve cities in England and Wales the housing conditions of which were examined in the Slum Survey, published in THE ARCHITECTS' JOURNAL, June 22 to October 26, 1933, with the figures of overcrowding and estimates of housing requirements as given in that Survey :—

Name of City	Number of people living (in 1931) Over 3 per room	Over 1½ per room	Number of houses required now. (See Slum Survey)	Number private families less houses* 1931	Government Slum Clearance Plan Houses to be demolished	Persons to be rehoused
Liverpool	20,515	215,965	50,000	27,488	11,937	59,685
Leeds	7,498	97,507	70,000	2,640	30,000	111,000
Manchester	8,864	138,162	30,000	13,498	15,000	63,000
Birmingham	11,455	180,746	50,000	13,246	4,500	19,350
Sheffield	7,679	106,314	27,000	5,584	9,000	40,500
Stoke	5,323	80,807	12,500	4,652	3,612	17,881
Bristol	3,681	58,955	6,000	20,776	2,900	15,212
Hull	4,992	65,151	6,000	3,542	3,216	13,346
Cardiff	1,737	36,785	5,000	11,833	203	818
Newcastle	25,876	110,423	13,000	9,668	2,253	21,363
Bradford	3,526	57,015	15,000	1,435	2,693	9,034
London	150,130	1,206,894	165,000	459,402	33,000	265,000
Totals	251,276	2,354,724	449,500	573,764	118,314	636,189

* i.e. Structurally separate dwellings occupied.

The immediate housing requirements of these twelve cities in order that nobody shall live at over 1½ per room and nobody shall live in a slum were estimated in the Slum Survey at 449,500 (say 450,000).

Present proposals are to clear away 118,314 slum houses in these cities by the end of 1938. The number of houses to be built in replacement of these is not stated for each city, but, judging from the figures quoted above from the White Paper in respect of the whole of England and Wales, a necessarily close estimate of 130,000 can be given.

The Slum Clearance Programmes thus provide for the building, *over the next five years*, in the twelve cities taken above, of 320,000 fewer houses than the estimate of *immediate* needs given in the Slum Survey, on the basis of replacing all slums and doing away with overcrowding at over 1½ per room.

Thus, if the size and distribution of the population, its age-content, etc., remained exactly as now, and if there was no encroachment of offices, factories and workshops upon dwellings now used for residential purposes, there would be in 1938 a deficiency of 320,000 houses in these twelve cities unless the housing of the persons concerned is undertaken under other than the Slum Clearance Programmes.

Mr. C. J. Hill, of *The Economist* Intelligence Department, suggests that in making estimates of the increase in families as recorded by the Census either for England and Wales as a whole or for particular cities or regions, a probable increase for 1932-41 of half that actually recorded in 1922-31 should be assumed (see page 180 of *The Anti-Slum Campaign*, by Sir E. D. Simon).

On this basis the increase in the number of private families in seven* of the above cities during the present intercensal decade would be approximately as shown in the first column of figures below. These figures are reduced slightly in the second column, which is intended as an estimate of the increase in number of families which will have taken place by the end of 1938. (The rate of increase will slow off towards the end of the decade.)

Liverpool	14,700	12,500
Manchester	12,900	11,000
Birmingham	23,000	20,000
Bristol	6,600	5,500
Newcastle	4,800	4,000
Bradford	4,800	4,000
London	34,600	30,000

On the assumption that *new* housing requirements can be based on anticipated increases in the number of private families, *but applying the 1½ per room standard as before for the determination of present needs*, it is now possible to make estimates regarding the position at the end of 1938, as a result of the Slum Clearance Plans alone. Unfortunately, this can only be attempted for seven of the twelve cities.

	A. Approximate number of houses to be built Under Slum Clearance Programmes (Calculated by adding 10 per cent.* to number of houses to be demolished.)	B. Estimated increase in number of private families 1931–38.	A. Less B.
Liverpool ..	13,131	12,500	+ 631
Manchester	16,500	11,000	+ 5,500
Birmingham	4,950	20,000	— 15,050
Bristol ..	3,190	5,500	— 2,310
Newcastle	2,478	4,000	— 1,522
Bradford ..	2,962	4,000	— 1,038
London ..	36,300	30,000	+ 6,300

If no houses were to be demolished the third column above would represent the effect of the Slum Clearance Programme in counteracting the extra shortage of houses which will arise owing to the anticipated increase in the number of private families by the end of 1938. A little ground would be won in three of the cities, a little lost in three, and a great deal lost in one. Since, however, the slum clearance plans necessarily and by definition involve clearing slums away (and on the basis of the figures in the White Paper the number cleared away will be very little less than the number built) it is obvious that the Programmes will have practically no effect on the problems caused by the anticipated increase in the number of families in the cities. (This, of course, is not the purpose of the slum clearance campaign.)

It is to be emphasized that the use of the formula for anticipating the increased number of families in *particular cities* necessarily produces less exact estimates than its use for anticipating the increase in England and Wales as a whole.

On the basis of the evidence compiled in the Slum Survey, the immediate housing requirements of the twelve cities in England and Wales which were considered amount to 450,000. Assuming that housing conditions in the other parts of the

* Figures for Leeds, Sheffield, Stoke, Hull and Cardiff cannot be estimated because figures for number of families in 1921 and 1931 are not comparable.

* This addition provides for the fact that rather more houses are to be built than demolished—figures for England and Wales are 285,189 and 266,851, i.e. about 7 per cent. more to be built than demolished.

country (ranging from cities of about 250,000 to the smallest rural areas) are half as bad as in these cities, the total housing needs of England and Wales are 1,100,000 houses. The Slum Clearance Programmes envisage the building, over five years, of 285,189.

If no change in number of private families were expected, the total needs would be reduced, as a result of the Slum Clearance Programmes, to 815,000.

But the anticipated increase in the number of private families in the intercensal decade is 747,000—to end of 1938, say 600,000.

Therefore if there were to be no housing nor transference of overcrowded persons not living in slums, and no provisions for housing the new families, the anticipated shortage at the age of 1938 would be 1,415,000 houses.

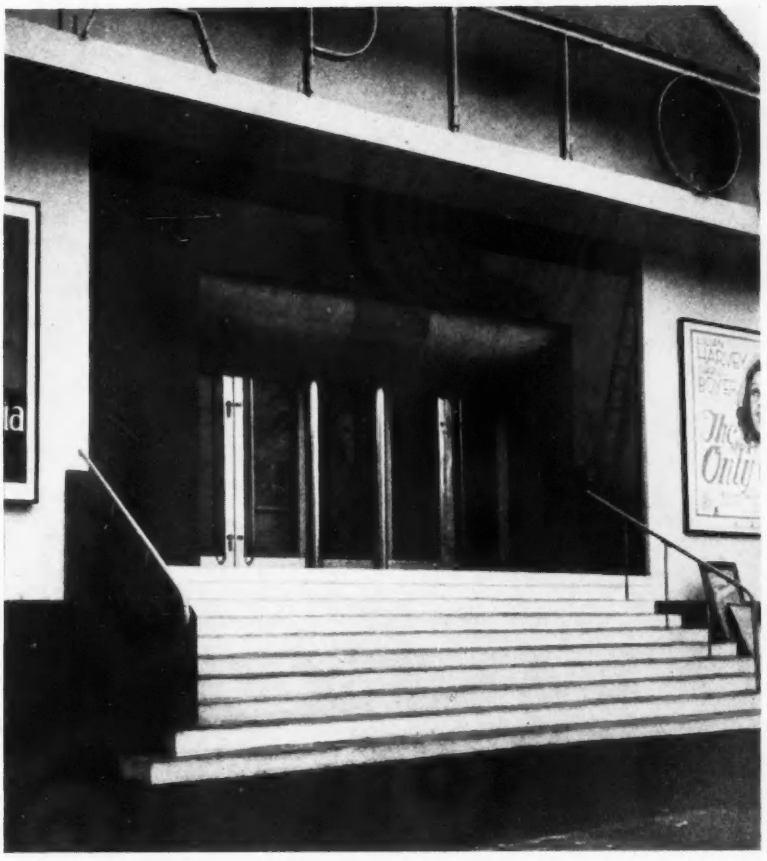
●

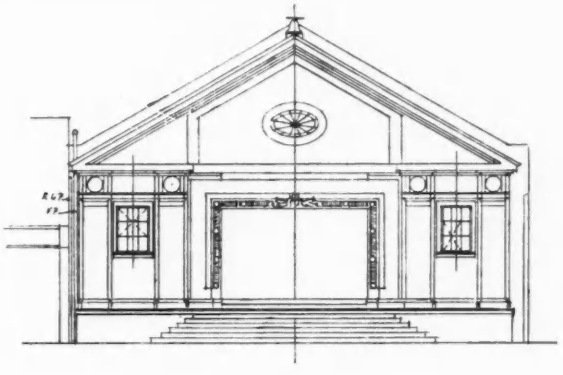
The Government's new housing proposals to deal with overcrowding, outlined last week by Sir Hilton Young, the Minister of Health, have been well received by housing authorities throughout the country, states *The Times* for March 20. Exception is still taken by some reformers to a policy of building upward in flats, but in the larger cities there is substantial agreement with the Minister of Health that an effective remedy for overcrowding cannot be provided by offering new homes far from the old ones.

In the same issue, in a leading article entitled "Overcrowding," it was stated that "there are most serious objections to entrusting the attack upon overcrowding to local authorities at all. There are 1,700 of them to be brought into line, and, even when they are in line, they cannot organize in common the supply either of houses or of materials for the houses. They have many other duties besides housing. Most of them are now occupied, and will be occupied far beyond next autumn, with slum clearance; and it would be tragic if slum clearance were to be slowed down because their energies were diverted to overcrowding. . . . . The Minister of Health has been so successful in stimulating local authorities in the matter of slum clearance that it would be impertinent at this stage to declare that he cannot possibly organize and stimulate them to deal with overcrowding; but it is no disparagement of his past successes to be anxious lest the fact that local authorities have been the housing authorities in the past may lead him to overburden them in the future."

Sir Harold Bellman, speaking at a luncheon held after he had opened the new head offices of the Citizens' Permanent Building Society in Brighton on March 19, said that the belated awakening of the public conscience regarding our housing deficiencies coincided with more favourable economic conditions than had obtained since the war. Thanks to the National Government's sound budgetary policy, the general rate of interest had now been reduced to a decidedly economic level. Building costs had also fallen to low levels. Thus there was an exceptional combination of favourable economic circumstances, and it would be criminal folly if we neglected to take advantage of them.

CINEMA AT MILL HILL

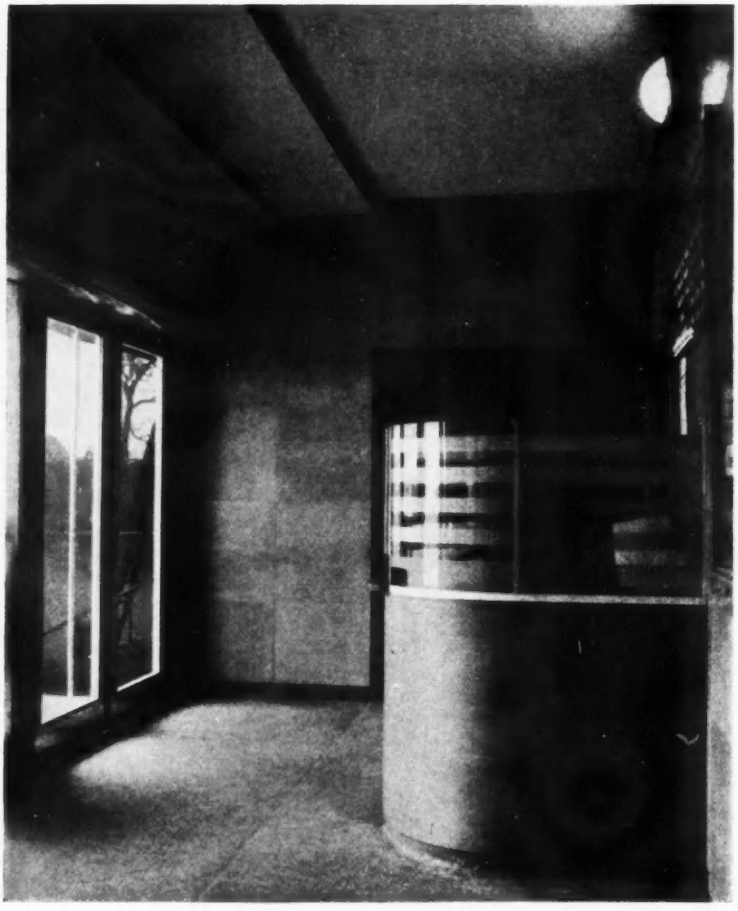




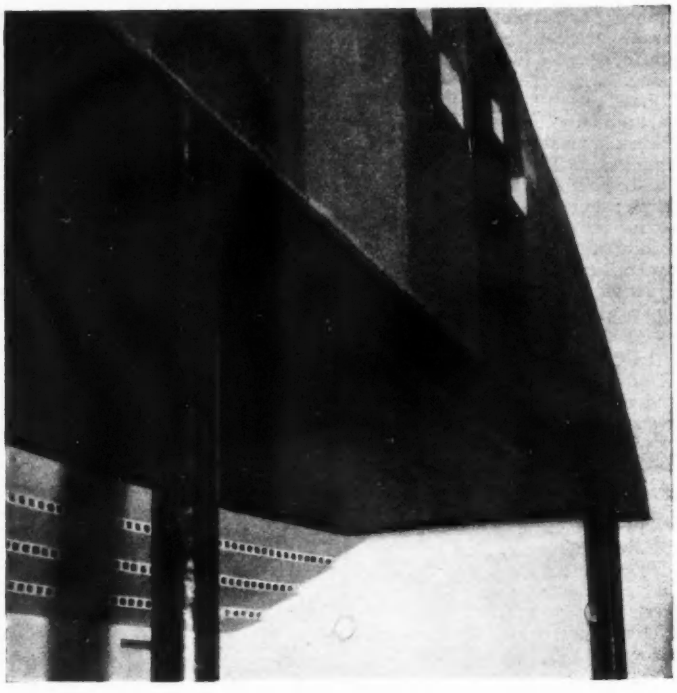
This cinema was formerly an auction room. The architect was confronted with the difficult tasks of conforming to the shell of the auction room, and of converting it, at the minimum of expense, into a cinema. Above is the stucco front of the old building; and a view of the main entrance to the new one. The walls around the door are of blue-coloured cement, for the rest of the building they are terra cotta. The lettering above the entrance is in metal, painted black. Detail drawings of the main entrance and auditorium doors are given on pages 423–426 of this issue.

DESIGNED BY ROBERT BANKS

CAPITOL CINEMA, MILL HILL:

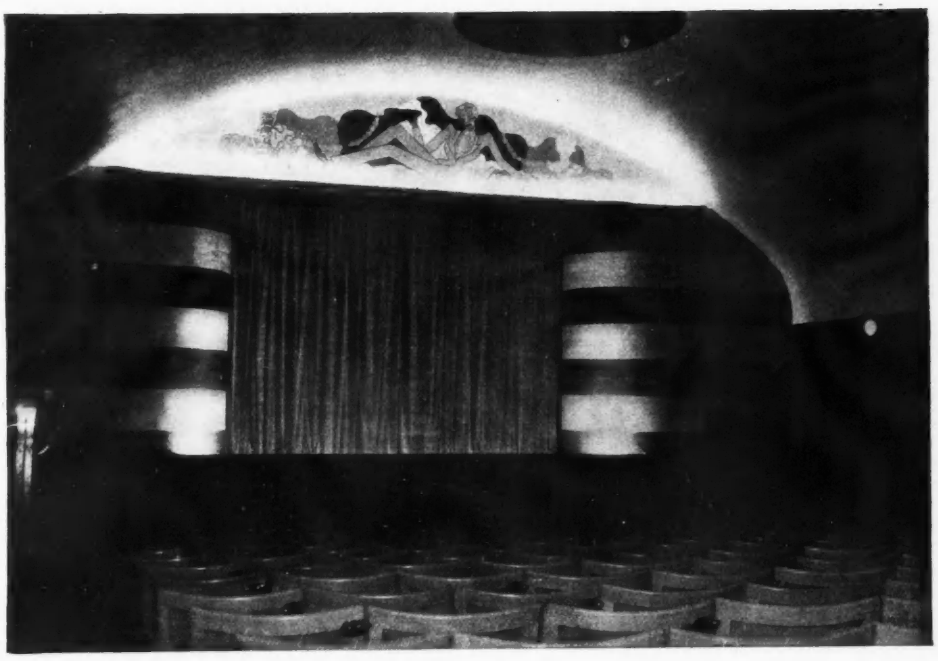


The pay box, shown in the photograph on the left, is designed to take up as little room as possible; the lower portion is constructed from oak bent plywood and the upper portion is formed in three sections of sand-blasted glass in 2½ in. widths, with light T angles painted white. Above the pay box a feature is made of the category board which is compulsory legally in every cinema; the lettering is vermilion, ultramarine and chrome yellow.

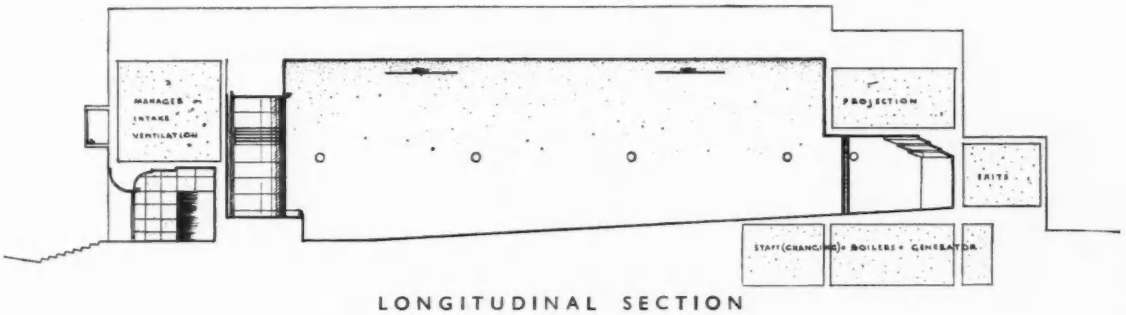


The projection room, supported by circular columns at the rear of the auditorium. It is apparent, from the plan, that the columns do not obstruct the view of the screen from back seats. The ventilation extract grilles are formed in fibrous plaster and conceal a triangular duct. The duct could be accommodated only by placing it inside the auditorium, and its triangular shape was dictated by headroom requirements.

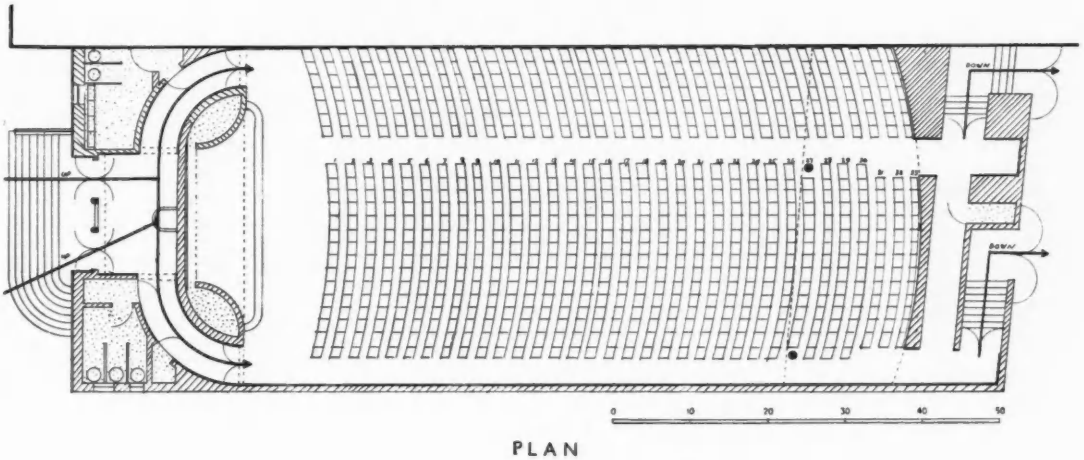
DESIGNED BY ROBERT BANKS



The proscenium from the auditorium. The drop curtain is in emerald dark green velour. The mural decoration above the proscenium arch was designed and executed by William Edmiston, in distemper on a canvas-faced lining paper. The proscenium walls are of 4½ in. brickwork, plastered, finished with alternate bands of dark figured walnut and light prime vera obechi. Seating accommodation for 700 persons.



LONGITUDINAL SECTION



PLAN

LETTERS FROM READERS

H. J. EVERETT-PYNE

J. LEWIS WOMERSLEY, A.R.I.B.A.

CLOUGH WILLIAMS-ELLIS, F.R.I.B.A.

Buildings in Vienna

SIR,—I must reply to your correspondent, Mr. J. Lewis Womersley.

Unlike him, I am no "mere architect," but one who considers the study of politics, sociology, and psychology as necessary to a correct understanding and practice of architecture.

Your correspondent, although no politician, writes his letter to "enlighten his fellow-countrymen" on the political situation in Austria, and it is upon this point that I should like to make a few comments.

Vienna was a province, and was controlled by the Socialists, who from 1919 maintained a majority on the Council and in the Diet. Everything progressive that, within the limitations of a Captialist State, could be achieved for the workers was done in Vienna, and done through the taxation of luxuries enjoyed by Mr. Womersley's "middle men," i.e., those people who live like parasites on the labours of the working class.

Your correspondent's lady friend says that the Austrian people are not unnecessarily cruel. While I am prepared to accept this statement, it merely emphasizes the fact that the capitalists of Austria, realizing the success of the Socialists' work, found it *necessary*, in order to maintain their rule, to suppress ruthlessly all those who were prepared to defend their constitutional rights. The Social Democratic party, realizing what would be the result of the enlistment of Starhemberg's Heimwehr, were compelled to arm themselves: but it must be remembered that they refrained from using these arms until the last vestiges of democratic government were swept away by Dollfuss and his followers.

Before this, the Social Democratic Party continually appealed to Dr. Dollfuss to maintain democracy and the Parliament, and trusted that resistance would be unnecessary; but (alas, too late) it was realized that the Chancellor intended to overthrow and destroy the Social Democratic Party and the Trades Unions.

On Monday, February 12, the Socialist Headquarters at Linz were seized. (Not by the regular police as your correspondent would have us believe, for large numbers of the police force had been dismissed and replaced by Fascists.) The Socialists resisted and Austria was plunged into civil war, the Socialists fighting for democracy and constitutional government, the Heimwehr fighting, with State support, for Fascist dictatorship. A general strike began. The great housing blocks, built with so much imagination, were attacked and became fortresses, machine guns and howitzers were turned upon them, wrecking the outstanding achievement of post-war Vienna.

After four days of fighting, hundreds of Socialists, who had accomplished so much for humanity, were dead, wounded, or imprisoned. The struggle was over, the Fascists in power, and the reign of terror commenced.

Sir, your JOURNAL has done much to stimulate in the minds of architects the necessity of considering architecture as part of living and not a mere putting together of materials. May I suggest that no better proof of this basic law could be found than the architecture of Socialist Vienna; and that no work done under the slavery of Fascism (capitalist dictatorship) is likely to bear any comparison with the work of Vienna's martyrs?

H. J. EVERETT-PYNE

SIR,—I am afraid that the main point of difference between the views of Mr. Townsend and myself in regard to flat-building for the working-classes lies in politics. I back up slum clearance wholeheartedly, but if—I say "if"—the cost has to be met by taxation, let us place a limit on it. I maintain that in Austria any sane limit was exceeded. Even in England today the majority of the middle classes can hardly afford to marry, whilst the so-called working classes marry and breed like rabbits, whether employed or unemployed. Education—Christian education—must work hand in hand with improvement of conditions if we are to attain any good result. All those photographs in the JOURNAL showing families of ten living in one room make me sick! What man worthy of the name, having only the means to live in one room, would marry and have eight children?

I look at the construction of the flats in Vienna from a different viewpoint to Mr. Townsend. I suggest that had the Social Democrats not been so confident in their well-built (jolly well-built) flats, and had they not possessed a considerable quantity of arms, they would not have attempted to withstand a siege. They would have capitulated on being merely threatened with cannon—as they were given full opportunity of doing—and thus have caused no loss of life at all.

I do not pretend to know more of the situation than does Mr. Earley, yet my informant, in her statements, expressed a point of view entirely different from that given in most British newspapers, and certainly far more comprehensible. If my letter helped to state the case for the Austrian Government more fairly, so that a truer conclusion can be drawn, then it fulfilled its purpose.

J. LEWIS WOMERSLEY

Restaurant on Snowdon

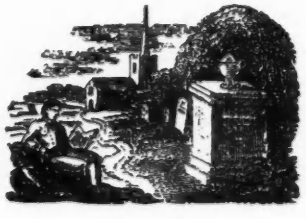
SIR,—Though I find myself sympathetic to Mr. Spence's attitude and criticism, I cannot help feeling that he is voicing the romantic fallacy that was responsible in the last century for a great deal of unhappy building.

Perhaps I may best explain my own attitude by quoting a paragraph from an article of mine on the subject of this Snowdon building that I wrote for *The Manchester Guardian*:

> It might be argued by some that if a building had to be put up in such a place it should assimilate itself to the mountain by being built with Cyclopean blocks of the native stone. My own feeling, however, is that, quite apart from the prohibitive cost of such a building and the fact that the mountain top itself would have to be quarried and despoiled to yield the stone, any attempted competition with its background in the way of mass or ruggedness would be rather futile, and that it is better and more reasonable frankly to accept the fact that man is unquestionably intruding on nature, not so much apologetically, as with his own reasoned human dignity.

As to Mr. Spence's point that my excuse for walls largely of glass is futile because the view is even better seen from the open mountain top, I would only remark that, granted the railway delivering its hundreds at the summit, in all kinds of weather, shelter of some sort with as good an outlook as may be is essential in the name of common humanity. Whether the railway should be there at all is quite another question. But there it is.

CLOUGH WILLIAMS-ELLIS



WORKING DETAILS : 21

MAIN ENTRANCE • CAPITOL CINEMA, MILL HILL • ROBERT BANKS

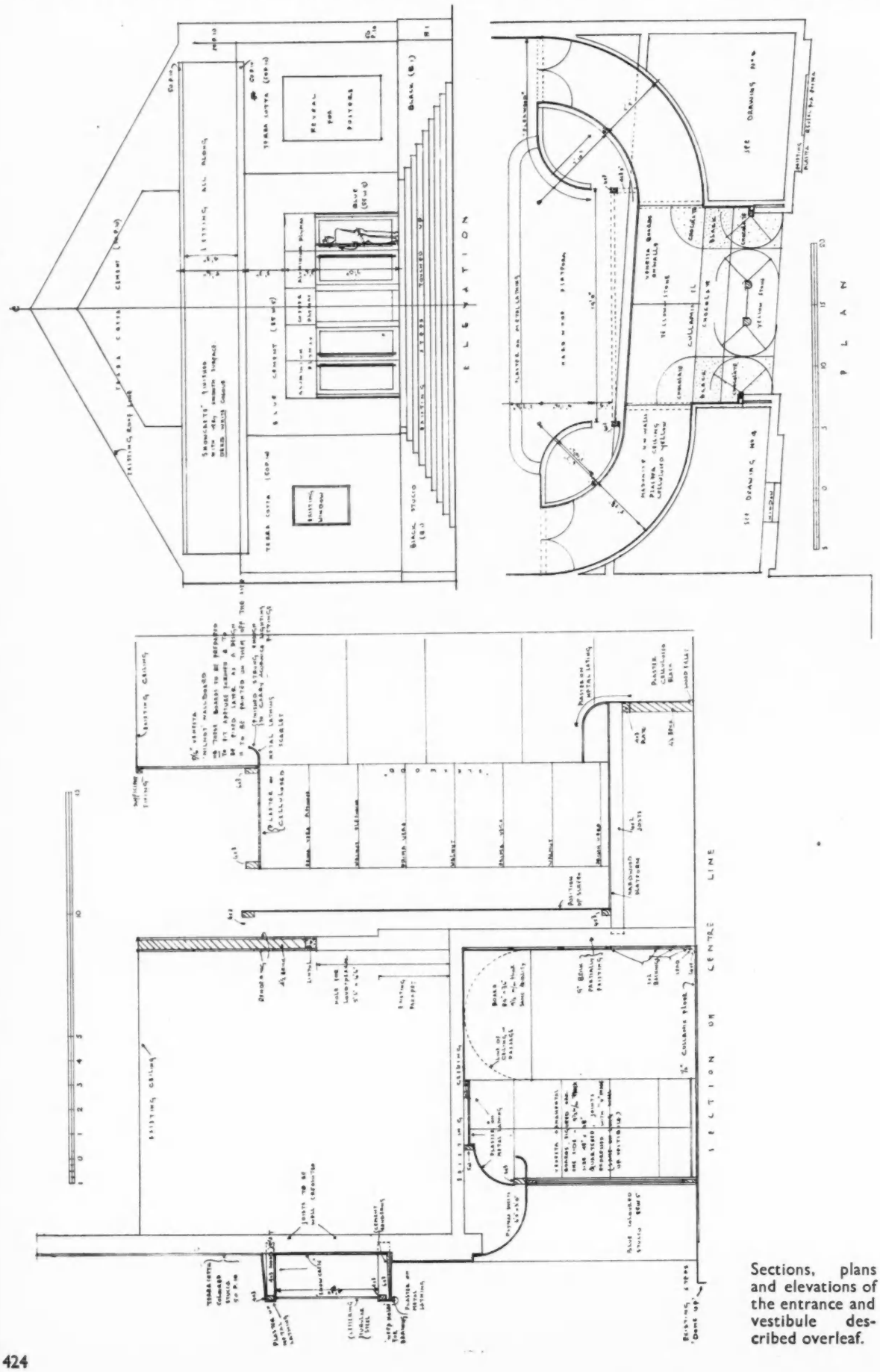
The main entrance, details of which are shown on the following page. This cinema was converted, at the minimum of expense, from an old stucco faced auction hall. In its present state it is faced with terra cotta cement, with a wide architrave of blue cement round the door and a black plinth. A recessed panel is provided for posters. The projecting lighting box above the door has a dead white surface internally, and the name of the cinema is in black painted metal letters.

The vestibule is finished with oak veneered plywood, and the stepped ceiling is painted three shades of chrome yellow, with the vertical facets purple.

When the auditorium doors are open the longer walls of the curved corridors leading from the vestibule can be seen by the audience. In order not to distract attention from the screen these walls are painted black. The ceiling and the shorter walls are finished in fawn colour, toning with the oak in the vestibule.

WORKING DETAILS : 22

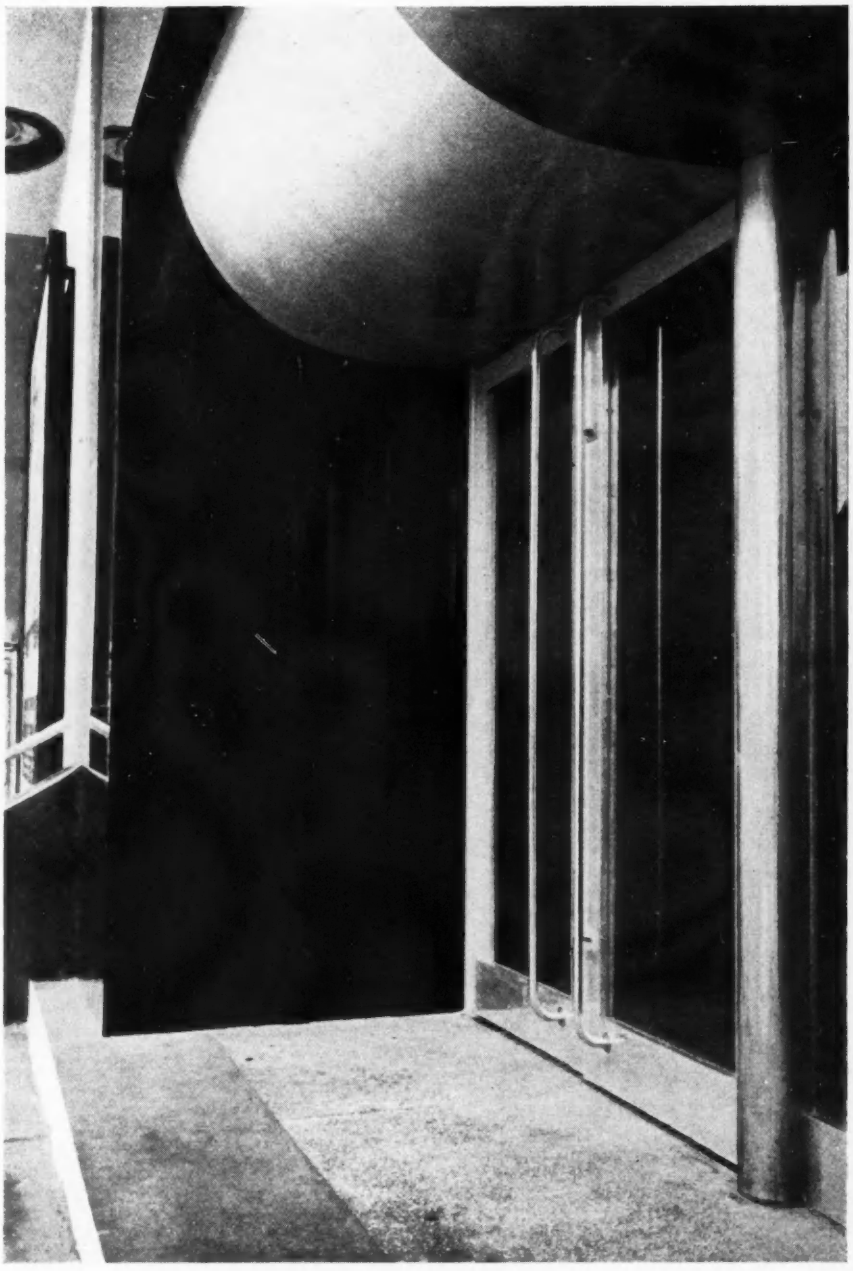
MAIN ENTRANCE • CAPITOL CINEMA, MILL HILL • ROBERT BANKS



Sections, plans and elevations of the entrance and vestibule described overleaf.

WORKING DETAILS : 23

DOORS • CAPITOL CINEMA, MILL HILL • ROBERT BANKS



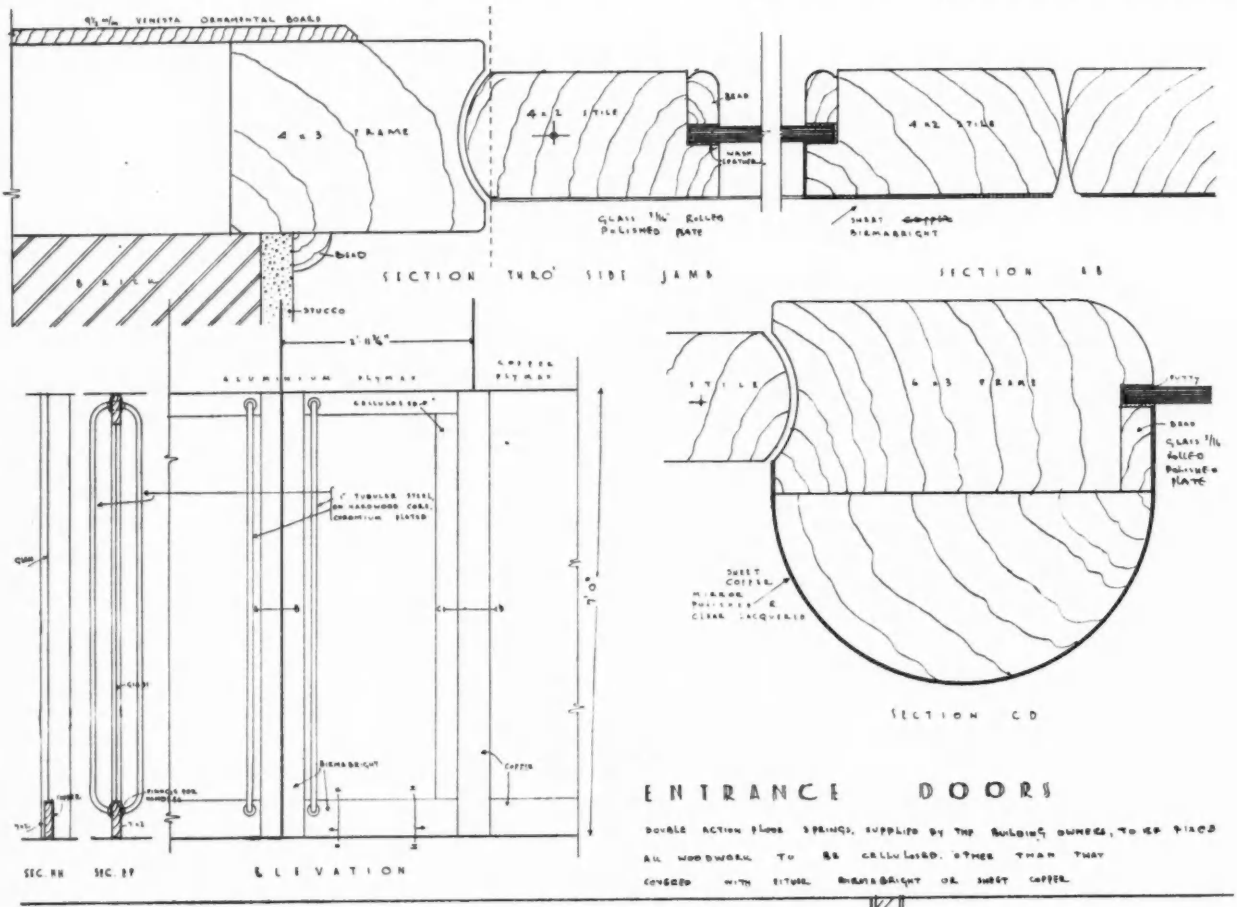
A close-up view of the main entrance doors to the cinema. Detail drawings of these will be found overleaf, together with details of the auditorium doors. The woodwork of the entrance doors is cellulosed yellow and the meeting stiles and kicking plates are of stainless steel. The handles are chromium plated and the central post is covered with sheet copper. The deep curved reveal of copper and aluminium above the door continues inside the vestibule where it forms a lighting trough (see Detail No. 22).

The Australian walnut doors to the auditorium are wax polished on the corridor side and finished with scarlet cellulose on the other side. There are troughs with secondary electric and gas lighting above these doors.

FILING REFERENCE:

WORKING DETAILS : 24

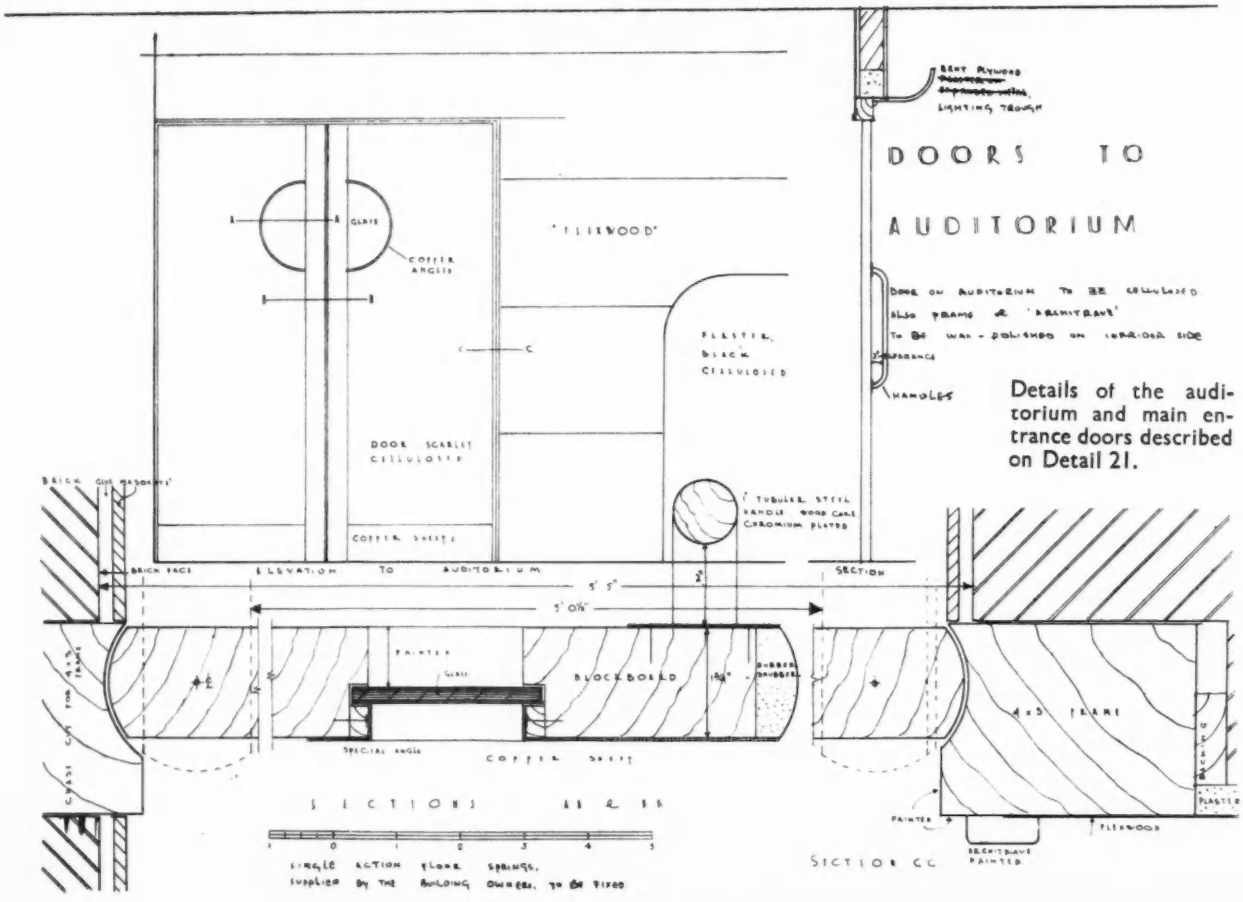
DOORS • CAPITOL CINEMA, MILL HILL • ROBERT BANKS



ENTRANCE DOORS

DOUBLE ACTION FLOOR SPRINGS, SUPPLIED BY THE BUILDING OWNERS, TO BE FIXED

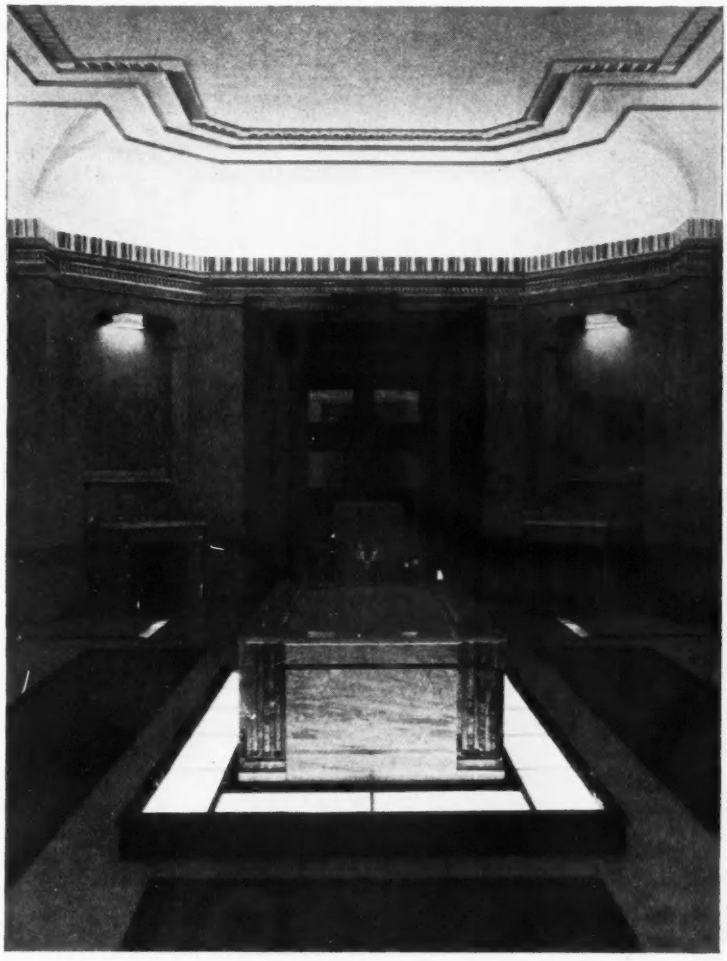
ALL WOODWORK TO BE CELLULOSED, OTHER THAN THAT COVERED WITH FITTING BRIGHT OR SHEET COPPER



Details of the auditorium and main entrance doors described on Detail 21.

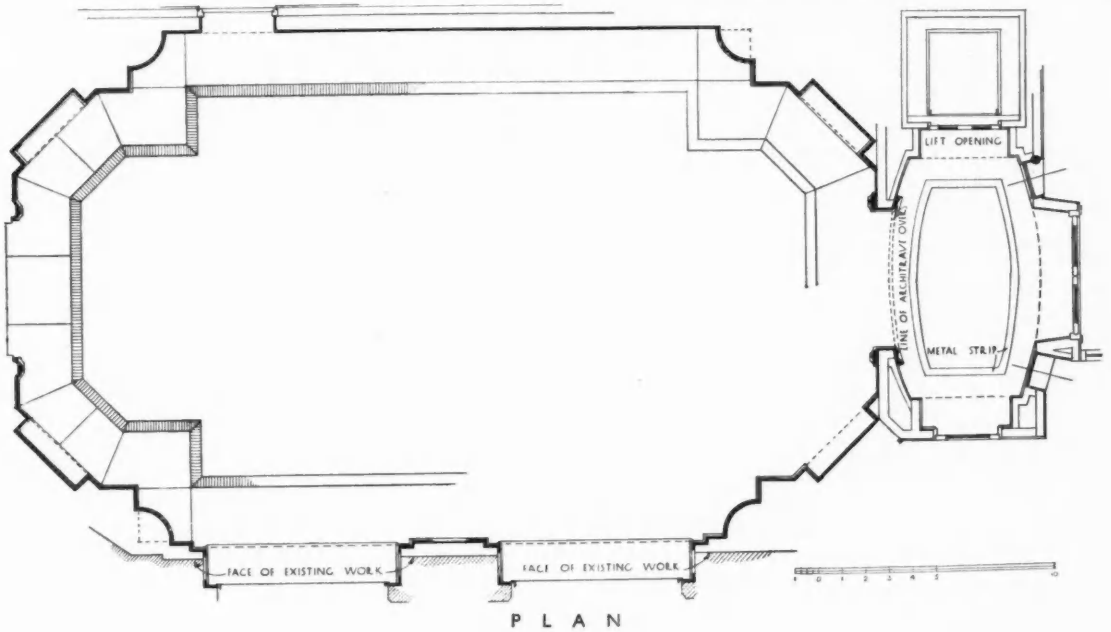
SHOWROOMS IN DAVIES STREET, W.

DESIGNED BY DARCY BRADDELL AND HUMPHREY DEANE



These showrooms, for John Bolding and Sons, have been incorporated in an existing building in Davies Street, W.1. The main showroom is on ground floor. The walls are in marble stuc; the pilasters and other moulded work being precast, and the flat surfaces worked in situ. The floor is in marble stuc tiles, with metal joints and inset metal bands. The hospital and sanitary group, of which photographs and a plan are reproduced overleaf, is in the basement.

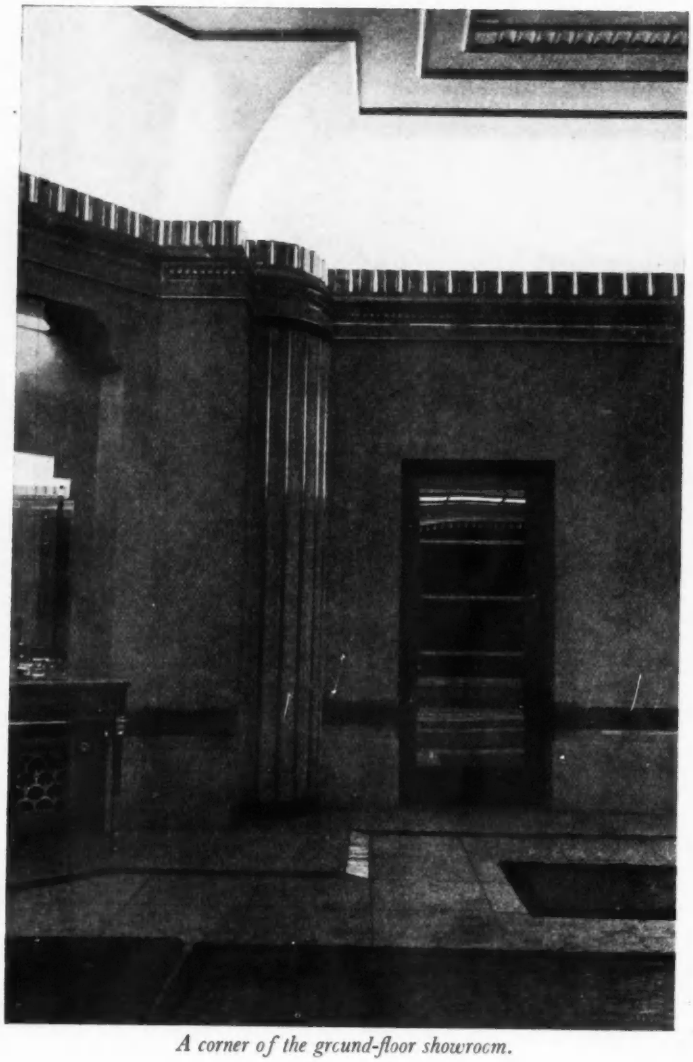
On the right is a photograph of the ground-floor showroom, seen from the entrance doors.



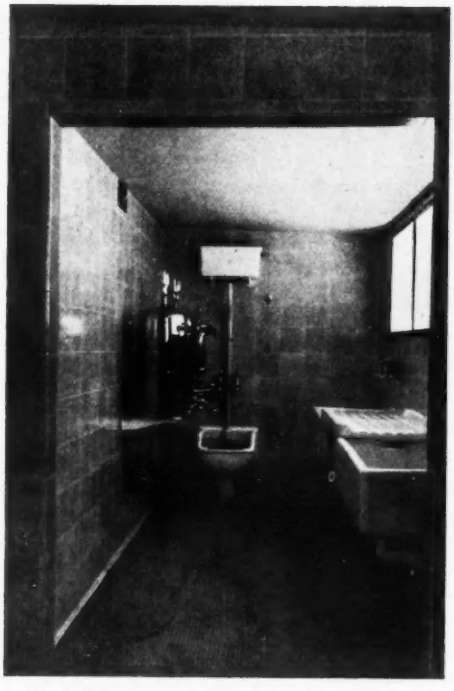
PLAN

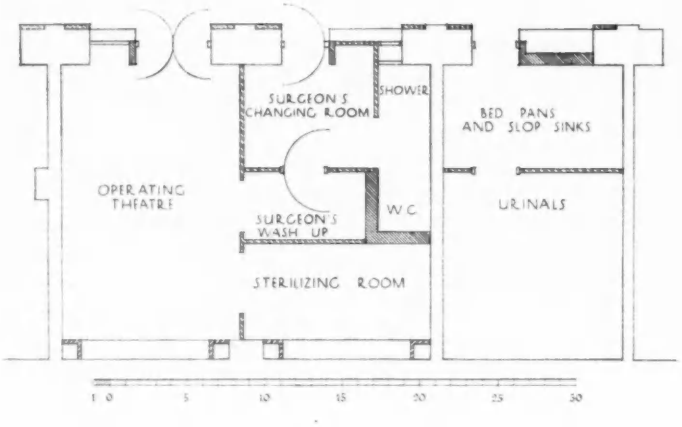
D

SHOWROOMS IN DAVIES STREET, W.



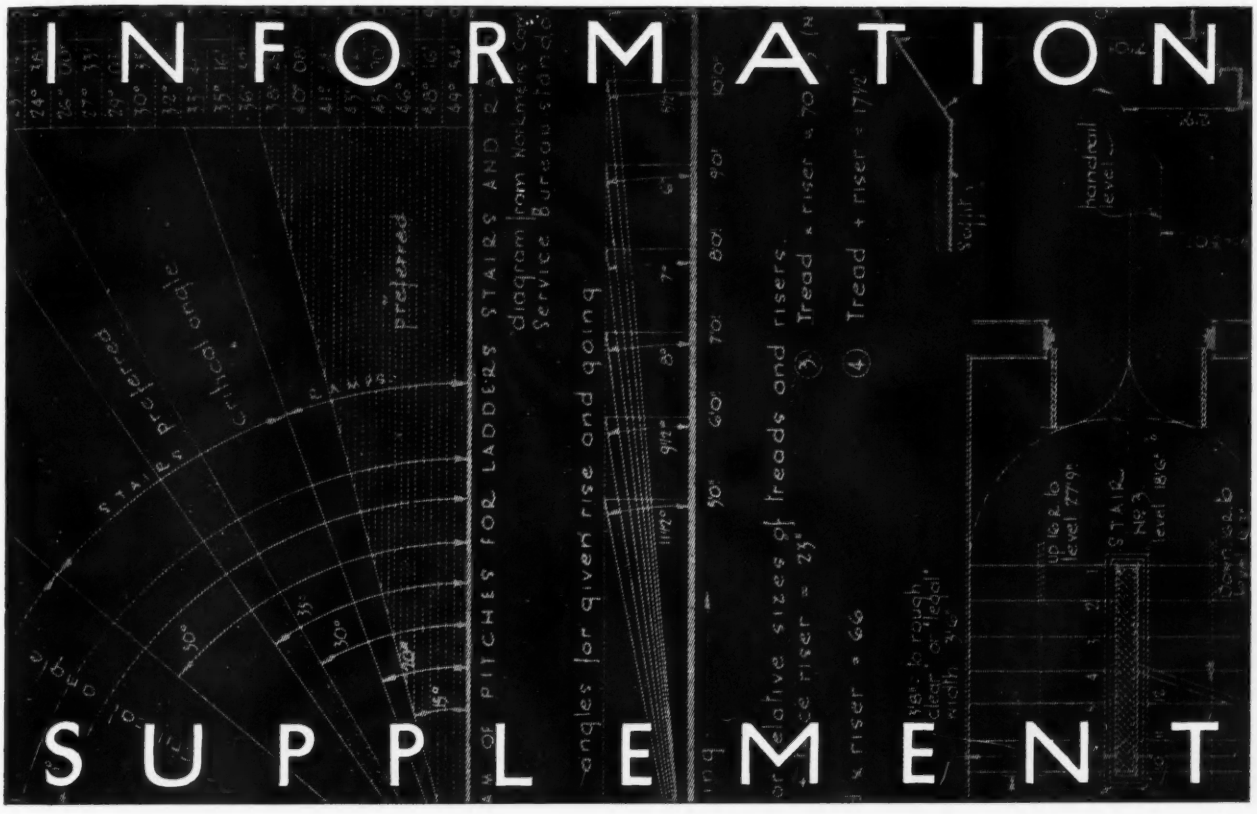
A corner of the ground-floor showroom.





Above : The operating theatre, looking towards the sterilizing room. Below : The sterilizing room. Left : Plan of the hospital and sanitary group in the basement.

DESIGNED BY DARCY BRADDELL AND HUMPHREY DEANE



5: HEATING AND VENTILATION

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RECENT DEVELOPMENTS IN THE VENTILATION OF BUILDINGS. *By A. T. Henly, A.M.I.H.V.E., A.M.J.Inst.E., A.F.A.S.* ..	439

In modern heating practice the engineer aims at comfortable warmth, rather than high temperature, for experience has shown that the nature of the heat, rather than the amount, is the most important factor affecting comfort. A dogmatic pronouncement on the superiority of one or other of the many available systems is valueless, since conditions and requirements are variable. The importance of installation and running cost also must vary in every case, when the comfort, requirements and the expenditure involved are assessed in monetary values. The following article presents the different aspects of heating which should be considered, and indicates the way in which the problem should be approached in order to determine the best and most economical system for any given case. It is evident that each system has some application in which it may be claimed to take precedence over others.

MODERN HEATING SYSTEMS

[*BY ALEXANDER H. HAYES*]

INTRODUCTION

CONDITIONS AFFECTING COMPARATIVE COSTS AND VALUES

THE fallacies which cling round the subject of relative costs of various heating systems are difficult to dispel, largely because they are based on conditions which have changed only within the last decade or so. Nor is it easy for the architect to familiarize himself with the numerous factors affecting the relative cost of, say, electric heating in various forms, central heating using hot-water boilers fired by different fuels, gas heating and the old and modern types of open fires. It is still a popular assumption that electric heating is essentially so costly as to be prohibitive except as a luxury, and even gas-firing faces considerable criticism on the grounds of expense.

There are, however, features of electrical heating which appeal strongly to both the architect and the user, and many advocates of electricity endeavour to justify it by stressing its convenience and associated savings as an offset to its assumed higher cost. Admittedly

electric heating with current purchased at lighting rates is extravagantly costly and can only be justified as a temporary convenience over brief periods. It is not, however, necessary to discuss its value from that standpoint, since most electric supply companies offer specially low rates for power and heating. But even at these rates, it is not easy to show a *prima facie* case for the economy of electricity. The factors involved in a comparison between various heating systems are numerous and by no means the same in any two cases. In order, therefore, to arrive at a reasoned conclusion as to the ultimate economy of any system, it is necessary to examine these factors and assess their value in relation to some standard requirement to be met.

The object of a heating system is not primarily to introduce heat units into the atmosphere of a room, but rather to create a sense of comfort, which is not possible when the temperature is too low.

Temperature, as measured by a thermometer, is only one of several factors affecting the sense of comfort. Others are : humidity of the room, impurities in the air and nature of heat, i.e., whether radiated or carried by convection movements of warm air. Before assessment can be made of the suitability of a given method for specific conditions, examination must be made of the following :—

1. Periods over which comfort conditions are to be maintained—whether continuously for long periods, or intermittently and irregularly for brief periods (the problem of heating a room for an occasional hour's occupation is very different from that of heating it for 12 hours each day.)
2. Rate at which air infiltration into the room is possible without reference to a created up-draught, as by a flued fire.
3. Number of persons normally occupying the room in relation to its space.
4. Rate at which heat dissipation occurs through walls or by air current.
5. Nature of rooms or corridors, etc., on to which the room opens ; whether heated or otherwise.
6. Cost per unit of potential heat available in fuel or heating medium employed.
7. Efficiency with which heat units can be transmitted to the room by the system employed.
8. Nature of heating ; whether by radiation, or warming of air and consequent circulation of convection currents.
9. Capital cost of plant for converting fuel to heat ; distribution system ; final heating appliances and cost of depreciation of all plant, due to use or time.
10. Labour cost of operating and maintaining the system.
11. Deterioration of decorations, furniture and fittings in area to be heated.

Before attempting any reference to various systems, it is useful to examine, and where possible express in comparable values some of these factors.

FUEL COST

Taking first the price per unit of potential heat, the relationship between various fuels and electricity may be tabulated simply by expressing the cost of the fuels in terms of pence per therm (100,000 British Thermal Units). Electricity may be converted to the same basis, since the Board of Trade electrical unit, or kilowatt-hour, under which electricity is sold, is equivalent to 3,415 B.T.U.'s, so that one therm equals 29·3 electrical units.

The comparison may be simplified by taking one item as a standard or unit, and calculating the purchase prices of the others which would be necessary to make them cost the same per therm of potential heat. The following table expresses this, taking electric current at ½d. per unit as a basis figure :—

	Per cent. Efficiency of Conversion into Heat.									Normal Price Approximate.
	100	90	80	70	60	50	40	30	20	£ s. d.
Electricity at pence per unit	·5	·45	·4	·35	·3	·25	—	—	—	—
Gas, towns, at pence per therm	14·67	13·2	12·74	10·27	8·8	7·33	5·85	4·4	—	0 12 0
Oil Fuel (of 19,000 B.Th.U. per lb.) at £ per ton ..	26	23·4	20·8	18·2	15·6	13	10·4	7·8	5·2	3 15 0
Coal (of 14,000 B.Th.U. per lb.) at £ per ton.. ..	19·3	17·37	15·44	13·51	11·58	9·65	7·72	5·79	3·85	2 5 0
Coke (of 12,500 B.Th.U. per lb.) at £ per ton.. ..	17·5	15·75	14	12·25	10·5	8·75	7	5·25	3·5	2 0 0
Anthracite (of 15,000 B.Th.U.) at £ per ton ..	20·37	18·33	16·3	14·26	12·22	10·18	8·15	6·11	4·08	4 5 0

The above figures show the prices at which various fuels at different efficiencies of conversion would be as costly per unit of heat available, as electricity at ½d. per unit.

It is obvious that electricity at ½d. per unit is initially far more costly than any other form of potential heat, and that coal, coke and oil at current figures are the cheapest, town gas being somewhere between the extremes. This purchase cost relationship, however, is a relatively minor consideration, since no form of potential heat, other than electricity, can be converted into comfort heat without heavy losses in the conversion, apart from expenditure on plant, maintenance and attention.

Since the combustion of solid fuel for heating systems is carried out at efficiencies ranging from 20 to 60 per cent., the primary cost of the fuel must obviously be reassessed accordingly before comparison is made.

The above table shows conveniently the maximum prices at which various fuels would be initially competitive with electricity at ½d. per unit under varying percentages of conversion efficiency. At once it will be seen that the cost relationship is radically readjusted, although electricity remains high.

Other factors affecting cost relationships may now be considered.

HEATING PERIODS

When a room or building requires to be heated from cold to a comfortable condition, a lapse of time occurs between "starting-up" and attaining comfort. Where the conversion of fuel to heat occurs in the area to be heated, the interval is usually shorter than where remotely generated heat has to be conveyed by means of steam or water. But every method involves some time lag. Also, some systems, such as those using solid fuel, involve the consumption of fuel when the room has ceased to be used, as it is not practicable to stop combustion summarily. Both periods must be added to the period of occupation in estimating heat requirements. Consequently, the proportion of useful heat is less with intermittent heating for short periods than with continuous heating throughout the day.

It must not be assumed, however, that all the heat put into a room during periods of no occupation is wasted. It may be so under some conditions, but it must be borne in mind that during heating-up, the walls, ceiling, floor and furniture all absorb heat, and retain it for a time ; so that, unless the dissipation of heat from the room is rapid by reason of exposed position or cold air currents traversing it, the next heating-up period is shortened somewhat. Obviously conditions will determine to what extent.

AIR INFILTRATION

Stress is often laid on the value of a flued fire in creating a circulation of air for purposes of ventilation. This point can be overemphasized, for in the modern house there is usually ample infiltration of air through windows and doors to maintain healthy conditions, unless the heating appliances are themselves consuming oxygen and discharging fumes into the room.

Carbon monoxide and oxide of nitrogen (which can result from the imperfect combustion of gas) are admittedly dangerous. One part of either of these gases to 10,000 parts of air is objectionable, and 5 to 10,000 dangerous. Carbon dioxide, on the other hand, is relatively innocuous, and the frequently quoted maximum permissible : 10 parts of CO_2 to 10,000 parts of air, can usually be greatly exceeded without distress. According to Professor Sir Leonard Hill, M.B., F.R.S., 500 CO_2 to 1,000 air is tolerable under certain conditions. Without, however, anticipating or approving such concentration, it must be admitted that the CO_2 content of a room's atmosphere may vary within relatively wide limits. Much more dangerous to health is dust of any nature.

OCCUPANTS.—The heat requirements of a room are considerably affected by the number of occupants. Normally an adult person generates about 400 B.T.U.'s per hour, even when not active, and this heat is added to the atmosphere of the room. Ten persons occupying a room for three hours will therefore normally contribute more than one-tenth therm to the heat requirements of the atmosphere. If they are actively employed in any form of exercise, such as dancing, they will contribute much more, until cooling of the atmosphere becomes necessary.

HEAT DISSIPATION. — The rate at which heat is dissipated from a room is not usually under the control of the heating engineer, as it is related to the exterior temperature, the nature of the walls, floor and ceiling, and air currents which are admitted. It must, however, be considered in choosing a heating system, for a room which chills rapidly is best heated by means which do not demand a constant flow of air up a flue and a corresponding

A battery of oil-fired boilers in the Power House at the Royal Masonic Hospital. Architects: Sir John Burnet, Tait and Lorne.

inflow through doors and window crevices.

Associated with this question are adjacent spaces to which the room opens, and their relative heat.

RADIATED AND CONVECTED HEAT

Without knowing why, most persons express a greater satisfaction with the heat from a bright open stove than with heat from a central system with pipes or water columns. The preference is by no means a sentimental one, and the statement that the open fire is more comfortable is an expression of fact, not fancy. The heat received from an open fire is very largely radiant heat, which travels in the direction in which it is projected, and hence, with a well-designed grate, in a horizontal direction across the room, regardless of the movement of the air. Radiant heat may be visualized as travelling in the same manner as light, the air not being obstructive to the heat radiations. Heat rays pass through air, without raising its temperature, until they strike material substances that are more or less opaque to them. The rays are then partly absorbed and also partly reflected, so that the surroundings of the true radiator are all warmed and themselves become secondary heating surfaces, warming the air by conduction and convection.

The distribution of heat by convection, on the other hand, is due to the movement of heated air, which rises and causes a circulation of heat within the room; the upper portion, however, being always the hottest.

COMFORT REQUIREMENTS.— As already intimated, the mere introduction of heat into a room or building does not constitute a solution of the heating problem. Comfort demands attention to the questions of radiation, convection, humidity odours and purity of the air.

A sensation of comfortable warmth can be produced either by raising the surrounding air to about 65 to 70 deg. F. or by radiating heat direct to the body through air which is at a considerably lower temperature. When the body is warmed by radiant heat and the air which is breathed is cooler, the sensation of stuffiness and dryness is avoided and a feeling of freshness preserved. The air may be 10 degrees cooler without affecting comfort. At the same time, entirely radiant heating is not possible, since the objects in a room, and the human body itself, absorb the radiant heat, and heat the surrounding air, causing a retransmission of heat by convection. Also, with the exception of ceiling heating panels, even radiant heaters transmit a considerable proportion of their heat by convection.

Here is a factor affecting the value of

2 *An open-air school classroom, heated by six electric radiant panel heaters suspended from the ceiling. Each radiator operates at a loading of 1,000 watts. Cubic capacity of room: 4,000. cu. ft.*

different methods of heating for short periods. With radiant heat a sense of comfort can be obtained quickly by a person in the range of the heat rays, whereas the circulation of heated air by convection involves the whole of the room and its atmosphere being warmed before a sensation of comfort is produced. Hence the popularity of the gas fire and glowing element electric heaters for casual heating.

It may be mentioned that comparative tests made by the Building Research Station, conducted at a Neasden School, indicate that the radiant system of electric heating is more economical than convection heating, a smaller consumption of electricity providing an equal degree of warmth, which is obtained with a lower temperature.

COST OF PLANT AND OPERATION

The initial or capital cost of apparatus for a heating system expressed as interest and depreciation represents a standing-charge to be debited against the system. This varies considerably, from the relatively trivial cost of an open grate for coal, to the considerable cost of a central heating furnace and boiler, with its associated pipes and radiators. With electricity the wiring system, meter rent and radiating appliances all enter into the account.

Further, allowance must be made for inspections, repairs. replacement of destructible parts such as fire bars, furnace linings and heating elements.

Operating costs for labour and attendance, in stoking, fuel handling, ash removal and cleaning are involved where solid fuel is used, and to a lesser extent with liquid fuel. Where a pump is used for circulating the heating water, the power used for driving the pump must be included in the operating cost.

A further cost is that of the space occupied by the furnace and boiler or other plant, and the fuel storage space required. Whilst in some establishments the plant and fuel can be accommodated in a basement which has little or no value for other purposes, in many buildings, such as offices, blocks of flats and public buildings, special provision has to be made and space occupied which might be valuable for other uses. The chimney stack required by some furnaces is also a further expense on the debit side.

Whether this accommodation is estimated on its capital cost or on its potential value for other uses depends on conditions. In either case it is a charge against the heating system.

DETERIORATION OF DECORATIONS.—With the open coal-fired grate a certain amount of dust and dirt inevitably becomes distributed in the room, and to some extent the convection movements of air near the fire produce dirt discoloration of the adjacent walls. With column radiators, exposed pipes and any form of convection heater this discoloration becomes positive in a very short time; necessitating more frequent redecoration in order to preserve the appearance of cleanliness. Wherever a regular local movement of air is produced by convection-heating, this deposit of dirt from the atmosphere occurs, and it is seen on ceilings even over electric lights. Radiant heat produces no such effect, for even though the heat absorbed by the surroundings is retransmitted to the air by convection it is not concentrated locally.

The extra cost of decorating involved by convection heaters can be very considerable, and should always be taken into account in assessing the cost of a system.

In making a comparison between the costs of different systems it is necessary to schedule for each, not only the direct costs for fuel or electric energy, cost of plant and apparatus and cost of operation, but also the indirect costs. Moreover, fuel must be taken on the basis of its efficiency of conversion; the amount of heat required must be estimated with reference to its nature, whether radiated or convected; the heating-up periods must be allowed for, as must the fuel consumption in excess of actual requirements, which usually results when the demand is variable over a period; and the effect of excessive air changes in removing heated air, particularly with convection heating, must be considered in relation to comfort requirements.

Some of the factors affecting the total actual cost can be determined directly; others must be estimated or valued in the light of the particular conditions. It is easy to hypothesize a set of conditions and requirements in support of almost any system of heating, but this is liable to be misleading. It is better, unless an actual case is under discussion, to indicate as far as possible the method of estimation which gives reasonable values to all the factors.

INTEREST ON CAPITAL OUTLAY for furnace, boiler, piping, chimney stack, circulating pump, radiators and similar equipment can be taken at 6 per cent., and an amount added for redemption of the capital over a suitable period of years. Maintenance charges, i.e., overhauls, replacements and repairs, will vary up to 8 per cent. annually of the capital cost, according to the type of installation, and will be the highest with furnaces and boilers and lowest with embedded electric panels.

FUEL OR ELECTRICITY COST must be taken at its purchase price, plus the amount represented by loss in conversion, etc. For example, coke at 1·7d. a therm (40s. a ton) in a central-heating boiler should be calculated on the following lines:—

Effective heating period, say, 10 hours at 50 per cent. efficiency;
heating-up period, say, 3 hours at 45 per cent. efficiency;
fire banked to ¼ load for, say, 2 hours at 25 per cent. efficiency;
overall efficiency approximately 45 per cent. Therms output $\times$ 1·7 $\times \frac{100}{45}$d.

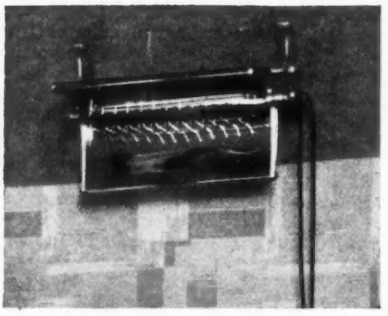
(or 3·77d. per therm of total heat output to room).

HEAT OUTPUT must be estimated for the whole period from starting-up to shutting down. With convection heating this usually involves a pre-heating period before occupation, apart from the boiler starting-up time, and from 5 to 10 deg. higher temperature than with radiant heating. Loss of heat in transmission must be added to the actual heat requirements.

ATTENDANCE, although variable, can be estimated directly for each case. It is a serious factor with boilers fired with solid fuel, considerably less with fuel-oil and negligible with gas and electric heating.

VALUE OF SPACE OCCUPIED by plant can be estimated as already indicated. When these items are all brought into the account for any given system, it is seen that initial fuel costs are radically modified.

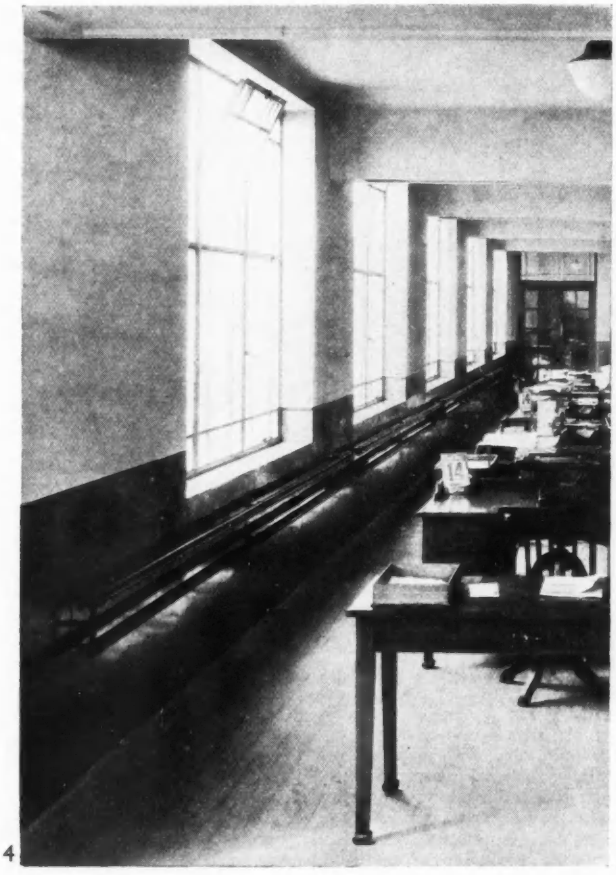
The characteristics and requirements o different methods of heating may be summarized thus:—



3 *Wall Type adjustable electric heater, with parabolic reflector, fixed on bedroom ceiling, to give adjustable directed beam heat.*

HEATING BY ELECTRICITY

Electric heating apparatus takes various forms, each of which has distinct character-



Electric tubular heaters fixed immediately below windows in a large typists' office.

istics. The appliance may be briefly differentiated :—

ELECTRIC FIRES.—In most designs these are simply the electrical counterpart of the coal and gas fire. Although termed "radiant" fires, a considerable proportion of the total heat is emitted by convection. One authority gives the amount of radiant heat as 60 per cent., compared with 40 to 50 per cent. for the average gas fire. Flexible cords may be used for conveying the current from the supply circuit socket to the fire, allowing portability. The heating effect is essentially local and falls off rapidly in relation to the distance from the fire. Capital cost is low, and little attention or maintenance involved.

RADIANT LAMP HEATERS usually consist of metal-filament type lamps with copper reflectors which direct the light and radiant heat down on to the floor, or otherwise as required. This type of heater is attractive by reason of its glowing appearance and its rapidity of heating up to full capacity. It is portable and may safely be placed anywhere. Capital cost is low and attention required very little, but unless care is taken maintenance may be higher than with electric fires.

RESISTANCE WIRE CONVECTORS.—This type of appliance is essentially a convector or air heater, the passage of current heating a resistance wire which in turn heats the air in contact with it. Since the heating effect is dependent on the rate at which the current passes, the apparatus lends itself well to automatic temperature control. Capital cost is rather more but maintenance and attention required are similar.

ELECTRO-VAPOUR AND HOT-WATER RADIATORS.—These are similar in operation to the familiar sectional cast-iron hot water radiator, except that instead of a hot water supply, an electric immersion heater is used, the electric wires, conduits and switches taking the place of the pipes and valves of the ordinary hot water system. In some types only a small quantity of water is used, sufficient to cover the immersion heater, and this water is converted to steam in the radiator elements, condensing as it parts with its heat by transmission to the outside air. In the water heater form the radiator is filled to a level which allows a free circulation of water between the various sections and space for expansion and enclosed air.

Neither of these types is suitable for exposed positions where the water is likely to freeze when not in use. The heating is essentially by convection, so that the term "radiator" should not be applied. The heat emitted by radiation is probably not more than 12 to 15 per cent., since a large proportion of the hot surfaces face each other and emit heat to a column of rising air. The capital cost is confined to the radiators and wiring, and the maintenance is low.

THE TUBULAR HEATING SYSTEM.—This consists essentially of 2 in. diameter thin steel tube containing insulators carrying a resistance wire. The tubes may be circular or oval and are obtainable in lengths of 2 ft. upwards. The terminals are accommodated at one end of a tube, the other end being enclosed by a steel cap. If required, a flexible cord connection can be used.

The elements operate at a black heat only, and the maximum operating temperature is from 180 to 200 deg. F., when disposed under natural convection conditions. Approximately 50 per cent. of the heat is radiated and 50 per cent. convected when installed horizontally. They become mainly convectors if placed vertically. Capital cost is low and maintenance and attention very little.

THE PANEL SYSTEM.—There are three main applications of this system, employing (a) high-temperature non-embedded panels, operating at temperatures up to 550 deg. F. ; (b) low-temperature non-embedded panels, 100 to 150 deg. F. ; (c) low-temperature panels incorporated in the plaster or concrete of the structure, operating at 80 to 120 deg. F. According to the location of these panels the heat is transmitted largely by radiation or partly by radiation and partly by convection. When installed in the ceilings the heating is almost entirely by radiation. With inclined non-embedded panels heating is largely by radiation, though a definite convection heating is also effected.

High-temperature non-embedded panels consist of glazed fireclay tile, about $\frac{5}{8}$ in. thick, in which is incorporated a resistance element formed of ribbon graphite. The panels are obtainable in a variety of standard colours and the only parts of the electrical circuit visible are the terminal sockets. The life of these panels is practically unlimited if the maximum temperature of 500 deg. F. is not exceeded. It should be noted that when fixed in a horizontal position they tend to become hotter than when placed vertically so that movement of the air past them is able to carry away the heat. Consequently the panel can be loaded to a higher rating when placed vertically.

The low-temperature non-embedded panel may be in the form of a box of cast aluminium or sheet iron, a thin slab of slate suitably finished, or pre-cast plaster slabs.

The low-temperature embedded panel consists of a foundation plate carrying the heating element. The plate serves as a partial heat insulator to minimize the loss of heat through the back of the panel. A nickel-chrome wire element is used and is insulated with a specially treated rubber mixture capable of withstanding a temperature of 180 deg. F., or considerably more than the maximum working temperature of the wire. These panels can be embedded in the ceiling flush with the surface, the setting coat of plaster being applied over the whole area so that the panels are invisible.

A development of this type consists of a special form of paper containing embedded element wires which is applied to ceilings.

Alternatively, the panels for walls, ceilings and floors may be of steel or copper tubes threaded with bare conductors on insulating spacers, these tubes being embedded in the plaster or concrete. The wires in this type operate at a high temperature, from 400 to 500 deg. F., but the temperature of the tube itself is much lower, owing to the air gap between.

According to one writer, experience shows that with low-temperature ceiling-panel heating the same degree of comfort is experienced with only 65 or 70 per cent. of the heat units delivered by convection

heating. The capital cost with non-embedded high-temperature panels is low, but is higher with low-temperature panels and highest with embedded ceiling panels. Maintenance and attention, however, are negligible.

ELECTRICAL THERMAL STORAGE.—This system is particularly suitable for use where cheap electric power is available only during restricted hours, or the off-peak periods of the electricity supply station. The supply hours are usually from 10 p.m. to 8 a.m., and it is therefore necessary to store the heat for use during the period when the current is not available. The principle is that of storing the heat in oil or water, which is then circulated as and when required. The heating may be done by means of immersion heaters direct in the storage cylinders; by electrodes in the storage tanks when using alternating current; or by a separate heating boiler attached to the storage tank and transferring the heat by means of a calorifier.

Where oil is the storage medium, the immersion type of heater is used and the oil transfers its heat to the water of the heating system by means of a calorifier.

The thermal storage system involves space for the storage system and heating boiler, and the water often requires to be pumped round the heating system of the building. Also, pipes, panels and radiators are required as with a fuel-fired boiler and hot water system. Control by thermostats and automatic gear is relatively easy, and though some supervision and attention is necessary, it is considerably less than that required for solid fuel-fired boilers.

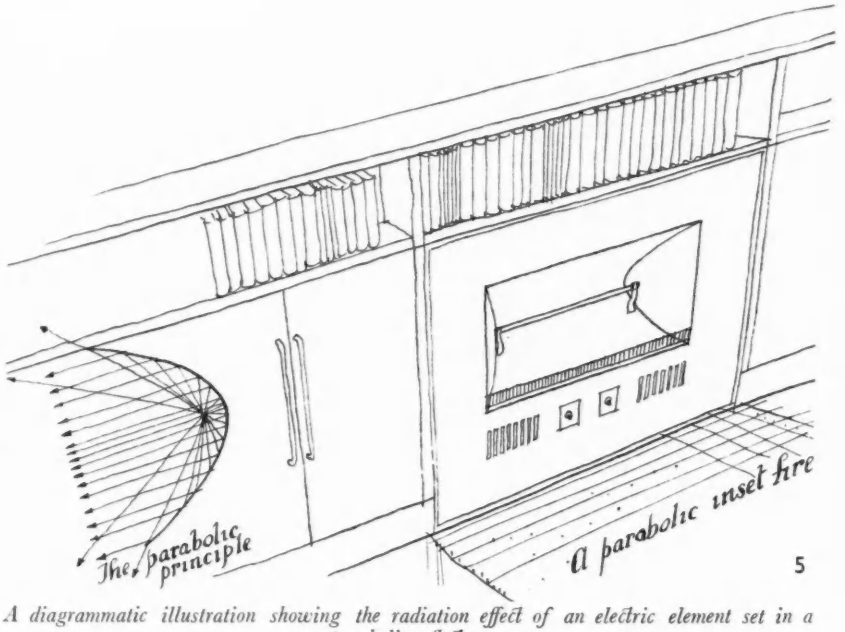
THERMAL STORAGE INSTALLATIONS.—As an example of the thermal storage system, the equipment installed by the Co-operative Wholesale Society, Ltd., Tyseley, Birmingham, for the heating of their aluminium works, may be cited. The factory's capacity is 400,000 cu. ft. The thermal storage equipment consists of a hot-water storage cylinder 23 ft. long by 11 ft. diameter, a separate heater tank with immersion heaters of 300 kW capacity, a mixing valve, a motor-operated circuit breaker, pipes, radiators and two motor-driven pumps for the circulation of water throughout the building and the circulation between the storage vessel and the electric heater. The latter pump runs only when current is switched on to the heater.

The storage cylinder, for a working pressure of 25 lb. per sq. in., is covered with magnesia lagging as an insulation against heat loss. The heater tank, connecting pipe and mixing valve are similarly lagged. The mixing valve is fitted with two thermostats arranged to give different flow temperatures to the building during day and night periods, the temperature being kept at 55° F. during the day and at 45° F. during the night. Two time clocks control the change of setting. A time switch switches on the load each evening at 8 p.m. and trips the circuit breaker at 7 a.m., and a thermostat in the water storage vessel cuts off the current when the water temperature in the storage vessel reaches 205° F. and closes the circuit again when the water temperature falls to 190° F. Normally at 8 p.m. the storage water temperature is below 190° F., and the circuit breaker closes. The water is then heated to 205° F., the limit set by the thermostat. The heated water is circulated throughout the system from 7 a.m. throughout the day by the circulating pump, so that by 8 p.m. its temperature has fallen to below 190° F. again, and the cycle is repeated.

Stoppage of the circulation of water through the heater for any reason, and consequent rise of temperature of the water in the heater to 210° F., causes the emergency thermostat to operate a relay, which trips the circuit breaker. This relay can be reset only by hand. The hours of temperature change and also the temperature of the circulating water, of course, can be set to meet a change of conditions.

An example of thermal storage in conjunction with ceiling panel heating occurs at the headquarters of the London Underground Railway. The boilers are placed in the basement and fed from tanks in the tower of the building. Heating of the water is by means of resistance type heaters, housed in containers immersed in the boilers. The panel system of discharging the heat is used, the water being circulated through pipes embedded in the ceilings. Temperature is maintained by mixing a proportion of the hot water from the boilers with the circulating water. Motor-driven pumps circulate the water and thermostatic control of the mixing is employed.

INSTALLATION COSTS FOR ELECTRIC HEATING.—The initial cost of installations for low temperature electric heating usually compare very favourably with those for hot water installations of equivalent performance. Tubular heaters, convection and panel type radiators generally show savings of 10 to 20 per cent. in the case of new buildings. Thermal storage installations, however, are usually higher in initial cost.



A diagrammatic illustration showing the radiation effect of an electric element set in a parabolic reflector.

6

An electric heater, with parabolic reflector, similar to that shown in the above diagram, enclosed by metal grille.

GAS HEATING

FLUELESS GAS RADIATORS.—Theoretically the thermal efficiency of the flueless gas radiator is very high, approximating

to 100 per cent. In practice it has certain disadvantages. It is important the burner be correctly adjusted, for unless combustion is perfect, products of combustion are discharged into the room. In positions where a fair current of air is flowing to remove them this type of heater is not objectionable, but since it heats largely by convection, its actual efficiency in heating the surroundings is low under those conditions, owing to the removal of heat by the air current.

The installation cost is low and maintenance and attention negligible. The main cost is that of gas, which must be estimated in relation to the efficiency under the particular conditions. So far as local heating is concerned, the real efficiency may in some cases be as low as 50 per cent., thus doubling the apparent fuel cost per therm.

FLUED GAS FIRES.—The thermal efficiency of this type of heater ranges from 40 to 60 per cent., dependent largely on the method of installing and the flue. Where uncovered incandescent clay candles are used, the radiant heat emitted is probably 50 per cent. or more of the total, the balance being transmitted by convection. As in all flued fires, a current of air flowing from the room to the flue is essential for proper combustion, and more or less excess air, according to the construction, flows with the products of combustion. This has to be replaced by a corresponding inflow of air which may be cold.

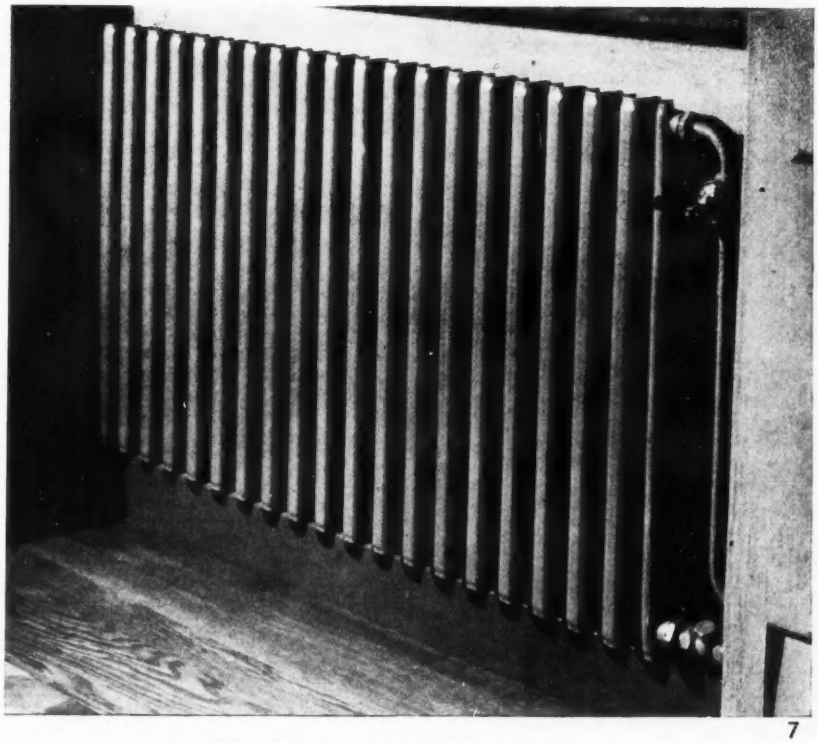
Correct adjustment of the injector is essential, or imperfect combustion results and the efficiency drops badly. Further, there is sometimes a tendency for some of the products of combustion to be discharged into the room, in cases where the flues are not suitable. Faulty operation of flues does not become obvious as it does with coal fires, and the consequent pollution of the atmosphere by CO_2 and traces of sulphur fumes results in an unpleasant atmosphere. Properly fitted and flued, and correctly adjusted, however, the gas fire gives a comfortable radiant heat.

The costs to be considered are : Cost of fires and gas piping system ; casual inspection and attendance ; cost of fuel at 40 to 60 per cent. efficiency according to the type of apparatus.

THERMOSTATIC CONTOL OF GAS HEATERS.—The addition of a thermostat controlling the valve supplying gas to a gas fire or heater is practicable with most types of gas heaters and might be much more widely adopted. The distinction between such control and the thermostatic control of electricity is merely one of mechanism. The principle, however, has not yet found as wide an application with gas heating as with electric heating, probably on account of the intermittent use to which many gas heaters are put.

An associated method of temperature control is found in the steam filled independent gas radiator. In this apparatus a small quantity of water is introduced at the bottom of the radiator columns and heated by gas flames until it vapourizes. Increasing pressure of the steam generated in the columns, operating on a diaphragm, serves to regulate the gas supply to the burners so as to keep a constant pressure of steam and hence constant temperature. The steam in this case acts as the heat transmitting medium to the whole of the radiator surface. This type of control is quite dependable and regulates the gas supply in relation to the amount of heat which is carried away from the radiator, so that it is in effect thermostatic control.

The variations and modifications of thermostats available today and the different valve mechanisms which can be obtained with them allow almost any form of heating to be thermostatically controlled, whether the heating medium be steam, water or air. The thermostatic element should be so placed as to give a representative reading of the room conditions, and the actual control mechanism then depends upon the nature of the heating medium.



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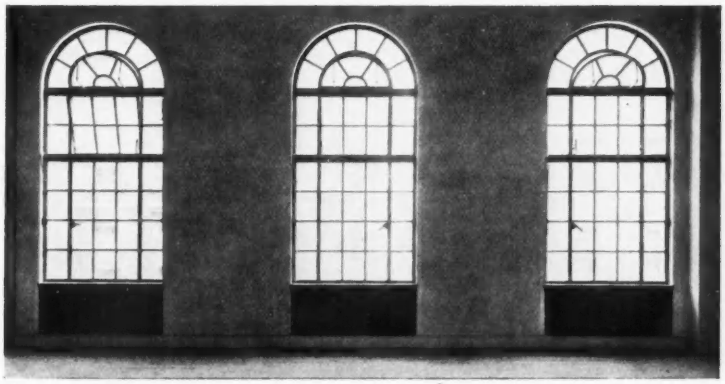
A hot-water radiator made from pressed steel.

HOT WATER SYSTEMS

Heating by means of hot water has for so long been standard practice that it calls for little description. The essentials are a boiler fired by coal, coke, oil or other fuel for heating the water to a temperature below boiling point (or, as previously discussed, an electrically heated heat storage vessel) ; suitable radiators or heating surface disposed where required ; and the necessary pipe connections between the boiler and the heating surface to allow circulation of the water and its return to the boiler for reheating. Where the hot water has to travel considerable distance and encounter resistance to flow under thermosyphon action, it is necessary to install a circulating pump in the line to accelerate flow.

Since hot water radiators or heating elements are usually placed where they can be contacted by the occupants of the room or building, it is desirable to keep the temperature of the water below 120 deg. F. This involves a small temperature difference between the air and the water, with a correspondingly low rate of heat transference. Consequently, the heating surfaces of the elements have to be increased, compared to those necessary with high-tem-



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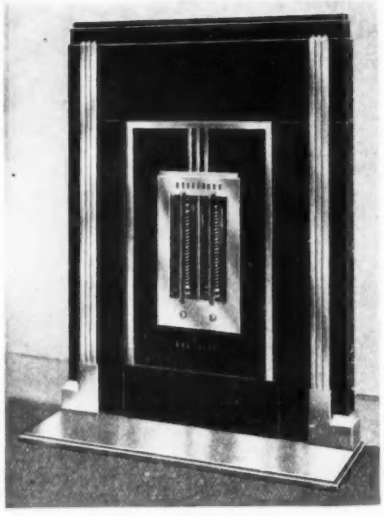
Hot-water panel radiators set in recesses below windows at Golden Cross House, Charing Cross, London.



9

Two-element electric fire, with a rustless steel reflector in a black marble surround, with chromium plated flutings.

perature heating ; and radiators are commonly designed to give the greatest possible area for the space occupied.

Panel heaters built into walls avoid the obstruction of floor space by the ordinary type of hot water radiators, and also are cleaner and more convenient. But panel heaters present a restricted heating surface and are liable to be inadequate unless the water temperature is high or the panels very large. Very little radiant heat is emitted, the heating being mostly by convection, as is also the case with ordinary hot water radiators.

A common fault in installing this system of heating is to place a number of radiators in series, so that the hot water flows from one to the other. This inevitably means that the last element receives much cooler water, and frequently the last of a series has very little value as a heater. The proper method is to connect the radiators in "parallel"—i.e., with inlet from the flow main and outlet to the return. An adequate supply to every radiator is essential, with an equally adequate return to the boiler. Then the supply to each radiator can be controlled as required by closing or opening the control valve.

Apart from the danger of high temperature in radiators which can be contacted there is also the fact that dust from the atmosphere settles on the hot surface and is disintegrated, with the production of a characteristic odour that is not entirely pleasant. The remedy is to provide greater heating surface and use water at a lower temperature, about 90 deg. F. at the surface of the radiator.

STEAM HEATING

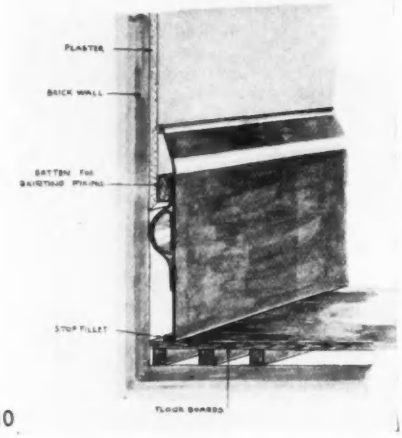
For large buildings such as factories, warehouses, halls, churches and assembly rooms, steam heating has definite advantages. It is essentially high-temperature heating and the heating surface, which may be pipes, panels or radiators, should not be within contact of the occupants of the building. The installation also must be arranged so that the condensed steam can drain away, usually through suitably situated steam traps, without causing water-logging and obstructing the flow of steam.

In one steam-heating system steam is introduced at little above atmospheric pressure, and the discharge end is equipped with a suction pump for withdrawing the condensate, so that the steam exists in the system at below atmospheric pressure. This increases the efficiency with which the available heat is utilized. Another system increases the rate of heat transfer for a given heating surface and ensures uniform heating throughout, by keeping the steam in rapid circulation. This is effected by introducing the steam through a special form of injector valve and making the system a continuous or closed circuit. The circulation carries the condensate as it forms and removes it by means of a separator and steam trap in the circuit, with the result that the insulating effect of a water film on the circuit walls is eliminated and the rate of heat transfer increases.

Steam heat is also used effectively with unit heaters which heat air and deliver it to the room by means of fans. With these also, circulation of the steam effects an increase in efficiency of the apparatus.

Steam heating, like hot water heating, involves a boiler and firing by either solid or liquid fuel. Electric heating, however, is not applicable to steam work, since steam raising on the thermal storage principle is not practicable and advantage cannot be taken of the low charges for current at off-peak periods. In general, however, the plant requirements are similar to those for hot water, though the radiating surface or piping is smaller, owing to the higher temperature at which the system operates. This materially reduces the cost of the installation.

Maintenance attention is somewhat higher with steam, as it is necessary to inspect periodically the steam traps, to ensure that they are operating normally and not wasting steam. This, however, is more than offset in factories and similar buildings by the higher rate of heat transfer and the rapidity with which the desired temperature can be obtained, particularly with a system of steam circulation. In the writer's experience the heating-up time in a textile factory building was decreased from 2½ hours to 20 minutes by reason of installing a steam circulating apparatus.



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Pressed steel skirting panel incorporating concealed heating pipe.

STEAM *VERSUS* WATER FOR HEATING.—While water as the heat carrying medium has been widely adopted where low temperatures are desired, it is at a disadvantage compared with steam when large quantities of heat require to be transmitted. There is a fundamental difference between heat transmission from steam and from water. Whatever its temperature, water can only transmit heat through a heating surface by reason of lowering its own temperature proportionate to the heat quantity given up, the heating surface therefore always being at a lower temperature than the body of the fluid. Since the diffusion of heat from the main body of water to that in contact with the heating surface involves a time lag, there is always a temperature gradient from the centre of, for example, a water-filled tube to the periphery, and the more rapid the heat extraction the steeper is this temperature gradient. It is therefore never possible, when any serious amount of heat is being transmitted, to attain a temperature on the outside wall of a water-heated element equal to that of the body of water flowing in.

With steam the case is different. At a given pressure the temperature of saturated steam is constant, and even when its latent heat is extracted it condenses to water at the same temperature. Since condensation occurs by extraction of heat through the walls of the heating element, the steam which is condensed is immediately replaced by fresh steam and the temperature at the wall maintained constant. It is therefore possible with steam heating to maintain a constant temperature difference between the heating circuit and the atmosphere until, of course, the atmosphere itself rises in temperature. The importance of this lies in the fact that the rate of heat flow through the walls of the heating circuit is a function of the temperature difference. Further, steam can be conveyed by virtue of its own pressure, to all parts of a building, whereas water requires a definite pumping effort to lift it against a head, and a thermo-syphon circulation involves a definite temperature drop through the system.

There is another important distinction between steam and water. At any given pressure the amount of heat that water will contain is strictly limited. For example, at atmospheric pressure the total heat of water at boiling point, 212 deg. F., is only 180 B.Th.U.'s per lb. Steam at the same pressure, however, contains 1,150 B.Th.U.'s per lb., and of this 970 B.Th.U.'s represent latent heat which can be given up as the steam condenses before the temperature commences to fall. It will thus be seen that to extract 20 heat units from a lb. of water involves lowering the temperature of water by 20 deg. F., whereas it is possible to extract from a lb. of steam (by condensing it) 970 B.Th.U.'s before any temperature drop occurs.

Attempts have been made from time to time to popularize the use of water at pressures higher than atmospheric which allow a higher heat content. An increase of the pressure from atmospheric to 100 lb. per square inch gauge, however, only

increases the heat content to 338 B.Th.U.'s or an addition of 258 B.Th.U.'s. A much greater quantity of heat can be imparted to it by converting it to steam without increasing the pressure.

PLENUM HEATING SYSTEMS

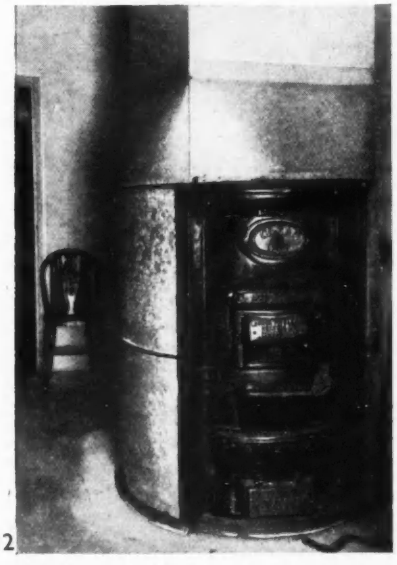
In cases where it is not practicable to obtain satisfactory heating by direct heating surfaces, the introduction of pre-heated air is advantageous. This form of heating is usually associated with systems of ventilation for large buildings, theatres, halls, workshops and similar places. Air-conditioning systems which control the temperature and humidity of the air employ re-heating after the air has passed the spray washer, as well as heat for tempering the ordinary air supply to the room. The problem of heating and air-conditioning for buildings in which large numbers of people congregate is, however, in some respects distinct from that of ordinary room heating, and in modern plenum systems air-cooling plays an important part.

13 *Air-conditioning supply and exhaust grilles connected to ducts concealed in the walls at the Cumberland Hotel, London. Architect: F. J. Wills.*

CENTRAL HEATING WITHOUT PIPES

A system of pipeless central heating which is suitable for many types of buildings operates by means of warming air and discharging it so as to cause a steady natural circulation of air throughout the building. It is advantageous in that it can be installed in existing buildings with very little structural alterations and with no damage to interior decorations. The heating apparatus is surrounded by casings so arranged that the colder air of the building is slowly drawn through the heater, where it is also moistened, rising as it is heated and replacing further cold air. The heaters are designed to burn coke, anthracite, or smokeless fuel; they demand little attention, and can be banked to last through the night. They must be placed in a position where air for combustion is available and a suitable flue must be installed to carry away the products of combustion.

11 *Outlet and intake grating of cellar-type pipeless central heating apparatus in the hall floor of a private house.*



12 *Pipeless central heating apparatus installed in the cellar of a private house.*

Where the heating apparatus can be installed in a cellar, the same grating which serves to discharge the heated air through its centre admits the cold air round its edges and delivers it to the casing of the heater. A suitable position for the grating in a house is in the hall floor, the heater being immediately below it. Where no cellar is available, the upper end of the heater casing is connected to a grating fixed in the wall for the warm air to enter the building, while the cold air enters the heater by a grating in the wall near the floor level, or by a duct under the floor. Where the heater must stand in the room to be heated, the outlet grating for warm air is placed on top of the heater and the entry for cold air at the bottom.

This system of heating is found to be very suitable for buildings such as churches.

AUTOMATIC CONTROL OF ELECTRICITY

The value of automatic control is not only that of convenience and proper regulation. Even when the use of the heating system is intermittent, whether for room heating or hot water, there is much to be said for automatic control. Where manual control is adopted, there is a time lag between switching on and the attainment of the necessary heat in the room or water container. Hence, a higher voltage is required, and as the load factor of the circuit is low, the best rates for the electricity supply cannot be obtained. Automatic control may often be no dearer than manual control, as the steady production of heat at a moderate rate is cumulative and obviates high loading for brief periods in order to produce comfort conditions rapidly. This, of course, does not apply to the occasional use of a room, with long periods between. The heat losses from the room in such cases more than counterbalance the cost of the heating-up period.

With automatic control, also, full advantage is taken of any other source of heat, such as from the sun's rays or the heat generated by the occupants of the room. A slow increment in the temperature of a room is seldom obvious enough to call for manual adjustment of the heat discharge until it has well exceeded the desirable temperature, and waste of heat results.

Control by the use of thermostats which regulate the flow of heat according to the existing temperature of the surrounding air are satisfactory for most cases. It should, however, be remembered that the ordinary thermostat is sensitive to air temperature alone, and takes no account of humidity and velocity, and usually very little account of radiation. Physical comfort is affected by these factors, and in cases where their influence is considerable the radiation thermostat or eupatheostat is the preferable instrument.

Because the eupatheostat responds to the effect of radiation, as well as to the effects of convection and hot air it should be installed in such a position that it is not screened. The complete control apparatus comprises the thermostat and a relay operating on a small current to open and close the heating circuit.

The thermostat section of the apparatus consists of a sphere of about 5 ins. diameter, with a matt black surface, having a sump at the bottom in which a volatile substance, such as methyl bromide, is contained, surrounded by a heater coil to keep it boiling. If heat is received by the surface

of the sphere the internal pressure tends to rise, forcing out a small plunger which makes and breaks the electrical circuit. When heat is given off by the sphere to atmosphere, the reverse occurs, the spirit condensing and by the reduced pressure drawing in the plunger and closing the electrical circuit. The apparatus is adjusted to maintain the same average temperature of the sphere surface of about 75 deg. F.

FUELS FOR CENTRAL HEATING

The fuels suitable for use in central heating systems include gas and metallurgical coke, low-temperature carbonization fuel or coke, various grades of bituminous and semi-bituminous coals, steam coals, semi-anthracites, anthracite and oil fuel. The anthracite fuels are not usually suitable for use in ordinary steam raising or heating boilers where rapid combustion and a big output per area of grate surface is needed. They are, however, very suitable for water heating boilers where the heat transmission is relatively small, as in many domestic installations. These fuels have the advantage of giving no clinker and very little ash, and in a suitable boiler grate of the slow combustion type they allow long intervals between charging of the furnace and demand very little attention. For high rates of combustion, however, they necessitate a draught velocity greater than is usually possible by a domestic chimney. Although they have a high calorific value per lb., their cost is disproportionately high in relation to their heat value. This, however, in many cases is offset by the considerable reduction in attendance required, the increased cleanliness and absence of clinker and ash to be handled.

With a furnace constructed suitably a good quality of small coke is usually the cheaper fuel, based on price and heat value and discounting the greater amount of ash and clinker. The approximate calorific values of various fuels have already been indicated in the Table of Efficiencies.

Until recently oil fuel had many claims to consideration, owing to its high calorific value (usually about 19,000 B.Th.U.'s per lb., compared with 12,500 for coke), and the ease with which it can be stored and used. The present import duty on oil fuel, however, has considerably changed the position. In competing with coke and coal, oil fuel must now rely mainly on its cleanliness and convenience. A feature in its favour is the ease with which combustion can be controlled and the heat output regulated in relation to temperature conditions attained either in the water or steam generated or in the actual room or building to be heated. The use of thermostatically controlled regulating valves for the fuel supply makes it possible to control the heat output very closely, even to the point of shutting down combustion and re-starting by means of suitable ignition and safety devices.

Properly graded coal, coke and anthracite are amenable to some degree of combustion control and automatic firing, by means of motor-driven feeders attached to the furnace. For controlled rate of firing the motor speed can be controlled by thermostats and rheostatic controllers. With reasonably large installations this is quite a practicable method of reducing the cost of attendance and stoking and maintaining a fairly close regulation of heating temperatures.

Solid fuel, however, inevitably involves a certain amount of fuel handling and ash removal, and it is impossible, without reference to existing conditions of a specific case, to state whether it is more or less economical in all-in cost than oil fuel. Reference may here be made to the storage capacity required for different classes of fuel. The following represent approximate capacities :—

Fuel	*Space required per ton in cu. ft.*
Coke	80
Anthracite Coal	45
Newcastle Coal	45
Scottish Coal	43
Welsh Coal	40
Oil Fuel (250 gals. approx. 1 ton)	40

In the following table are figures relating to boiler chamber and flue sizes for various heat outputs.

CENTRAL HEATING AND DOMESTIC HOT WATER SERVICE.—Approximate dimensions of boiler chamber and flue for sectional cast iron or sectional steel boilers can be obtained from the following :—

$$\text{Let } R = 30\left(GA + RA + \frac{WA}{2}\right) + \frac{C}{2}$$

With GA = Total glass area of Building.
RA = Roof area.
WA = Outside Wall area of Building.
C = Cube of Building.

Then when *R* is	BOILER CHAMBER		FLUE.	
	Heating Only.	Heating & H.W.S.	Heating Only.	Heating & H.W.S
	ft. in. ft. in.	ft. in. ft. in.	in. in. ft. in.	in. in. ft. in.
30,000 ..	7 0 × 4 0	7 0 × 6 0	6 × 6 × 30 0	9 × 6 × 30 0
50,000 ..	8 0 × 4 0	8 0 × 6 0	9 × 6 × 30 0	12 × 6 × 30 0
100,000 ..	8 0 × 6 0	8 0 × 7 9	12 × 6 × 30 0	12 × 9 × 30 0
200,000 ..	10 0 × 6 0	10 0 × 9 0	12 × 12 × 40 0	12 × 12 × 40 0
300,000 ..	10 0 × 7 0	10 0 × 10 0	12 × 12 × 60 0	12 × 12 × 60 0
500,000 ..	14 0 × 7 0	14 0 × 10 0	18 × 9 × 80 0	18 × 9 × 80 0
1,000,000 ..	14 0 × 14 0	14 0 × 14 0	18 × 18 × 100 0	18 × 18 × 100 0
2,000,000 ..	20 0 × 20 0	20 0 × 20 0	24 × 24 × 100 0	24 × 24 × 100 0

The above dimensions of boiler chamber are for coke-fired boilers. If oil firing is used the length may be reduced by from 1 to 3 ft. The dimensions are for boilers and storage cylinders only. Suitable allowance should be made for fuel storage, accelerators, etc.

COST OF ELECTRICAL CURRENT.—The price at which current is available varies greatly in different districts. In some cases it is available for heating of premises at ¼d. per unit, subject to the reservation that the load is not used between certain hours, such as 4.30 p.m. and 6.30 p.m. during the winter months. Some supply companies offer current for thermal storage systems at 0·3d. per unit between the hours of 8 p.m. and 7 a.m., with special discounts when the consumers' installations reach or exceed a 40 per cent. load factor ; others offer current at ½d. per unit for domestic water heating apparatus and thermal systems during restricted hours.

In some of the districts served by the North Metroplitan Electric Power Supply Company, the charge for supply during restricted hours is available at 0·8d. per unit, in others at 1d., 1½d. and 2d. The heating and cooking rates range from a flat rate of 1·2d. per unit up to 3d., or alternatively a contract rate with a fixed annual charge plus a charge per unit consumed, which ranges from ½d. in summer and 1d. in winter to ¾d. and 1½d. according to the district.*

CONCLUSION

The investigator is forced to the conclusion that until the exact conditions of a case are known and the value of certain amenities under those particular conditions have been assessed, it is impossible to estimate the *real* respective costs of different systems. Comfort itself, the prime objective of heating, cannot be translated into terms of cash value per unit ; and, further, in different cases one or all of the features involved may have an importance (often expressible in cash terms) ranging from the negligible to the paramount.

A casual assessment of costs usually shows electric heating to be more expensive than other methods, but a *true* assessment of all the factors would often prove it to be the cheapest. On the other hand, any attempt to show that electricity is comparable with, say, coke under all conditions is doomed to failure, unless extravagant values are set upon certain rather intangible advantages.

No tests of a strictly comparable nature over long periods have yet been made which take into account all the factors, including a definite standard of comfort. At the best, the investigator is faced with a mass of miscellaneous experimental work on phases of the subject, coupled with partisan attempts to justify one or another system. In the circumstances the architect is probably as capable as the heating engineer of deciding, in the circumstances of any particular case, what is the most desirable system to adopt. He is at least more likely to attach reasonable values to the various advantages and disadvantages that are not expressible in monetary constants.

*In Watford this is as low as ¼d. in summer and ⅜d. in winter.

RECENT DEVELOPMENTS *IN THE* VENTILATION OF BUILDINGS

[*By A. T. HENLY, A.M.I.H.V.E., A.M.J.Inst.E., A.F.A.S.*]

WHILST the need for ventilation and air-conditioning in industrial buildings and theatres has been known for many years, few appreciate that correctly designed ventilating and air-conditioning equipment is equally essential to the health of the occupants of the office or public building. At one time the only basis of efficiency for a ventilating system was the carbon dioxide content of the rooms which were to be dealt with by the plant. At the present day, however, this item is practically disregarded, as it has been proved that high CO_2 contents can exist without detriment. It is generally accepted that an efficient modern ventilating system must be capable of controlling the following conditions :—

(*a*) Temperature.
(*b*) Humidity or moisture content of the atmosphere.
(*c*) Dust content of the air.
(*d*) Distribution and movement of air.

In practice, if accurate control is maintained over these items, the CO_2 content of the room must of necessity remain at a satisfactory proportion. In considering the actual requirements of the atmosphere for offices or public buildings of every description, it must be remembered that the occupants are in a state of rest and, therefore, require a fairly high temperature, whilst at the same time they are particularly susceptible to air movement or draughts.

Generally, it is found that an internal temperature of 65 deg. F. is the lowest giving comfort, and under this condition it is necessary for the relative humidity of the atmosphere to be 60 per cent., although, with certain external conditions, it is not possible to maintain this humidity owing to condensation of moisture on the internal walls of the building. It is rarely understood why the addition of moisture to the atmosphere is necessary, but this may be appreciated when we realize that during a winter's day, when the external temperature is 30 deg. F. and its relative humidity 50 per cent.—quite common conditions—the process of this air entering the building and being heated to 65 deg. F. immediately reduces its relative humidity to approximately 15 per cent., which is far drier than is normal in desert regions.

NATURAL VENTILATION

Owing to the popularity of central heating systems and built-in electric fires, many houses and large buildings are erected without flues, with the result that these buildings are not so well ventilated as they should be in the light of modern developments. There are several means of obtaining what is known as "natural ventilation," one, of course, being the open window method which, even with the modern designs of ventilating sashes, remains completely out of control, and is entirely dependent upon the direction of the prevailing wind. In most cases, however, an open window will ensure a reasonable rate of ventilation, though rarely without draughts.

Where a room has a chimney or ventilating flue ; which, it is suggested, should be provided in every building, even though it be heated by electric fires, there is a definite force available to create air movement. This force is produced by the difference in temperature between the air in the flue and that in the external atmosphere, the variation in temperature producing a difference of weight between two columns of air, causing the warmer air to pass up the flue. Natural ventilation is rarely relied upon for the modern public building, and in the near future will, without doubt, be superseded by mechanical air-conditioning, even for the private house, in which a system can be applied very simply in the case of new construction.

AIR FILTERS AND CONDITIONING APPARATUS

No mechanical ventilation plant should be installed unless it is provided with some means of filtering air. This is accomplished, in the latest forms of air filters, by passing the air between corrugated plates, through sheets of expanded metal or masses of spiral springs or rings coated with oil ; or, alternatively, through specially prepared textile fabrics.

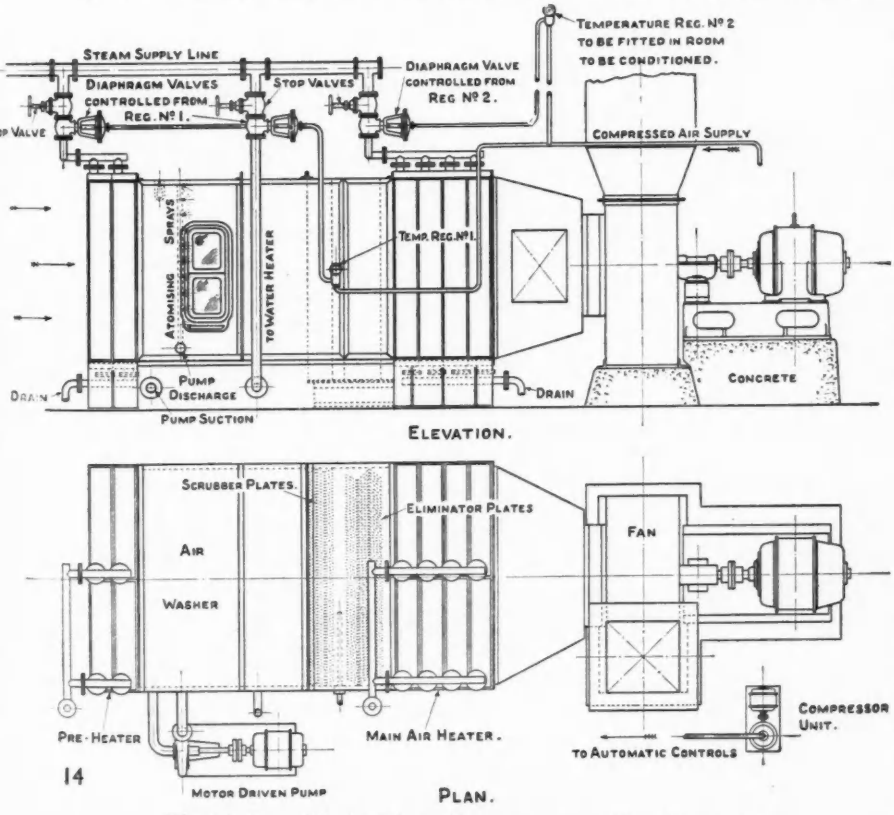
With such types of air filter it is possible to remove between 80 per cent. and 95 per cent. of the solid impurities contained in the incoming air, but no control of humidity is possible.

A scientifically designed ventilation and air-conditioning plant will have the air filter replaced by an air-washer, similar to that illustrated in Fig. 14, consisting of a chamber through which the air is passed and cleansed by a finely atomized water spray, finally passing through corrugated plates to remove entrained moisture before entering the duct system.

Apart from the possibility of controlling moisture evaporation by the use of the air washer, up to 98 per cent. of the dust is removed, and an appreciable cooling effect is obtained. Whilst the illustration shows the conventional type of apparatus for small systems, it is usual with the larger public building installation to have the air-washing chamber constructed in brickwork or reinforced concrete.

TEMPERATURE AND HUMIDITY CONTROL

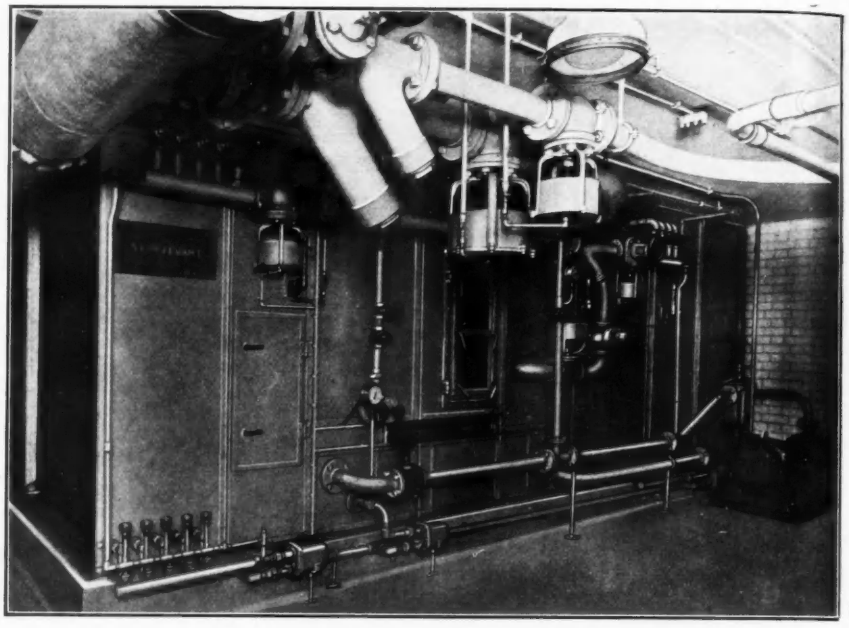
In applying an air-conditioning plant of the type we are considering, the heating of the rooms or building needs to be considered in close relation to its ventilation, and effective thermostatic control must be provided. Temperature control in the rooms may be obtained by the use of thermostatic valves on the radiators, or, in the case of a large building such as a cinema or theatre, by a thermostat fixed in a representative position controlling the oil-firing plant or automatic stoker in the boiler-house. Further controls are applied at the air-conditioning plant, in some cases by the use of a thermostat situated in the main duct leading to the building, to maintain



Typical air-conditioning plant with temperature and humidity controls.

a predetermined air-temperature at this point. This is effected by control of the amount of steam or hot water passing to the air heater.

When considering control of humidity or moisture content, it must be remembered that air passing through the air-conditioning plant becomes almost fully saturated at the exit end of the spray chamber, this saturation being represented by a definite temperature known as the "Dew Point," so that a thermostat situated in this position can be employed to control the heating apparatus used for evaporating the moisture. Should the temperature at this point be higher than that for which a thermostat is pre-set, it indicates that the air is receiving too much moisture, and the thermostat will therefore diminish the heat, so causing moisture evaporation until the temperature falls and the pre-set conditions are obtained. The problem of overcoming the precipitation of moisture and condensation on the walls of a cold building, when the plant is first set in motion, has been solved by a special system of controls, which permits only partial evaporation of moisture during the initial periods. Fig. 15 illustrates a complete air-conditioning plant with automatic temperature and humidity control systems.



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Air-conditioning plant at the Head Office of the Midland Bank, London. Architects: Sir Edwin Lutyens, R.A., in association with Gotch and Saunders.

COOLING BY MEANS OF AIR-CONDITIONING

In the theatre or cinema or other place of assembly, such as a hotel ballroom, the air-conditioning plant offers a ready means of maintaining a cool atmosphere during summer conditions with crowded rooms. In such buildings large quantities of heat, many times the amount normally required to maintain a reasonable internal temperature, are supplied by the heat from the bodies of the occupants, from lighting units, and, during summer, transmission through the walls and from the radiant heat of the sun. During such periods the use of the air-washer, with the spray water re-circulated—the usual practice—can only result in a comparative degree of coolness, for, as the temperature is lowered, so the humidity is increased. If supplies of cold water from a well are available the air may be cooled to a greater extent, and in such cases the water may afterwards be used for domestic purposes without any detriment, if necessary a water-filter being employed.

But the only system that enables a fixed internal temperature and humidity to be obtained is that with which a refrigeration plant is employed for cooling the spray-water coming into contact with the air. Such a system is usually costly to instal, but can be considerably cheapened by a system in which quantities of refrigerated water or brine, at low temperature, are conserved during non-demand periods; electricity for the refrigerating plant usually being obtainable during such periods at considerably reduced rates. A well-designed air-conditioning and cooling plant delivers as much as 2,000 c. ft. of air per hour per person, to avoid air being introduced at too low a temperature to cause draughts.

CONSTRUCTION OF DUCTS

Wherever possible, particularly in the case of the larger ducts near the fan or air-conditioning plant, the use of metal ducts should be eliminated, although from the point of view of air friction they may be ideal. Larger ducts can be constructed in reinforced concrete or in brickwork, and may be cement rendered or lined with smooth tiles. Particular care must be taken in this construction to ensure smoothness of internal finish and wide radius bends. It must be borne in mind that beams crossing such ducts cause high resistance to air flow, and should not be introduced without careful consideration by the ventilating engineer.

The waterproofing of main air-ducts running under a building is a matter demanding particular attention, since plants are known to prove unsatisfactory through accumulations of water, following percolation through the sides of the ducts; in some cases becoming stagnant and usually causing the air to enter the buildings in too humid a condition and insufficiently warm. Easy access to all the larger ducts is desirable, and, in addition, lighting should be provided at convenient points. This facilitates the work of the engineer in charge of the plant.

ACOUSTIC PROBLEMS OF VENTILATION

Building and general developments of equipment have led to the noise problem of ventilation becoming a basis of design. In any ventilating and air-conditioning plant several sources of noise are present. The primary sources are: vibration from the electric motor driving the fan; vibration through insufficiently rigid construction of the fan or associated ductwork; noise from sprays in air-washing chamber and the centrifugal pump providing them with water, and a possibility of additional vibration from the air-heating battery or filter, when employed. All sounds produced by the ventilating plant may be grouped under distinct headings:—

(*a*) Noise transmitted through the structure.

(*b*) Air-borne noise.

(*c*) Vibration transmitted through the duct structure.

To isolate transmitted noise or vibration is a comparatively simple matter, since fans, motors and pumps may be mounted on cork-insulated rafts, or may be carried on spring-loaded anti-vibration pads. Any of these methods will prevent vibration reaching the building structure. Similarly, any vibration likely to be transmitted to the duct system can be broken by the insertion of flexible connections between the plant and the duct. To isolate air-borne noises, however, is a more difficult problem, for though the sound may be minute initially, it is invariably amplified by the structure and proportions of the ducts. Sound-absorbing chambers and baffles should, therefore, be incorporated in every plant, and in some cases, in sound-film studios, for instance, they become a necessity. In some instances it is necessary to line the ducts with a sound-absorbing material.

Apart from precautions taken to prevent noise reaching the rooms to be ventilated, it is the first care of the engineer to provide a fan that will run at speeds sufficiently low to be silent. This is not possible unless the whole of the duct system and plant has been designed with low-resistance to air flow as the primary object.

SPECIAL REQUIREMENTS IN VARIOUS TYPES OF BUILDING

Every building has its special requirements, governing lay-out and ducting and the disposition and arrangement of the air-conditioning plant. Some buildings, such as cinemas and theatres, require an air-conditioning plant and a mechanical extract ventilation system, whilst others need be provided with air-conditioning plant or extract ventilation alone. Similarly, the rate of ventilation varies with the building and the purpose for which it is

used. The following table gives data on requirements for buildings of several types.

Room.	Fresh Air.		Extract.	
	C.F.M. per person.	Air Changes	C.F.M. per person.	Air Changes
Churches and Sunday Schools	20–35	—	20–35	—
Cinemas and Theatres	12–35	—	8–27	—
Ice Rinks	12–35	—	8–27	—
Hotel Ballrooms	35	8–10	—	8–10
Hotel Bathrooms	—	—	—	6–10
Libraries	20–30	4–6	20–30	4–6
Museums	—	4	—	4
Schoolrooms	20–30	4–6	20–30	4–6
Operating Theatres	—	10	—	10
Anæsthetic	—	8	—	12
Recovery	—	8	—	8
Hospital Wards—				
General	—	6	—	6
Contagious	—	10	—	10
Kitchens	—	20–30	—	20–40
Laundries	—	10–20	—	10–20
Boiler-houses	—	10	—	—
Factories	—	4	—	4

NOTE.—C.F.M. denotes cubic feet per minute.

Ventilating and air-conditioning equipment is at the present time a highly specialized branch of engineering, and where an installation is considered the architect should not hesitate to collaborate with a specialist at an early stage in the development of his plans, to ensure adequate provision for the whole of the equipment and to prevent the air-conditioning system having, of necessity, to be designed to fit a building which might easily have been planned at the outset to allow more flexible and economical installation.

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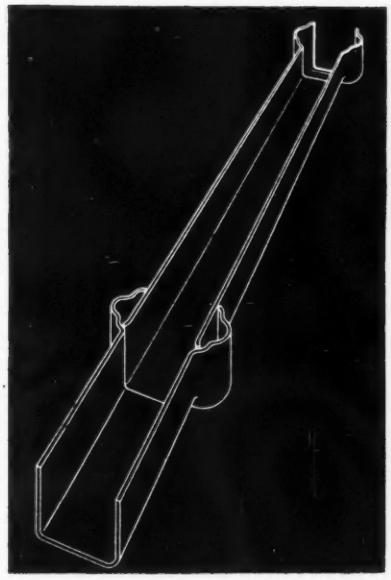
For the convenience of readers, all the advertisements concerning heating and ventilation are collected in the front part of the JOURNAL.

THE BUILDINGS ILLUSTRATED

Following are the names of the general contractors and some of the sub-contractors for the buildings illustrated in this issue.

Capitol Cinema, Mill Hill (pages 419-421, 423-426). General contractors, Griggs and Sons. Sub-contractors: Cement Marketing Co., Ltd., coloured cement; Braithwaite & Co., Ltd., structural steel; Self-Sentering Expanded Metal Co., Ltd., patent flooring; Merchant Trading Co., Ltd., flexwood; Weller, curtains and carpets; North Middlesex Gas Co., Ltd., gas fittings; A. C. Pain and Callender's Cable and Construction Co., Ltd., electric wiring; Troughton and Young, Ltd., electric light fixtures; Winsor Engineering Co., Ltd., heating and ventilation; Venesta, Ltd., plywood; Mayfair Spraying and Decorating Co., Ltd., painting; Docker Bros., Ltd., paint; H. & F. Badcock, plaster, fibrous plaster; Bromsgrove Guild, Ltd., metalwork; Charles Walker & Co., marble (Cullamix floor); W. Lusty & Sons, Ltd., seating; Albion Iron and Wirework Co., Ltd., metal lettering on elevation.

Showrooms in Davies Street, W. (pages 427-428). General contractors, T. Stevens, Ltd. Sub-contractors: J. Whitehead and Sons, walls and floor; J. R. Pearson, Ltd., metalwork; London Sand Blast Co., glass rods and enrichments; W. Aumonier and Sons, plaster work; J. Bolding and Sons, bath and lavatory basin, cabinet marble landing and steps, tiling and sanitary fittings in hospital section and marble work to front entrance; R. H. Boyland & Co., electrical work; Birmingham Guild, Ltd., Birmabright handrail in basement; E. Heffer & Co., electrical fittings; A. Mantel, metal grilles and radiator fronts; R. Fox and Sons, spray painting.



TRADE NOTES

[*BY F. R. S. YORKE, A. R. I. B. A.*]

Asbestos-Cement Ducts

IN almost every building, ducts of one kind or another are required, for the removal of products of combustion and for fresh-air inlets or exhaust outlets for vitiated air; and with the increasing use of systems of artificial ventilation the subject of ductwork becomes one of considerable importance.

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Where ducts are not constructed on the building site from brick or concrete, there is a demand for pre-fabricated sections, in a material reasonably strong, light and easy to handle, and, because the sections are often inaccessible for replacement or repair, in a material able to resist attack by corrosion.

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Asbestos-cement appears to fulfil these conditions, and, in addition, it is a good insulator and will minimize heat loss through the walls. In the case of flues, there is an obvious advantage in a material that will retain heat, to effect a more rapid dispersal of the products of combustion, and to prevent condensation.

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Standardized asbestos-cement duct and flue sections are now obtainable (see diagram at top of this page), and have recently been used extensively in important work. They can be fixed inside or outside the building, and in neither case do they require paint or other protective covering. Where corrosive fumes are present, in factories or laboratories, the material is given a special anti-acid treatment, so that it becomes more or less permanently resistant to attack. It is claimed to have an advantage over metal in that it will not vibrate and convey noise, and, furthermore, where fan-type extract is employed, there can be no unpleasant rattling of rust particles, which may, if a lodgment is formed, ultimately cause complete stoppage.

Domestic Air-Conditioning Units

The high initial cost of plant has, until quite recently, made air-conditioning in the home an economic impossibility in this country, but domestic "climate-changers" have been on the American market for some years, and I understand complete climate-changing apparatus can now be produced within the price range of ordinary furnace oil-burner installations, through the synchronization of each part in operation with all other parts and the reduction of components to a minimum: a system that enables the apparatus to be designed in the form of units.

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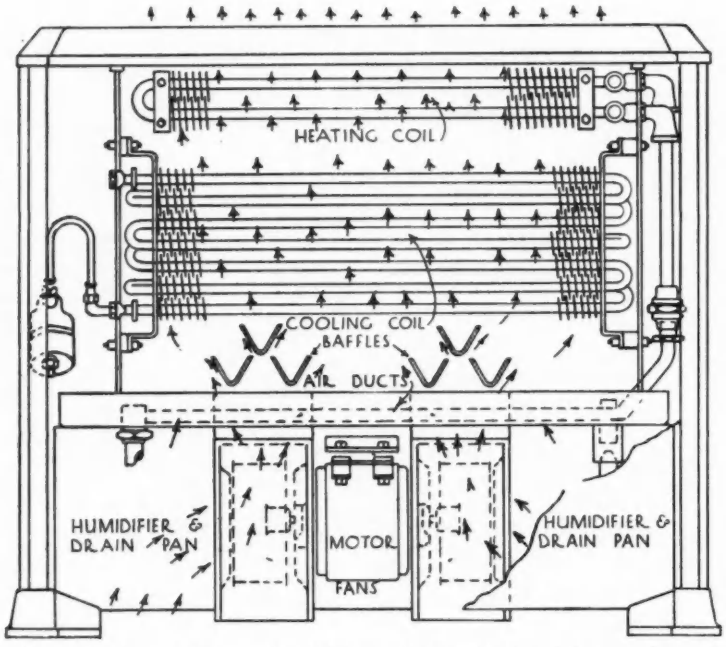
The innovation has, it appears, been so successful in America, that British firms have adopted American unit types to suit British conditions, and are about to commence manufacture (see diagram overleaf). Such units embody automatic circulation, cleaning, heating and humidifying in winter and cooling and de-humidifying in summer.

Domestic Air-Conditioning with Central Plant

The Architectural Forum for January, 1934, contains an article by Richard W. Mecaskey, describing "The Home of Controlled Climate"—a house equipped with mechanical air-conditioning plant, and especially constructed to provide thorough



Domestic air-conditioning unit, with hot and cold coils, for winter warming and summer cooling.

insulation, so that plant capacity and operating costs are kept to a minimum.

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The author lays as much stress on the insulation as on the plant itself. A layer of 1½ in. thick cork slabs, spaced 1 in. from the structural wall, runs all round the house. There is a similar layer in the ceiling below the roof. In addition, rock-wool is used in certain places, all windows are double-glazed and fitted with built-in wind break and weather stripping, and all duct-work in external walls is insulated.

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It is calculated that on a basis of the total conditioned space—21,130 c. ft.—the heat loss for the house, without insulation and double-glazed windows, would have been 162,000 B.T.U., but efficient insulation and double-glazing reduces this figure to 113,000 B.T.U., and so accounts for a fuel saving of approximately 30 per cent.

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Air-conditioning in winter is dependent upon a gas-fired unit, consisting of fan, washer, humidifier, filter and heating unit, connected to supply and return ducts running to every individual space in the house. (See diagram.)

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Air-conditioning in summer is by means of a silica gel-system, the silica gel itself is a highly absorptive material rather like clear quartz sand in appearance, capable of taking 40 per cent. of its weight in moisture. It is contained in a drum which rotates three times in every hour.

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In summer, fresh air is passed through sections of the gel bed, where it loses moisture, and is then mixed with a percentage of return air from the rooms. The mixture of dry air and return air is passed over coils cooled by a flow of tap water, and from these it is discharged through ducts to the rooms.

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The bed of silica gel used in this process becomes saturated, and in the continuous rotation of the drum container it passes over the hot products of combustion from a gas-fire furnace, which drives moisture from the gel. The bed so freed from moisture is then ready for another absorbing cycle. The operation described for one section of the gel bed is continuous, since, whilst one section of the bed is being freed of its moisture, another is absorbing moisture from the air.

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The total air circulation within the house when the silica gel unit is in use is 2,600 c.f.m. with a varying control of the amount of fresh outside air or return air from the rooms passing through the dehydrator up to 1,300 c.f.m., averaging eight complete changes of air per hour.

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Elasticity of operation is assured by three distinct means of control, used according to climatic conditions, all operated from a panel fixed in the staircase leading to the basement where the apparatus is installed : (1) air circulation only, (2) air circulation plus cooling by tap water, (3) cooling by tap water plus dehumidification by silica gel.

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Actual results obtained on a day when the house was open to the public were :

TEMPERATURE

2 p.m. Outside 85½° Inside 72°.
9 p.m. Outside 75°. Inside 76°.

RELATIVE HUMIDITY

2 p.m. Outside 50%. Inside 60%.
9 p.m. Outside 80%. Inside 48%.

These results were obtained with an attendance of 625 people. Tap water was used for cooling.

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We are informed by the Winsor Engineering Co., Ltd., of Glasgow, that the ventilation plant supplied by them for the Capitol Cinema, Mill Hill, illustrated in this issue, consisted of supply fan and heater which delivered warmed air or air at atmospheric temperature in the front of the cinema and an exhaust fan which drew away the vitiated air from the back of the building. While this was quite a simple installation, particular care was taken so that the air was delivered into the cinema in such a way that there were no draughts at any part of the theatre and a gentle movement of air found its way across the theatre and out at the back.

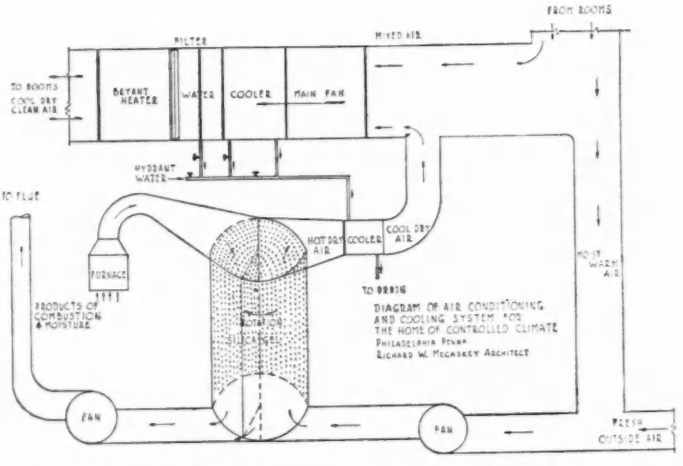


Diagram showing lay-out of domestic central air-conditioning plant referred to in accompanying note.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILE RADIUS)

EAST HAM. *Houses.* The Corporation has approved a scheme for the provision of housing accommodation for 50 families to be displaced by clearances.

ILFORD. *Houses.* Mr. G. F. Seigerts has prepared plans for the erection of 380 houses in Dorchester Gardens, Lexden Drive, etc.

ILFORD. *Houses, Shops, Cinema.* Plans passed by the Corporation: Five houses, Suffolk Road, for Mr. F. S. Russell; seven houses, Spearpoint Gardens, for Mr. J. Aldridge; 180 houses, Ashburton Avenue, etc., for Mr. J. T. Perrin; 13 houses, Hastings Avenue, for Mr. T. Anders; 12 houses, Mortlake Road, for Messrs. E. Glenny and Son; six houses, Emmott Avenue, for Mr. W. Wakeling, 6 houses, Selwyn Avenue, for Messrs. Holland Bros. & Co.; two houses, Emmott Avenue, for Mr. C. F. Fryatt; 10 houses, Keswick Gardens, for Messrs. P. G. Ashton and Sons; 30 houses, Longwood Gardens, for Mr. A. Smith; five bungalows, Craigmont Gardens, for Mr. G. F. Seigerts; cinema, Eastern Avenue, for Mr. G. Coles; 23 shops and houses and 16 houses, Green Lane and Mayfield Road, for Mr. E. Meredith; 27 bungalows, Clinton Crescent, for Mr. C. Fryatt; 10 shops and 14 houses, Green Lane and Kent View Gardens, for Messrs. J. Hartshorne and Sons, Ltd.

LEWISHAM. *Houses, etc.* Plans passed by the B.C.: Two houses, Bromley Road, for Messrs. Hood and Huggins; five shops, Lewis Grove, for Mr. P. W. Davis; two shops, Sydenham Road, for Mr. G. T. Harman; development, Woodstock estate, Burnt Ash Hill, for Mr. A. J. Butcher; development, junction of Stondon Park and Brocklet Rise, for Messrs. Kersey, Gale and Spooner; houses, Sydenham Park Road, for Messrs. Brett and Son.

SOUTHERN COUNTIES

GRAVESEND. *Shops and Houses.* Plans passed by the Corporation: Seven shops and houses, Singlewell Road, for Mr. L. F. L. Bridgland; two houses, Campbell Road, for Mr. W. H. Ede; five houses, Lingfield Road, for Mr. E. Johncock.

HASTINGS. *Houses.* Plans passed by the Corporation: Three houses, Edwin Road, for Mr. J. Hunt; six houses, Fairlight Avenue, four houses, Battle Road, bungalow, Old Harrow Road, extensions joinery works, Parker Road, for Messrs. Jeffery and Wyatt; five houses, Priory Avenue, for Mr. E. Taylor; two houses, Park estate, for Mr. A. Radcliffe; 11 houses, Sedlescombe Road, for Mr. S. D. Hicks; eight houses, Old London Road, for Mr. F. Gordon, Watford; two houses, Burry Road, for Mr. J. A. Halliday; three houses, Mount Pleasant Road, for Mr. W. C. Scollay.

OXFORD. *Houses.* Mr. A. S. Carter is to erect houses on a five-acres estate at Forest Hill parish, near Oxford.

OXFORD. *Houses.* Plans passed by the Corporation: Two houses, Staunton Road, for Mr. A. W. Lee; six houses, off Cowley Road, for Messrs. E. Organ and Son; two houses, Ramsay Road, for Mr. G. Coppock; four houses, Five Mile Drive, for Messrs. Hinkins and Frewin, Ltd.; two houses, Eden Drive, Headington, for Messrs. Pontin & Co.; four houses, Ridgeway Road, Headington, for Mr. A. J. Faulkner.

SOUTH-WESTERN COUNTIES

CHELTENHAM. *Sewer and Houses.* The Corporation is to construct a sewer at a cost of £1,000 at Hester's Way, where Messrs. Mark Williams & Co. propose to erect 24 houses.

EXETER. *Swimming Pool.* The Corporation has passed plans for the construction of a swimming pool at St. Luke's training college.

TORQUAY. *Houses, Schools, etc.* Plans passed by the Corporation: Two houses, Second Avenue, for Mrs. E. M. Ellicott; four houses, Florida Road, for Mr. P. D. Cananna; two houses, Cedar Court estate, for Messrs. H. Lloyd and Son; four houses, Mead Road, for Mr. G. W. Chisholm; two bungalows, Shiphay Avenue, for Mr. B. Evans; two houses, Newton Road, for Messrs. Lloyd and Son; four houses, Reeves Road, for Chelston Building Co.; church and schools, Isaacs Road, Barton, for Methodist trustees; reconstruction 112-4, Union Street, for Torquay Gas Co.; house, Barnfield Road, for Mr. S. A. Baker.

TORQUAY. *Cliff Path.* The Corporation is to construct a cliff path from Babbacombe to Oddicombe at a cost of £35,000.

EASTERN COUNTIES

CHELMSFORD. *Garages and Houses.* Plans passed by the Corporation: 11 garages, New Writtle Street, for Dr. K. S. Storrs; three houses, Longstomps Avenue, for Mr. J. R. Dowst; eight houses, Moulsham Drive, for Mr. W. J. Aldred.

COLCHESTER. *Houses.* Plans passed by the Corporation: Two houses, Turner Road, for Dr. F. D. Turner; two houses, Audley Road, for Mr. W. H. S. Smith; four houses, Greenstead Hall Chase, for Messrs. T. G. Went & Co.; five houses, Bergholt Road, for Messrs. J. Moss and Son.

The Corporation is to erect 46 further houses on the Ipswich-Harwich Roads site.

MIDLAND COUNTIES

CHESTERFIELD. *Houses.* The Corporation is to prepare plans for the erection of 134 houses on the Springfield Avenue estate. Plans passed by the Corporation: Two houses, Piccadilly, for Mr. W. Whiteley; four houses, Handley Road, for Mr. F. Durham; two houses, Kent Street, for Mr. C. P. Norman; shop and house, Broomhill Road, for Mr. J. Gilberthorpe; four houses, Calow Lane, for Messrs. Clarke Bros.; four houses, Old Road, for Messrs. J. Collis and Sons, Ltd.

CHESTERFIELD. *Swimming Bath.* The Corporation has reserved a site on the Rose Hill estate for the erection of public swimming baths.

SUTTON COLDFIELD. *Schools.* The Education Committee is to prepare plans for the erection of a group of schools on nine acres at Cofield Road, at an estimated cost of £40,000.

WALSALL. *Bridges.* The Corporation is to reconstruct Pratts Bridge and Sutton Road Bridge, at a cost of £11,000.

NORTHERN COUNTIES

CHESTER. *Re-housing.* The Corporation has approved plans of the proposed lay-out and plans and elevations of the various types of houses to be built in connection with the erection of a further instalment of 216 non-parlour houses on the Lache estate for re-housing purposes.

HETTON. *Houses.* Plans passed: 15 houses, Jameson Terrace, for Mr. H. Hewitt.

HULL. *Houses.* Messrs. Wellsted, Dossor and Wellsted, architects, are in negotiation with the Corporation regarding a proposal for the erection of about 1,000 houses on an estate north of Cold Harbour Lane.

HULL. *Dwellings.* The Corporation is to prepare plans for the erection of dwellings for 384 persons on the Endyke Lane estate.

HULL. *Cottage Flats.* The Corporation is to obtain tenders for the erection of 20 cottage flats on the New George Street area.

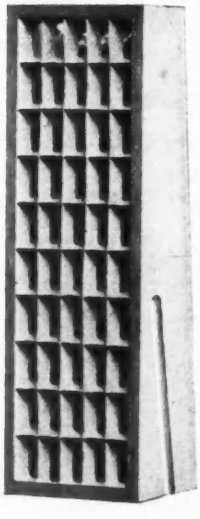
JARROW. *Town Hall.* The Corporation recommends the immediate commencement of the rebuilding of the town hall.

Manufacturers' Items

We regret that the following two firms were inadvertently omitted from the list of contractors for the Curzon Cinema, Curzon Street, W.1, illustrated in the JOURNAL for March 8: Messrs. James Clark and Sons, Ltd. (mirrors); and Messrs. Gent & Co., Ltd. (electric clocks).

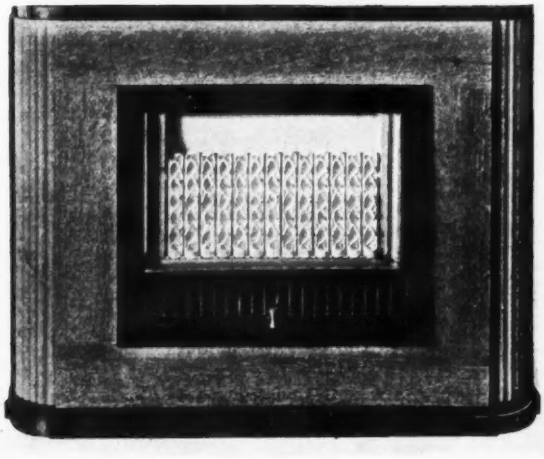
*

On and after Monday, March 26, the address of the Trussed Concrete Steel Co., Ltd., Reinforced Concrete Engineers, also Hyrib Sales, Truscon Pre-cast Units and Truscon Floors, will be: Thames House, Millbank, S.W.1. Telephone No.: Victoria 9387 (8 lines).



Left.

Portcullis gas-heating element specially designed to give maximum efficiency in conversion of fuel into heat.



Right.

A Flavel wall gas-fire with marble surround.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I	II
			s. d.	s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A_1	Abergavenny ..	S Wales & M.	1 5	1 0½
A_2	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1½
A_2	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1½
A	Airdrie ..	Scotland	*1 5½	1 1½
C	Aldeburgh ..	E. Counties	1 1½	10½
A	Altrincham ..	N.W. Counties	1 5½	1 1½
B_2	Appleby ..	N.W. Counties	1 2	10½
A	Ashton-under-Lyne	N.W. Counties	1 5½	1 1½
A_2	Atherstone ..	Mid. Counties	1 4	1 0
B_2	Aylesbury ..	S. Counties	1 2½	11
B_1	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_2	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1½
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow ..	N.W. Counties	1 5½	1 1½
A	Barry ..	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke ..	S.W. Counties	1 3	11½
A_2	Bath	S.W. Counties	1 4½	1 0½
A	Batley ..	Yorkshire	1 5½	1 1½
A_2	Bedford ..	E. Counties	1 4½	1 0½
A_2	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_2	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	*1 7	1 2½
A	Birmingham	Mid. Counties	1 5½	1 1½
A_1	Bishop Auckland	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1½
A	Blackpool ..	N.W. Counties	1 5½	1 1½
A	Blyth ..	N.E. Coast	1 5½	1 1½
B_1	Bognor ..	S. Counties	1 3	11½
A	Bolton ..	N.W. Counties	1 5½	1 1½
A_2	Boston ..	Mid. Counties	1 4	1 0
A_2	Bournemouth ..	S. Counties	1 4	1 0
B_2	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1½
A_1	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M.	1 5½	1 1½
B_1	Bridgwater ..	S.W. Counties	1 3	11½
A_1	Bridlington ..	Yorkshire	1 5	1 0½
A	Brighouse ..	Yorkshire	1 5½	1 1½
A_2	Brighton ..	S. Counties	1 4	1 0
A	Bristol ..	S.W. Counties	1 5½	1 1½
B_2	Brixham ..	S.W. Counties	1 2½	11
A_2	Bromsgrove ..	Mid. Counties	1 4½	1 0½
B_2	Bromyard ..	Mid. Counties	1 2	10½
A	Burnley ..	N.W. Counties	1 5½	1 1½
A	Burslem ..	Mid. Counties	1 5½	1 1½
A	Burton-on-Trent	Mid. Counties	1 5½	1 1½
A	Bury ..	N.W. Counties	1 5½	1 1½
A_1	Buxton ..	N.W. Counties	1 5	1 0½
A_1	CAMBRIDGE	E. Counties	1 5	1 0½
B_1	Canterbury ..	S. Counties	1 3	11½
A	Cardiff ..	S. Wales & M.	1 5½	1 1½
A	Carlisle ..	N.W. Counties	1 5½	1 1½
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Carnforth ..	N.W. Counties	1 5½	1 1½
A	Castleford ..	Yorkshire	1 5½	1 1½
B	Chatham ..	S. Counties	1 3½	11½
A_2	Chelmsford ..	E. Counties	1 4	1 0
A_2	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester ..	N.W. Counties	1 5½	1 1½
A	Chesterfield ..	Mid. Counties	1 5½	1 1½
B_1	Chichester ..	S. Counties	1 3	11½
A	Chorley ..	N.W. Counties	1 5½	1 1½
B_1	Cirencester ..	S. Counties	1 3	11½
A	Clitheroe ..	N.W. Counties	1 5½	1 1½
A	Clydebank ..	Scotland	1 5½	1 1½
A	Coalville ..	Mid. Counties	1 5½	1 1½
A_2	Colchester ..	E. Counties	1 4	1 0
A	Colne ..	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_1	Consett ..	N.E. Coast	1 5	1 0½
A_2	Conway ..	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1½
A_2	Crewe	N.W. Counties	1 4½	1 0½
A	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1½
A	Darwen ..	N.W. Counties	1 5½	1 1½
B_1	Deal	S. Counties	1 3	11½
A_2	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby ..	Mid. Counties	1 5½	1 1½
A	Dewsbury ..	Yorkshire	1 5½	1 1½
B	Didcot ..	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1½
B_2	Dorchester ..	S.W. Counties	1 2½	11
A_2	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley ..	Mid. Counties	1 5½	1 1½
A	Dundee ..	Scotland	1 5½	1 1½
A	Durham ..	N.E. Coast	1 5½	1 1½
A_2	EASTBOURNE	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1½
A_1	E. Glamorganshire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter ..	S.W. Counties	*1 4½	1 0½
B	Exmouth ..	S.W. Counties	1 3½	11½
A_2	FELIXSTOWE	E. Counties	1 4	1 0
A_2	Filey	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1½
B_1	Folkestone ..	S. Counties	1 3	11½
A	Frodsham ..	N.W. Counties	1 5½	1 1½
B_2	Frome	S.W. Counties	1 2½	11
A	GATESHEAD	N.E. Coast	1 5½	1 1½
B	Gillingham ..	S. Counties	1 3½	11½
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole ..	Yorkshire	1 4½	1 0½
A_2	Gosport ..	S. Counties	1 4½	1 0½
A_2	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0½
A	Greenock ..	Scotland	*1 5½	1 1½
A	Grimsby ..	Yorkshire	1 5½	1 1½
B	Guildford ..	S. Counties	1 3½	11½
A	HALIFAX ..	Yorkshire	1 5½	1 1½
A	Hanley ..	Mid. Counties	1 5½	1 1½
A	Harrogate ..	Yorkshire	1 5½	1 1½
A	Hartlepools ..	N.E. Coast	1 5½	1 1½
B	Harwich ..	E. Counties	1 3½	11½
B_1	Hastings ..	S. Counties	1 3	11½
A_2	Hatfield ..	S. Counties	1 4½	1 0½
B	Hereford ..	S.W. Counties	1 3½	11½
A_2	Hertford ..	E. Counties	1 4½	1 0½
A	Heysham ..	N.W. Counties	1 5½	1 1½
A	Howden ..	N.E. Coast	1 5½	1 1½
A	Huddersfield ..	Yorkshire	1 5½	1 1½
A	Hull ..	Yorkshire	1 5½	1 1½
A	ILKLEY ..	Yorkshire	1 5½	1 1½
A	Immingham ..	Mid. Counties	1 5½	1 1½
A_2	Ipswich ..	E. Counties	1 4½	1 0½
B_2	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1½
A	KEIGHLEY ..	Yorkshire	1 5½	1 1½
B	Kendal ..	N.W. Counties	1 3½	11½
B	Keswick ..	N.W. Counties	1 3½	11½
A_2	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster	Mid. Counties	1 4½	1 0½
B_1	King's Lynn ..	E. Counties	1 3	11½
A	LANCASTER ..	N.W. Counties	1 5½	1 1½
A_1	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester ..	Mid. Counties	1 5½	1 1½
A	Leigh	N.W. Counties	1 5½	1 1½
B_2	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln	Mid. Counties	1 5½	1 1½
	Liverpool ..	N.W. Counties	*1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly ..	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12-15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1½
A	Loughborough	Mid. Counties	1 5½	1 1½
A_2	Luton	E. Counties	1 4	1 0
A	Lytham ..	N.W. Counties	1 5½	1 1½
A_1	MACCLESFIELD	N.W. Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11½
A_2	Malvern ..	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1½
A	Mansfield ..	Mid. Counties	1 5½	1 1½
B_2	Margate ..	S. Counties	1 3	11½
A	Matlock ..	Mid. Counties	1 4	1 0
A_2	Merthyr ..	S. Wales & M.	1 5	1 0½
A	Middesbrough	N.E. Coast	1 5½	1 1½
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1 2½	11
A	Morecambe ..	N.W. Counties	1 5½	1 1½
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson	N.W. Counties	1 5½	1 1½
A	Newcastle ..	N.E. Coast	1 5½	1 1½
A	Newport ..	S. Wales & M.	1 5½	1 1½
A	Normanton ..	Yorkshire	1 5½	1 1½
A	Northampton	Mid. Counties	1 5½	1 1½
A	North Staffs ..	Mid. Counties	1 5½	1 1½
A	North Shields ..	N.E. Coast	1 5½	1 1½
A_1	Norwich ..	E. Counties	1 5	1 0½
A	Nottingham ..	Mid. Counties	1 5½	1 1½
A	Nuneaton ..	Mid. Counties	1 5½	1 1½
A_2	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham ..	N.W. Counties	1 5½	1 1½
A_2	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford ..	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	*1 5½	1 1½
B_2	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth ..	Scotland	*1 5½	1 1½
A_2	Peterborough ..	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	*1 5½	1 1½
A	Pontefract ..	Yorkshire	1 5½	1 1½
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_2	Portsmouth ..	S. Counties	1 4½	1 0½
A	Preston ..	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate ..	S. Counties	1 3½	11½
A_2	Retford ..	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A_2	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1½
B	Rochester ..	S. Counties	1 3½	11½
A_1	Ruabon ..	N.W. Counties	1 5	1 0½
A	Rugby ..	Mid. Counties	1 5½	1 1½
A_2	Rugeley ..	Mid. Counties	1 4½	1 0½
A	Runcorn ..	N.W. Counties	1 5½	1 1½
A_1	ST. ALBANS ..	E. Counties	1 5	1 0½
A	St. Helens ..	N.W. Counties	1 5½	1 1½
B_2	Salisbury ..	S.W. Counties	1 2½	11
A_1	Scarborough ..	Yorkshire	1 5	1 0½
A	Scunthorpe ..	Mid. Counties	1 5½	1 1½
A	Sheffield ..	Yorkshire	1 5½	1 1½
A	Shipley ..	Yorkshire	1 5½	1 1½
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton ..	Yorkshire	1 4½	1 0½
A_2	Slough ..	S. Counties	1 4½	1 0½
A_1	Solihull ..	Mid. Counties	1 5	1 0½
A_1	Southampton ..	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport ..	N.W. Counties	1 5½	1 1½
A	S. Shields ..	N.E. Coast	1 5½	1 1½
A_1	Stafford ..	Mid. Counties	1 5	1 0½
A	Stockport ..	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud ..	S.W. Counties	1 3½	11½
A	Sunderland ..	N.E. Coast	1 5½	1 1½
A	Swadlincote ..	Mid. Counties	1 5½	1 1½
A	Swansea ..	S. Wales & M.	1 5½	1 1½
A_2	Swindon ..	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton ..	S.W. Counties	1 3½	11½
A	Teesside Dist. ..	N.E. Counties	1 5½	1 1½
A_2	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1½
A_1	Torquay ..	S.W. Counties	1 5	1 0½
B_2	Truro	S.W. Counties	1 2½	11
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall ..	Mid. Counties	1 5½	1 1½
A	Tyne District ..	N.E. Coast	1 5½	1 1½
A	WAKEFIELD	Yorkshire	1 5½	1 1½
A	Walsall ..	Mid. Counties	1 5½	1 1½
A	Warrington ..	N.W. Counties	1 5½	1 1½
A_1	Warwick ..	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid. Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby ..	Yorkshire	1 4½	1 0½
A	Widnes ..	N.W. Counties	1 5½	1 1½
A	Wigan	N.W. Counties	1 5½	1 1½
B	Winchester ..	S. Counties	1 3½	11½
A_2	Windsor ..	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_2	Worksop ..	Yorkshire	1 4	1 0
A_1	Wrexham ..	N.W. Counties	1 5	1 0½
A_2	Wycombe ..	S. Counties	1 4	1 0
B_2	YARMOUTH ..	E. Counties	1 3	11½
B_1	Yeovil	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	1 1½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	£ s. d.
Bricklayer . . . . . per hour	1 7
Carpenter . . . . . ,,	1 7
Joiner . . . . . ,,	1 7
Machinist . . . . . ,,	1 8
Mason (Banker) . . . . . ,,	1 7
,, (Fixer) . . . . . ,,	1 8
Plumber . . . . . ,,	1 7
Painter . . . . . ,,	1 6
Paperhanger . . . . . ,,	1 6
Glazier . . . . . ,,	1 7
Slater . . . . . ,,	1 7
Scaffolder . . . . . ,,	1 3
Timberman . . . . . ,,	1 3
Navvy . . . . . ,,	1 2½
General Labourer . . . . . ,,	1 2½
Lorryman . . . . . ,,	1 5
Crane Driver . . . . . ,,	1 6
Watchman . . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£ s. d.
Grey Stone Lime . . . . . per ton	2 2 0
Blue Lias Lime . . . . . ,,	1 16 6
Hydrated Lime . . . . . ,,	3 0 9
Portland Cement . . . . . ,,	2 6 0
Rapid Hardening Cement . . . . . ,,	2 13 6
White Portland Cement . . . . . ,,	8 15 0
Thames Ballast . . . . . per Y.C.	6 3
¾" Crushed Ballast . . . . . ,,	6 9
Building Sand . . . . . ,,	7 3
Washed Sand . . . . . ,,	8 3
2" Broken Brick . . . . . ,,	8 0
¾" ,, ,, ... ,,	10 3
Pan Breeze . . . . . ,,	6 6
Coke Breeze . . . . . ,,	8 9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

		4" s. d.	6" s. d.
Straight Pipes	per F.R	0 9	1 1
Bends	each	1 9	2 6
Taper Bends	,,	3 6	5 3
Rest Bends	,,	4 3	6 3
Single junctions	,,	3 6	5 3
Double ,,	,,	4 9	6 6
Straight channels	per F.R.	1 6	2 6
¾" Channel bends	each	2 9	4 0
Channel junctions	,,	4 6	6 6
Channel tapers	,,	2 9	4 0
Yard gullies	,,	6 9	8 9
Interceptors	,,	16 0	19 6

IRON DRAINS:

Iron drain pipe	per F.R.	1 6	2 6
Bends	each	5 0	10 6
Inspection bends	,,	9 0	15 0
Single junctions	,,	8 9	18 0
Double junctions	,,	13 6	30 0
Lead wool	lb.	6	—
Gaskin	,,	5	—

BRICKLAYER

	£ s. d.
Flettons . . . . . per M.	2 18 0
Grooved do. . . . . ,,	3 0 0
Phorpres bricks . . . . . ,,	2 17 3
Phorpres Cellular bricks . . . . . ,,	2 17 3
Stocks, 1st quality . . . . . ,,	4 11 0
,, 2nd ,, ... ,,	4 2 6
Blue Bricks, Pressed . . . . . ,,	8 17 6
,, Wirecuts . . . . . ,,	7 17 6
,, Brindles . . . . . ,,	7 0 0
,, Bullnose . . . . . ,,	9 0 0
Red Sand-faced Facings . . . . . ,,	6 18 6
Red Rubbers for Arches . . . . . ,,	12 0 0
Multicoloured Facings . . . . . ,,	7 10 0
Luton Facings . . . . . ,,	7 10 0
Phorpres White Facings . . . . . ,,	3 17 3
Phorpres Rustic Facings . . . . . ,,	3 12 3
Midhurst White Facings . . . . . ,,	5 0 0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:	
Stretchers . . . . . ,,	21 0 0
Headers . . . . . ,,	20 10 0
Bullnose . . . . . ,,	27 10 0
Double Stretchers . . . . . ,,	29 10 0
Double Headers . . . . . ,,	26 10 0
Glazed Second Quality, *Less* . . . ,,	1 0 0
,, Buffs and Creams, *Add* . . . ,,	2 0 0
,, Other Colours . . . . . ,,	5 10 0
2" Breeze Partition Blocks . . . per Y.S.	1 7
2½" ,, ,, ,, ... ,,	1 10
3" ,, ,, ,, ... ,,	2 1
4" ,, ,, ,, ... ,,	2 6

MASON

	s. d.
The following d/d F.O.R. at Nine Elms:	
Portland stone, Whitbed . . F.C.	4 4½
,, ,, Basebed . . ,,	4 9
Bath stone . . . . . ,,	2 11
York stone . . . . . ,,	6 6
,, ,, Sawn templates . . ,,	7 6
,, ,, Paving, 2" . . . F.S.	1 8
,, ,, ,, 3" . . . ,,	2 6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£ s. d.
24" × 12" Duchesses . . . per M.	28 17 6
22" × 12" Marchionesses . . ,,	24 10 0
20" × 10" Countesses . . ,,	19 5 0
18" × 10" Viscountesses . . ,,	15 10 0
18" × 9" Ladies . . . ,,	13 17 6
Westmorland green (random sizes) . per ton	8 10 0
Old Delabole slates d/d in full truck loads to Nine Elms Station:	
20" × 10" medium grey per 1,000 (actual)	21 11 6
,, green ,, ,,	24 7 4
Best machine roofing tiles . . ,,	4 10 0
Best hand-made do. . . . ,,	5 0 0
Hips and valleys . . . . each	9½
,, hand-made . . . ,,	10
Nails, compo . . . . . lb.	1 4
,, copper . . . . . ,,	1 6

CARPENTER AND JOINER

	s. d.
Good carcassing timber . . F.C.	2 2
Birch . . . . as 1" F.S.	9
Deal, Joiner's . . . ,, ,,	5
,, ,, 2nds . . ,, ,,	4
Mahogany, Honduras . . ,, ,,	1 3
,, African . . ,, ,,	1 1
,, Cuban . . ,, ,,	2 6
Oak, plain American . . ,, ,,	1 0
,, Figured ,, . . ,, ,,	1 3
,, Plain Japanese . . ,, ,,	1 2
,, Figured ,, . . ,, ,,	1 5
,, Austrian wainscot . . ,, ,,	1 6
,, English . . . ,, ,,	1 11
Pine, Yellow . . . ,, ,,	1 0
,, Oregon . . . ,, ,,	4
,, British Columbian . . ,, ,,	4
Teak, Moulmein . . . ,, ,,	1 3
,, Burma . . . ,, ,,	1 2
Walnut, American . . ,, ,,	2 3
,, French . . . ,, ,,	2 3
Whitewood, American . . ,, ,,	1 1
Deal floorings, ¾" . . . Sq.	18 6
,, 1" . . . ,,	1 1 6
,, 1¼" . . . ,,	1 2 0
,, 1½" . . . ,,	1 5 0
Deal matchings ¾" . . . ,,	14 0
,, ¾" . . . ,,	15 6
,, 1" . . . ,,	1 4 0
Rough boarding ¾" . . . ,,	16 0
,, 1" . . . ,,	18 0
,, 1¼" . . . ,,	1 6 0

Plywood, per ft. sup.

Thickness	¼"	⅜"	½"	¾"	1"
Qualities	AA. A. B.	AA. A. B.	AA. A. B.	AA. A. B.	AA. A. B.
	d. d. d.	d. d. d.	d. d. d.	d. d. d.	d. d. d.
Birch	4 3 2	5 4 3	7½ 6 4½	8½ 7 6	
Alder	3½ 3 2	5 4 3	6½ 5½ 4½	8 7 6	
Gaboon					
Mahogany	4 3 3	6½ 5½ 4½	9½ 7½ –	1/0½ 10 –	
Figured Oak					
1 side	8½ 7 –	10 8 –	11½ – –	1/6 – –	
Plain Oak					
1 side	6½ 6 –	7½ 7 –	9½ – –	1/– – –	
Oregon Pine	5 4 –	5½ 5 –	6 – –	– – –	

	d.
Scotch glue . . . . . lb.	8

SMITH AND FOUNDER

Tubes and Fittings:

(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	¼"	½"	1"	1½"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9
,, 3"-11½" long ,,	7	9	1/3	1/8	3/–
Long screws, 12"-23½" long ,,	11	1/3	2/2	2/10	5/3
,, ,, 3"M-½" long ,,	8	10	1/5	1/11	3/6
Bends . . . ,,	8	11	1/7½	2/7½	5/2
Springs not socketed . ,,	5	7	1/1½	1/11½	3/11
Socket unions . . ,,	2/–	3/–	5/6	6/9	10/–
Elbows, square . . ,,	10	1/1	1/6	2/2	4/3
Tees . . . ,,	1/–	1/3	1/10	2/6	5/1
Crosses . . . ,,	2/2	2/9	4/1	5/6	10/6
Plain Sockets and nipples ,,	3	4	6	8	1/3
Diminished sockets . ,,	4	6	9	1/–	2/–
Flanges . . . ,,	9	1/–	1/4	1/9	2/9
Caps . . . ,,	3½	5	8	1/–	2/–
Backnuts . . . ,,	2	3	5	6	1/1
Iron main cocks . . ,,	1/6	2/3	4/2	5/4	11/6
,, ,, with brass plugs ,,	—	4/–	7/6	10/–	21/–

Discounts: TUBES.

	Per cent.		Per cent.
Gas . . .	65	Galvanized gas .	52½
Water . . .	61½	,, water	47½
Steam . . .	57½	,, steam	42½
	FITTINGS.		
Gas . . .	57½	Galvanized gas .	47½
Water . . .	52½	,, water	42½
Steam . . .	47½	,, steam	37½

SMITH AND FOUNDER—*continued*

Rolled steel joists cut to length . .				cwt.	10 9
Mild steel reinforcing rods,	⅜"	. .	,,		8 6
,, ,,	½"	. .	,,		8 3
,, ,,	⅝"	. .	,,		8 0
,, ,,	¾"	. .	,,		7 6
,, ,,	⅞"	. .	,,		7 6
,, ,,	1"	. .	,,		7 6
,, ,,	1¼"	. .	,,		7 6
,, ,,	1½"	. .	,,		7 6

	3" s. d.	4" s. d.	6" s. d.
Cast-iron rain-water pipes of ordinary thickness metal .		F.R 8	10
Shoes . . .		each 2 0	3 0
Anti-splash shoes . .		,, 4 6	8 0
Boots . . .		,, 3 0	4 0
Bends . . .		,, 2 7	3 9
,, with access door .		,, —	6 3
Heads . . .		,, 4 0	5 0
Swan-necks up to 9" offsets .		,, 3 9	6 0
Plinth bends, 4½" to 6" .		,, 3 9	5 3
Half-round rain-water gutters of ordinary thickness metal .		F.R. 5	6
Stop ends . . .		each 6	6
Angles . . .		,, 1 7	1 11
Obtuse angles . .		,, 2 0	2 6
Outlets . . .		,, 1 9	2 3

PLUMBER

	£ s. d.
Lead, milled sheets . . . cwt.	1 0 0
,, drawn pipes . . ,,	17 0
,, soil pipe . . . ,,	1 0 0
,, scrap . . . ,,	10 6
Solder, plumbers' . . . lb.	9½
,, fine do. . . . ,,	1 0
Copper, sheet . . . ,,	8½
,, tubes . . . ,,	11

L.C.C soil and waste pipes:	3"	4"	6"
Plain cast . .	F.R. 1 0	1 2	2 6
Coated . .	,, 1 1	1 3	2 8
Galvanized . .	,, 2 0	2 6	4 6
Holderbats . .	each 3 10	4 0	4 9
Bends . . .	,, 3 9	5 3	10 3
Shoes . . .	,, 2 10	4 4	9 6
Heads . . .	,, 4 8	8 5	12 9

PLASTERER

	£ s. d.
Lime, chalk . . . per ton	2 5 0
Plaster, coarse . . . ,,	2 10 0
,, fine . . . ,,	4 15 0
Hydrated lime . . . ,,	3 0 9
Sirapite . . . ,,	3 6 0
Keene's cement . . . ,,	5 0 0
Sand, washed . . . Y.C.	11 6
Hair . . . lb.	6
Laths, sawn . . . bundle	2 4
,, rent . . . ,,	3 9
Lath nails . . . lb.	3½

GLAZIER

	s. d.	s. d.
Sheet glass, 21 oz., squares n/e 2 ft.	s. F.S.	2½
,, ,, 26 oz. ,, ,, ,, ,,		3½
Arctic glass, white . . ,,		7
Cathedral glass, white, dbl.-rolled, plain, hammered, rimpled, waterwite,,		6½
¼" Hartley's rough rolled . ,,		7
¼" ,, wired cast . ,,		10
¼" Georgian wired cast . ,,		11
¼" Polished plate, n/e 1 ft. . ,,	†10 to‡1	1
,, ,, 2 . ,,	†1 2 ,, ‡1	4
,, ,, 3 . ,,	†1 8 ,, ‡1	11
,, ,, 4 . ,,	†2 3 ,, ‡2	6
,, ,, 6 . ,,	†2 7 ,, ‡2	9
,, ,, 8 . ,,	†2 9 ,, ‡3	2
,, ,, 12 . ,,	†3 1 ,, ‡3	7
,, ,, 20 . ,,	†3 7 ,, ‡4	2
,, ,, 45 . ,,	†3 11 ,, ‡4	7
,, ,, 65 . ,,	†4 4 ,, ‡4	11
,, ,, 90 . ,,	†4 9 ,, ‡5	5
,, ,, 100 . ,,	†5 0 ,, ‡5	7
Vita glass, sheet, n/e 1 ft. . ,,		1 0
,, ,, ,, 2 . ,,		1 3
,, ,, ,, over 2 . ,,		1 9
,, ,, plate, n/e 1 ft. . ,,		1 6
,, ,, ,, 2 . ,,		3 0
,, ,, ,, 5 . ,,		4 0
,, ,, ,, 7 . ,,		5 0
,, ,, ,, 15 . ,,		6 0
,, ,, ,, over 15 . ,,		7 6
Putty, linseed oil . . lb.		3

†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

	£ s. d.
White lead in 1 cwt. casks . . cwt.	2 6 0
Linseed oil . . . . gall.	2 2½
Boiled oil . . . . ,,	2 4½
Turpentine . . . . ,,	4 1½
Patent knotting . . . ,,	14 0
Distemper, washable . . . cwt.	2 6 0
,, ordinary . . ,,	2 0 0
Whitening . . . . ,,	4 0
Size, double . . . firkin	3 0
Copal varnish . . . gall.	13 0
Flat varnish . . . ,,	14 0
Outside varnish . . . ,,	16 0
White enamel . . . ,,	1 15 0
Ready-mixed paint . . ,,	13 6
Brunswick black . . ,,	7 6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR

		£ s. d.
Digging over surface n/e 12" deep and cart away	Y.S.	2 9
" to reduce levels n/e 5' 0" deep and cart away	Y.C.	8 6
" to form basement n/e 5' 0" deep and cart away	"	9 0
" " 10' 0" deep and cart away	"	9 6
" " 15' 0" deep and cart away	"	10 0
If in stiff clay	add "	2 6
If in underpinning	" "	4 0
Planking and strutting to sides of excavation	F.S.	1 0
" " to pier holes	"	5
" " to trenches	"	5
" " extra, only if left in	"	3
Hardcore, filled in and rammed	Y.C.	10 0
Portland cement concrete in foundations (6-1)	"	1 6 0
" " (4-2-1)	"	1 12 6
" " underpinning	"	1 16 0
Finishing surface of concrete, spade face	Y.S.	7

DRAINLAYER

		4" s. d.	6" s. d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1 6	2 3
Extra, only for bends	Each	2 8	3 9
" " junctions		3 9	4 6
Gullies and gratings		16 6	18 0
Cast iron drains, and laying and jointing	F.R.	4 9	6 9
Extra, only for bends	Each	10 6	15 6

BRICKLAYER

		£ s. d.
Brickwork, Flettons in lime mortar	Per Rod	27 10 0
" " in cement	"	28 15 0
" Stocks in cement	"	35 0 0
" Blues in cement	"	52 0 0
Extra only for circular on plan	"	2 0 0
" backing to masonry	"	1 10 0
" raising on old walls	"	2 0 0
" underpinning	"	5 10 0
Fair Face and pointing internally	F.S.	1½
Extra over fletton brickwork for picked stock facings and pointing	"	8½
" " " red brick facings and pointing	"	11
" " " blue brick facings and pointing	"	1 4
" " " glazed brick facings and pointing	"	3 6
Tuck pointing	"	7
Weather pointing in cement	"	3½
Slate dampcourse	"	10
Vertical dampcourse	"	1 1

ASPHALTER

		s. d.
½" Horizontal dampcourse	Y.S.	4 6
½" Vertical dampcourse	"	6 9
½" paving or flat	"	4 0
1" paving or flat	"	5 6
1" × 6" skirting	F.R.	1 0
Angle fillet	"	2
Rounded angle	"	2
Cesspools	Each	5 0

MASON

		s. d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C.	17 9
Bath stone and do., all as last	"	13 6
Artificial stone and do.	"	13 0
York stone templates, fixed complete	"	10 6
" thresholds	"	13 6
" sills	"	1 0 6

SLATER AND TILER

		£ s. d.
Slating, Bangor or equal, laid to a 3" lap, and fixing with compo nails, 20" × 10"	Sqr.	3 10 0
Do., 18" × 9"	"	3 7 0
Do., 24" × 12"	"	3 17 0
Westmorland slating, laid with diminished courses	"	6 0 0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course	"	3 0 0
Do., all as last, but of machine-made tiles	"	2 16 0
20" × 10" medium Old Delabole slating, laid to a 3" lap (grey)	"	4 6 0
" " " " " " (green)	"	4 15 0

CARPENTER AND JOINER

		£ s. d.
Flat boarded centering to concrete floors, including all strutting	Sqr.	2 5 0
Shuttering to sides and soffits of beams	F.S.	8
" to stanchions	"	8
" to staircases	"	1 8
Fir and fixing in wall plates, lintols, etc.	F.C.	3 9
Fir framed in floors	"	4 6
" " roofs	"	6 6
" " trusses	"	7 6
" " partitions	"	8 6
¾" deal sawn boarding and fixing to joists	Sqr.	1 14 6
1" " " " "	"	1 17 6
1½" " " " "	"	2 3 0
1½" × 2" fir battening for Countess slating	"	9 6
Do. for 4" gauge tiling	"	12 0
Stout feather-edged tilting fillet	F.R.	4½
Patent inodorous felt, 1 ply	Y.S.	2 3
" " " 2 "	"	2 9
" " " 3 "	"	3 3
Stout herringbone strutting to 9" joists	F.R.	10½
1" deal gutter boards and bearers	F.S.	1 2
1½" " " "	"	1 6
2" deal wrought rounded roll	F.R.	8
1" deal grooved and tongued flooring, laid complete, including cleaning off	Sqr.	2 1 0
1¼" do.	"	2 10 0
1½" do.	"	2 17 0
1" deal moulded skirting, fixed on, and including grounds plugged to wall	F.S.	1 6
1¼ do.	"	1 9

CARPENTER AND JOINER—*continued*

		s. d.
1¼" deal moulded sashes of average size	F.S.	1 9½
2" " " "	"	1 11½
1¼" deal cased frames double hung, of 6" × 3" oak sills, 1¼" pulley stiles, 1¼" heads, 1" inside and outside linings, ⅝" parting beads, and with brass faced axle pulleys, etc., fixed complete	"	3 7
2" " " " "	"	3 10
Extra only for moulded horns	Each	6
1¼" deal four-panel square, both sides, door	F.S.	2 0
2" " " " "	"	2 8
1¼" " but moulded both sides	"	2 4
2" " " " "	"	3 0
4" × 3" deal, rebated and moulded frames	F.R.	1 0
4½" × 3½" " " "	"	1 4
1¼" deal tongued and moulded window board, on and including deal bearers	F.S.	1 9
1¼" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	"	2 6
1¼" deal moulded wall strings	"	2 1
1¼" " outer strings	"	2 4
Ends of treads and risers housed to string	Each	1 9
3" × 2" deal moulded handrail	F.R.	1 3
1" × 1" deal balusters and housing each end	Each	2 0
1¼" × 1¼" " " "	"	2 9
3" × 3" deal wrought framed newels	F.R.	1 3
Extra only for newel caps	Each	6 0
Do., pendants	"	6 0

SMITH AND FOUNDER

		£ s. d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt.	15 6
Riveted plate or compound girders, and hoisting and fixing in position	"	19 6
Do. stanchions with riveted caps and bases and do.	"	19 0
Mild steel bar reinforcement, ½" and up, bent and fixed complete	"	17 6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S.	11
Wrot iron caulked and cambered chimney bars	Per cwt.	1 10 0

PLUMBER

		£ s. d.
Milled lead and labour in flats	cwt.	1 13 6
Do. in flashings	"	1 17 0
Do. in covering to turrets	"	2 3 0
Do. in soakers	"	1 9 0
Labour to welted edge	F.R.	3½
Open copper nailing	"	3½
Close " "	"	4½

Lead service pipe and fixing with pipe hooks	½" s. d.	¾" s. d.	1" s. d.	1¼" s. d.	2" s. d.	4" s. d.
	F.R. 1 0	1 2	1 5	2 1	3 0	—
Do. soil pipe and fixing with cast lead tacks	—	—	—	—	—	5 9
Extra, only to bends	Each —	—	—	—	2 3	6 3
Do. to stop ends	" 6½	8	9	11	1 0	—
Boiler screws and unions	" 3 3	3 9	5 0	8 0	—	—
Lead traps	" —	—	—	6 3	8 9	—
Screw down bib valves	" 6 9	9 6	11 0	—	—	
Do. stop cocks	" 9 0	11 0	14 6	20 6	47)	—

		£ s. d.
4" cast-iron ½-rd. gutter and fixing	F.R.	1 0
Extra, only stop ends	Each	1 0
Do. angles	"	1 6
Do. outlets	"	2 9
4" dia. cast-iron rain-water pipe and fixing with ears cast on	F.R.	1 2
Extra, only for shoes	Each	1 3
Do. for plain heads	"	5 6

PLASTERER AND TILING

		s. d.
Expanded metal lathing, small mesh	Y.S.	2 3
Do. in n/w to beams, stanchions, etc.	"	3 6
Lathing with sawn laths to ceilings	"	1 4
½" screeding in Portland cement and sand for tiling, wood block floor, etc.	"	1 8
Do. vertical	"	2 1
Rough render on walls	"	1 3
Render, float and set in lime and hair	"	1 11
Render and set in Sirapite	"	2 1
Render, backing in cement and sand, and set in Keene's cement	"	2 10
Extra, only if on lathing	"	4
Keene's cement, angle and arris	F.R.	6
Arris	"	2
Rounded angle, small	"	3
Plain cornices in plaster, including dubbing out, per 1" girth	"	1½
1" granolithic pavings	Y.S.	3 6
1½" " "	"	4 6
6" × 6" white glazed wall tiling and fixing on prepared screed	"	17 6
9" × 3" " " " "	"	1 2 6
Extra, only for small quadrant angle	F.R.	8

GLAZIER

		s. d.
21 oz. sheet glass and glazing with putty	F.S.	7½
26 oz. do. and do.	"	8½
Arctic glass and glazing with putty	"	1 1
Cathedral glass and do.	"	1 2
Glazing only, British polished plate	"	7
Extra, only if in beads	"	2
Washleather	F.R.	4

PAINTER

		s. d.
Clearcolle and whiten ceilings	Y.S.	6½
Do. and distemper walls	"	9
Do. with washable distemper	"	1 1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	"	3 3
Do. on woodwork	"	3 6
Do. on steelwork	"	3 0
Do. and brush grain and twice varnish	"	5 6
Stain and twice varnish woodwork	"	1 11
Stain and wax-polish woodwork	"	4 6
French polishing	F.S.	1 2
Stripping off old paper	Piece	2 0
Hanging ordinary paper from	"	2 9

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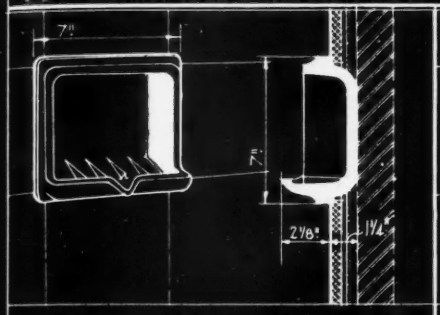
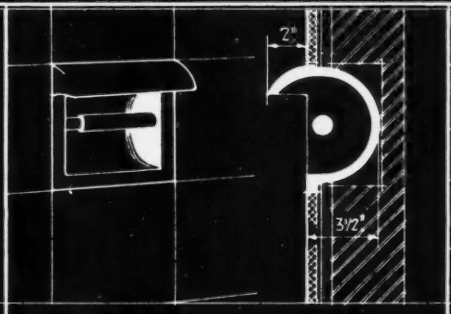
SEMI-RECESSED & PROJECTING FITTINGS IN GLAZED EARTHENWARE.

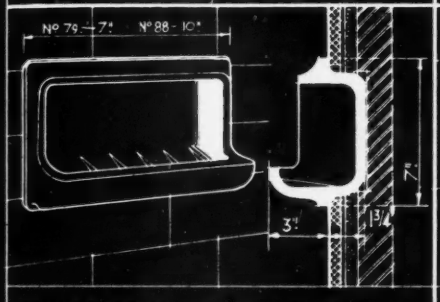


SEMI-RECESSED, SINGLE, 6"×6" (Nominal)
No 74. SOAP HOLDER, WITH PLAIN LIP
No 75. SOAP HOLDER, WITH TONGUED LIP AS SHOWN.
No 78. TUMBLER HOLDER, WITH PLAIN LIP & FLAT BOTTOM

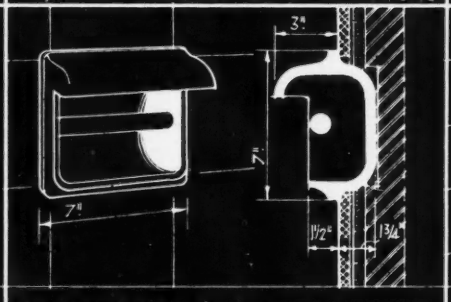


FLUSH FRONTED, 6"×6" & 8"×8"
No 3 PAPER HOLDER, FLUSH FRONT WITHOUT HOOD. 6"×6"
No 5 PAPER HOLDER, WITH HOOD AS SHOWN, 6"×6"
No 97. PAPER HOLDER FLUSH FRONT WITHOUT HOOD. 8"×8"

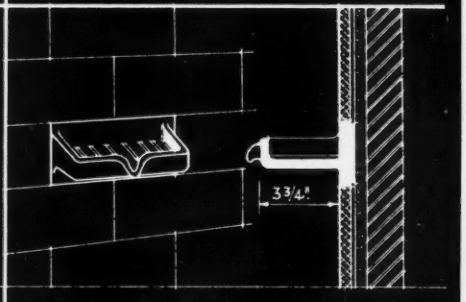
No 33 - TOOTHBRUSH, TOOTHPASTE & TUMBLER HOLDER, 9"×3"
No 10. TOOTHBRUSH RACK, 6"×3"



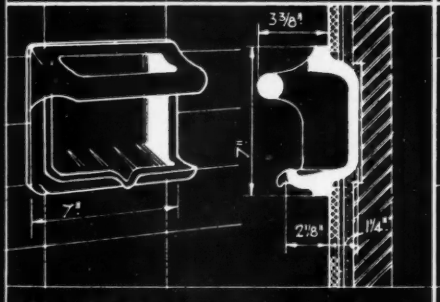
SEMI-RECESSED, 6"×6" & 9"×6"
No 79. SPONGE HOLDER, 6"×6" (Nominal).
No 88. SPONGE HOLDER, 9"×6" (Nominal).



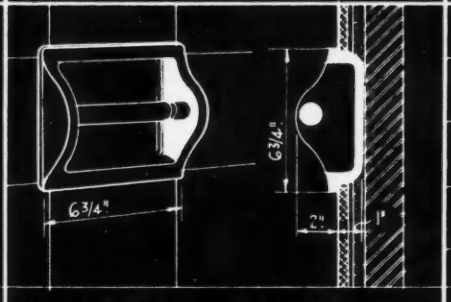
SEMI-RECESSED, 6"×6" (Nominal).
No 70. PAPER HOLDER, WITHOUT HOOD
No 71. PAPER HOLDER, WITH HOOD AS SHOWN



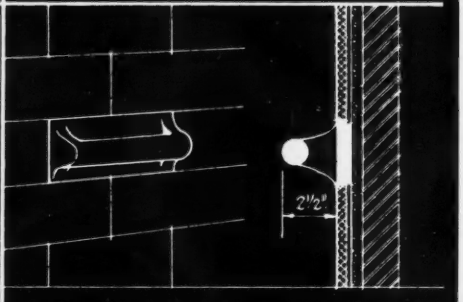
PROJECTING, 6"×3"
No 36. SOAP HOLDER, WITHOUT TONGUE
No 83. SOAP HOLDER, WITH TONGUE AS SHOWN.



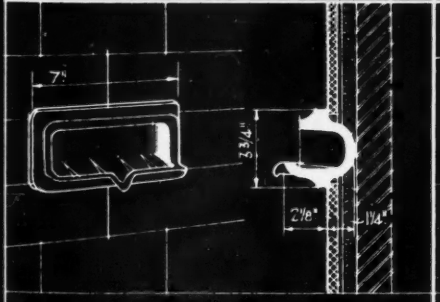
SEMI-RECESSED, 6"×6" (Nominal).
No 76. SOAP HOLDER WITH GRIP & PLAIN LIP.
No 77. SOAP HOLDER WITH GRIP & TONGUED LIP, AS SHOWN.



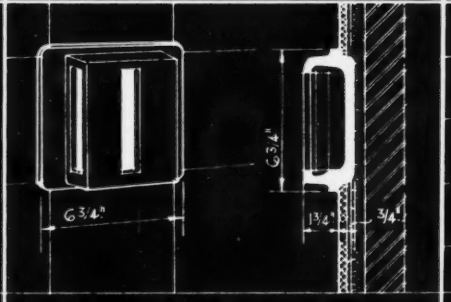
SEMI-RECESSED, 6"×6" (Nominal).
No 89. PAPER HOLDER.



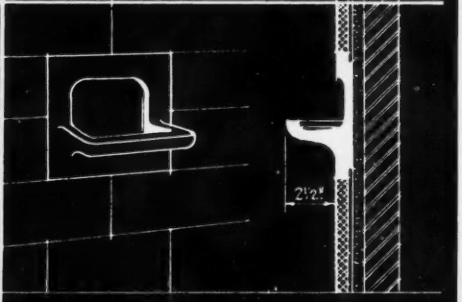
No 38 GRIP, 6"×3"



SEMI-RECESSED, 6"×3" (Nominal).
No 72. SOAP HOLDER, WITH PLAIN LIP
No 73. SOAP HOLDER, WITH TONGUED LIP AS SHOWN.



SEMI-RECESSED, 6"×6" (Nominal).
No 86. PAPER BOX.



PROJECTING, 6"×6"
No 91. SOAP HOLDER.

NOMINAL SIZE: the "nominal" sizes given for semi-recessed fittings are the sizes of the wall tiles displaced; the flanges of the fittings overlap the adjoining tiles.

Information from Richards Tiles Limited.

INFORMATION SHEET. BATHROOM EQUIPMENT: RECESSO FITTINGS. 2.

SIR JOHN BURNET, TAIT AND LORNE, ARCHITECTS, ONE MONTAGUE PLACE, BEDFORD SQUARE, LONDON, W.C.1.

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INFORMATION SHEET

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BATHROOM EQUIPMENT

IN GLAZED EARTHENWARE

Name of Product: Recesso Fittings

Types illustrated: Soap, Sponge and Tumbler Holders, Grips, Tooth Brush Holders and Toilet Paper Holders

Colours:

These Fittings can be supplied in white glaze and in an almost unlimited range of colour glazes, self-coloured or mottled.

Fittings and wall tiling can be supplied to match, in the same colour and finish.

Finish:

Any colour of glaze can be obtained in either bright or matt finish.

Building-in:

The sizes and depths required for building-in are shown on the drawings.

Semi-recessed fittings designed for use in thin partitions.

Toilet Paper Holders are fitted with removable spring rollers of either wood or nickel-plated metal.

List of Fittings:

Makers' Number		
1.	6 × 6″	Plain-lipped Soap Holder
2	,,	,, grip Soap Holder
3	,,	Flush-fronted Toilet-paper Holder
4	,,	,, Soap Holder
5	,,	Hooded Toilet-paper Holder
6	,,	Sponge Holder, without drip hole
7	6 × 3″	Flush-fronted Soap Holder
8	,,	Plain-lipped ,, ,,
10	,,	Tooth-brush Rack
11	3 × 3″	Shelf Brackets, for 5″ shelf
12	,,	Towel-rail Brackets, for square rail
12A	,,	Centre Bracket to ditto
15	,,	Tumbler and Tooth-brush Holder
19	6 × 6″	Tongue-lipped Soap Holder
20	,,	,, grip Soap Holder
21	,,	Flush-fronted ,, ,, ,,
22	6 × 3″	Tongue-lipped Soap Holder
23	6 × 6″	Plain-lipped Tumbler Holder
24	,,	Flush-fronted ,, ,,
25	12 × 6″	,, Sponge and Soap Holder
26	,,	Plain-lipped ,, ,, ,, ,,
27	,,	Tongue-lipped ,, ,, ,, ,,
28	,,	Flush-fronted grip Sponge and Soap Holder
29	,,	Plain-lipped ,, ,, ,, ,,
30	,,	Tongue-lipped ,, ,, ,, ,,
32	,,	Plain-lipped Tumbler and Soap Holder
33	9 × 3″	Tooth-brush, Tooth-paste and Tumbler Holder
34	6 × 3″	Tooth-brush and Tooth-paste Holder
35	3 × 3″	Towel-rail Brackets, for round rail
35A	,,	Centre Bracket to ditto
36	6 × 3″	Projecting Soap Holder
37	6 × 6″	Round-fronted Soap Holder, with drip hole
38	6 × 3″	Grip
39	9 × 3″	Projecting Toilet-paper Holder
40	3 × 3″	Razor Strop Hook
42	,,	Coat Hook
43	12 × 6″	Flush-fronted Sponge and Soap Holder, without partition
44	,,	Plain-lipped Sponge and Soap Holder, without partition
45	,,	Tongue-lipped Sponge and Soap Holder, without partition
46	6 3″	Coat Hook
47	,,	Projecting Tumbler and Tooth-brush Holder
52	8 × 4″	Flush-fronted Soap Holder
53	,,	Plain-lipped ,, ,,
54	,,	Tongue-lipped ,, ,,
55	,,	Flush-fronted grip ,, ,,
56	,,	Plain-lipped ,, ,, ,,
57	,,	Tongue-lipped ,, ,, ,,
58	,,	Projecting Toilet-paper Holder
59	4 4″	,, Tumbler and Tooth-brush Holder
60	,,	,, Soap Holder
61	4 4″	Coat Hook
62	,,	Towel-rail Brackets, for square rail
62A	,,	Centre Bracket to ditto
63	,,	Shelf Brackets, for 5″ shelf
64	,,	Tooth-brush and Tooth-paste Holder
66	3 × 3″	Used Razor Blade Receptacle
67	6 × 3″	Towel-rail Brackets, for round rail
67A	,,	Centre Bracket, to ditto
69	3 × 3″	Shelf Brackets, for 5″ shelf
70	6 × 6″	Semi-recessed Toilet-paper Holder
71	,,	,, ,, Hooded Toilet-paper Holder
72	6 × 3″	,, ,, Plain-lipped Soap Holder
73	,,	,, ,, Tongue-lipped ,, ,,
74	6 × 6″	,, ,, Plain-lipped ,, ,,
75	,,	,, ,, Tongue-lipped ,, ,,
76	,,	,, ,, Plain-lipped grip ,, ,,
77	,,	,, ,, Tongue-lipped,, ,, ,,
78	,,	,, ,, Plain-lipped Tumbler ,,
79	,,	,, ,, Sponge Holder
81	6 × 4½″	Sill Soap Dish
82	4 × 4″	Gargoyle
83	6 × 3″	Tongue-lipped projecting Soap Holder
86	6 × 6″	Toilet-paper Box
88	9 × 6″	Sponge Holder
89	6 × 6″	Toilet-paper Holder
90	6 × 4″	Lamp Bracket (with 4 × 4″ tile support)
91	6 × 6″	Projecting Soap Holder
93	4 × 4″	,, Ash Tray
94	6 × 6″	,, ,, ,,
95	12 × 6″	Plain-lipped grip Sponge and Soap Holder without partition
96	,,	Tongue-lipped grip Sponge and Soap Holder without partition
97	8 × 8″	Toilet-paper Holder
98	4 × 4″	Double Coat Hook

MIRRORS

16	Oval Mirror,	24 × 18½″
17	Round ,,	19″
18	Oblong ,,	17½ × 13½″, with shelf
41	,, ,,	19 × 15″, without shelf
92	"Octo" ,,	21½ × 16½″

Name of Manufacturers: Richards' Tiles, Limited

Address: Tunstall, Stoke-on-Trent

Telephone: Hanley 7215-8

London Office: 25 Victoria Street, S.W.1

Telephone: Victoria 9128

Glasgow Office: 53 Bothwell Street, Glasgow, C.2

Telephone: Central 1768

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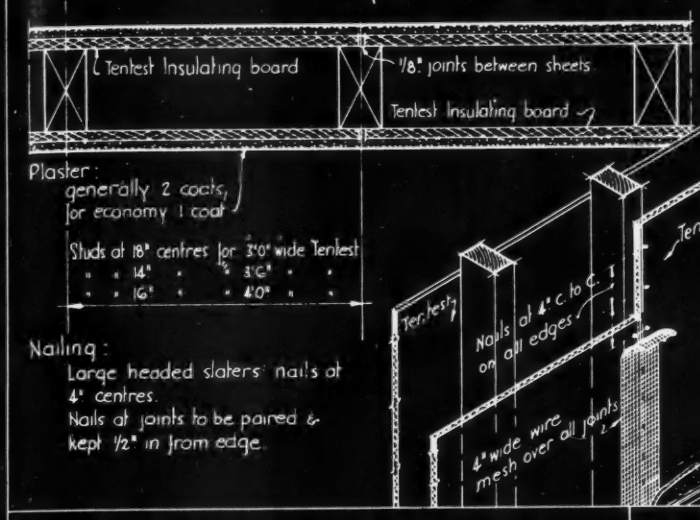
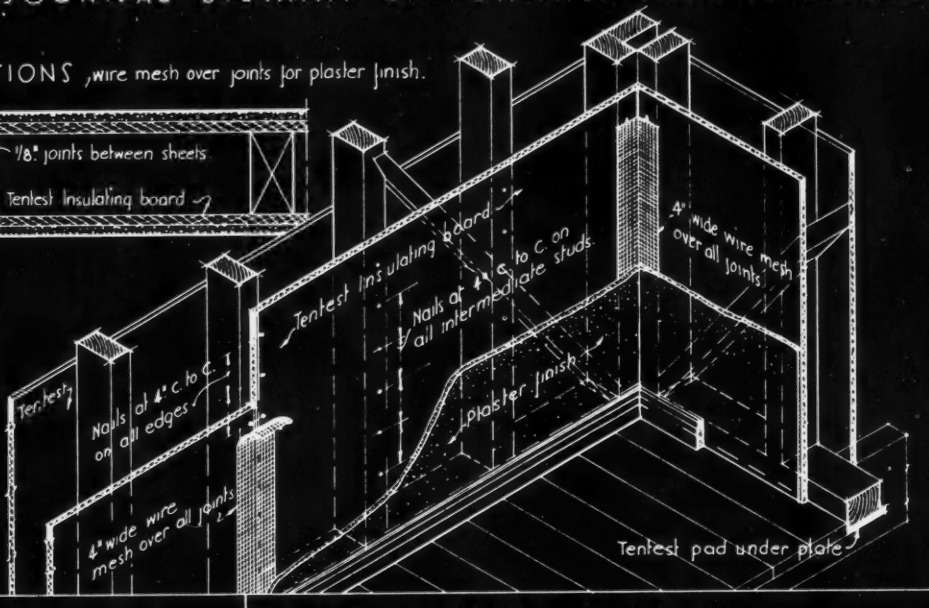
TENTEST ON STUD PARTITIONS, wire mesh over joints for plaster finish.



Plaster:
generally 2 coats,
for economy 1 coat

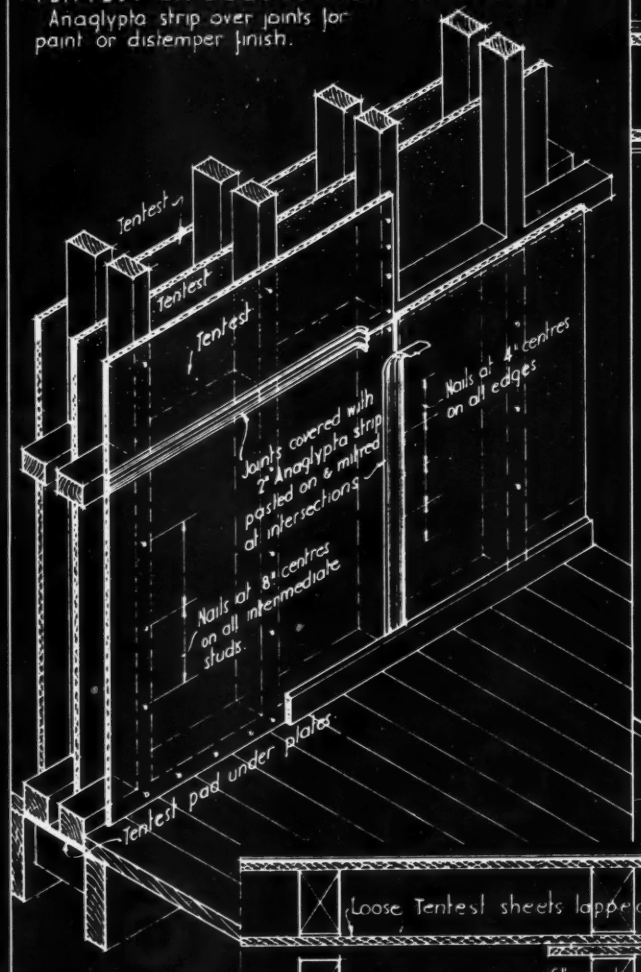
Studs at 18" centres for 3'0" wide Tentest
" " 14" " " 3'6" " "
" " 16" " " 4'0" " "

Nailing:
Large headed slaters' nails at 4" centres.
Nails at joints to be paired & kept 1/2" in from edge.



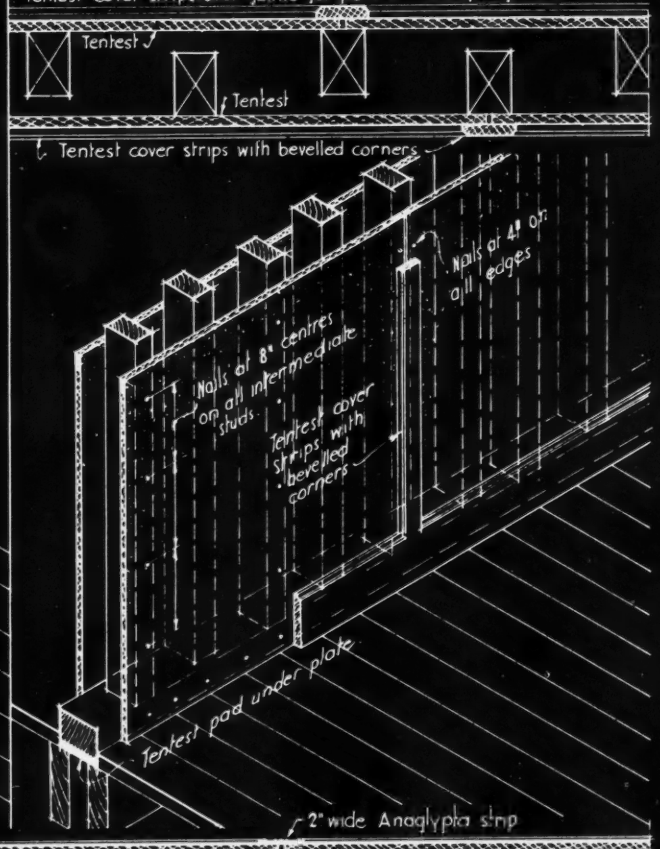
TENTEST ON DOUBLE STUD PARTITIONS

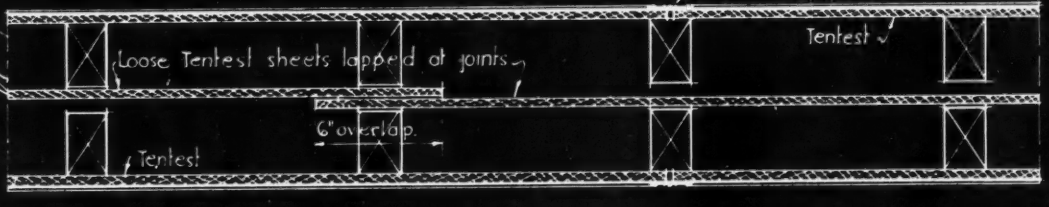
Anaglypta strip over joints for paint or distemper finish.



TENTEST ON STAGGERED-STUD PARTITION.

Tentest cover strips over joints for paint or distemper finish.





Information from The Tentest Fibre Board Co (1929) Ltd.

INFORMATION SHEET: SOUND INSULATING PARTITIONS: TENTEST FIBRE BOARD

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.1

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

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INSULATION (SOUND)

Name of Product : TenTest Fibre Board

Type Illustrated : Sound Insulation of Partitions

Description :

Changes have recently taken place in general conditions and in building technique which emphasise the desirability of giving the fullest consideration to modern methods of sound insulation and noise quietening.

The value of effective sound insulation cannot be overstressed, but it should be recognised that the indiscriminate use of materials claiming, in themselves, to be "soundproof," will not achieve satisfactory results.

The general principles governing the transmission of sound energy through the integral parts of a building structure are indicated in the notes which appeared on Information Sheet No. 89 which dealt with floors; also the methods and precautions essential in combating such transmission. The same essentials apply to the construction of partitions, and suitable methods are shown on the face of this Sheet.

It will be of interest to note the comparative insulation value of the various types of partitions illustrated :—

The top diagram represents a partition affording a sound reduction factor of about 50 decibels at average frequency.

The lower right-hand diagram shows a partition having a sound reduction factor of about 55 decibels at average frequency, whilst the partition illustrated by the lower left-hand diagram has a sound reduction factor of about 60 decibels at average frequency.

Details of construction, together with recommendations relating to treatment of joints, are clearly indicated on the diagrams.

Fixing of the Sheets.

All joints should be backed by either studs or headers and a free space should be left always at the joints between sheets. Sheets should never be forced into position.

Nails.

When the TenTest is to be plastered, use $1\frac{1}{4}$ in. galvanized large-headed slaters' nails at 4 in. centres on intermediates and around all edges. When TenTest is to be painted or distempered, use $1\frac{1}{4}$ in. galvanized Cut Clasp sharp-pointed nails at 8 in. centres on intermediates and at 4 in. centres around all edges. When TenTest is left untreated, use $1\frac{1}{2}$ in. galvanized panel pins on intermediates at 8 in. centres and $1\frac{1}{4}$ in. galvanized large-headed slaters' nails at 4 in. centres around all edges.

Name of Manufacturers: TenTest Fibre Board Co. (1929) Limited

Address: Astor House, Aldwych London, W.C.2

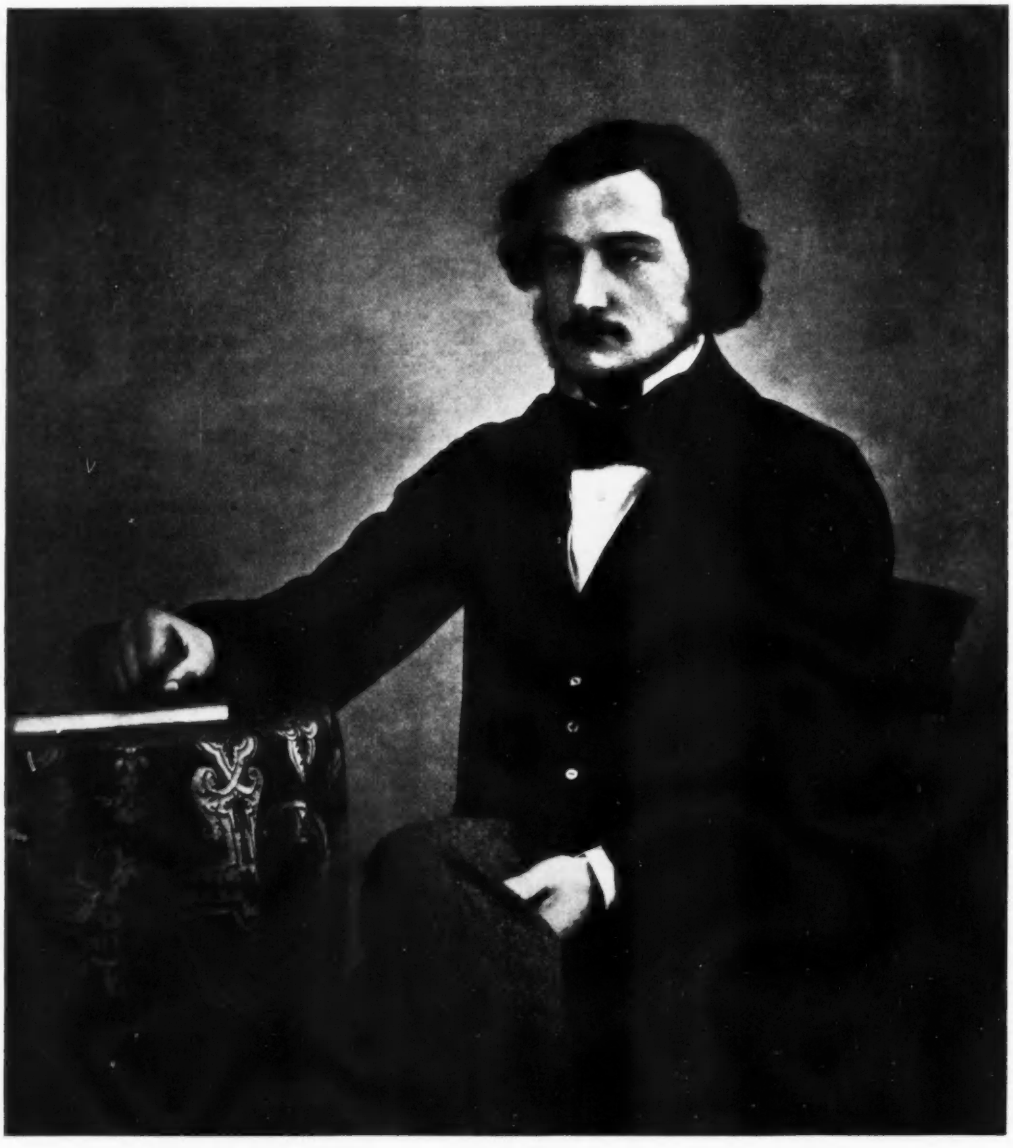
Telephone: Holborn 8018

THÉ DANSANT AT CHEDDAR GORGE

DESIGNED BY RUSSELL PAGE AND G. A. JELLICOE

"LORD WEYMOUTH has decided to spend £20,000 within the next few months on building a luxurious new restaurant at the Cave's Mouth"—so runs the Press cutting. To those who know Cheddar Gorge and Gough's Cave, with its incredible stage scenery of stalagmite and stalagtite—"Nature's secrets of a million years"—the news of its commercial exploitation by a Member of Parliament who is the heir of the Marquess of Bath, may come as an unpleasant shock. Under ordinary circumstances this would be just another of those minor tragedies of bad taste which make England almost impossible for civilized people to do anything but die in. But in the first place it must be remembered that Cheddar Gorge has already been exploited—it is said that two hundred thousand people a year visit the caves—and in the second place, Lord Weymouth, fortunately for him and for us, has shown a very proper sense of fitness, rare enough now, alas, amongst the nobility and gentry, in getting the right sort of building put up at the mouth of the cave. He, together with his architects, Mr. G. A. Jellicoe and Mr. Russell Page, are to be congratulated on their treatment of a problem which demands an extremely sophisticated understanding. The horrors of an olde worlde or rocke cutte tea shoppe have been avoided. The architects have designed a building which is frankly made for man, whose determination to turn the caves into a kind of eighteenth-century panorama is justified if in the result he can do it attractively.

He can. The building, as the drawing shows, without trying to startle or draw attention to itself, does in its simple horizontal lines enhance the rugged verticality of the Gorge, while frankly admitting to all who care to look, that it is the work of today. A lesson in landscape architecture from which the rest of the County might do well to learn something.



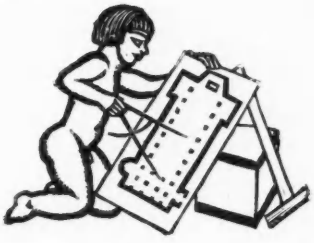
THE FOUNDER OF THE MODERN MOVEMENT

A photograph taken before the beard, when Morris was "still a gentleman" from Marlborough and Oxford. "Then towards the end of the year," says Mr. Paul Bloomfield in WILLIAM MORRIS *(Barker), "came the awkward moment when Topsy had to break it to his mother that he meant to give up architecture for painting. Architecture was a useful art; it involved three years of salutary discipline; Mr. Street was an honourable man; and so, dear mother. . . . But painting!*

"Though Mrs. Morris was not relentless, it is said she never quite forgave Burne-Jones for what was no more his fault than Rossetti's. Morris's short, fidgety, inspired fingers had been scribbling designs for years already on any odd bit of paper that came handy, and his fate to be a great decorative artist was written in the sand. Painting was a step in the inevitable direction.

"Before and after the interview with his mother, Morris's nervous temper was exacerbated. A friend, calling at the house in Bloomsbury, was saluted by a hail of books from the first-floor windows. 'Oh, never mind, sir,' the servant girl reassured him as she opened the door, 'it's only the master composing.' He painted with the same furor. Georgiana Macdonald, now safely affianced to Ted, remembered him on a visit to Oxford this summer 'painting a tree in MacLaren's beautiful garden with such energy that it was a long time before the grass grew again on the spot where his chair had stood."

After the beard he went Bohemian, and Crom's sister thought him fascinating. "'I think he is the most splendid fellow,' she told Crom; 'I don't wonder at your all loving him so, and his face is really beautiful. . . .'" Perhaps Miss Price rather emphasized his face was beautiful instead of saying simply that he *was, because he had been getting rather stout, and with his broad shoulders and short legs was not of an ideal stature. But he must have been a singular, romantic, Bohemian figure; slovenly, genial, and with thunderbolts in his eyes."*



ARCHITECTS' DAY AT OLYMPIA

ON Tuesday next, April 3, *The Daily Mail* Ideal Home Exhibition opens at Olympia, and for three weeks thousands of people looking for new homes will learn something of the work that lies behind the building of a house. Thanks to the promoters they will learn also something of the part played by the architect. It is always the policy of *The Daily Mail* to employ architects for the performance of architect's work, and at the Ideal Home Exhibition the orderly working of the mind of the planner is always apparent. It is the one annual show that repeatedly calls for praise. It is planned broadly, to look like an exhibition as a whole as well as in parts ; circulation is made easy by intelligent organization of units, and there are none of the blind corners or interminable alleyways that result at most other shows from haphazard lay-out.

The public appreciate this, they like the face-appearance of it, and, perhaps sub-consciously, they are aware of the greater ease of movement and freedom from fatigue that results from a co-ordinated scheme. Last year we had only one fault to find—the " Tudorness " that set the standard for the house group, and consequently influenced a number of individual exhibits.

This year there should be no faults ; for the exhibition architect, whose work has previously been limited to the conception of the exhibition as a whole, and the design of the stands in the Main Hall, is to act as " estate architect " to the house group, and this should be something in advance of last year's " Tudor Village," if we are able to judge anything from the title " The Village of To-morrow."

At the Ideal Home Exhibition not only is the layman able to learn something about architecture, but the architect learns something of what the layman wants. Architects are being asked, more and more often, to advise clients on the equipment of the house, and frequently to build it in with the furniture as an integral part of the structure, and if they wish to become conversant with the most recent developments in equipment, furniture, fabrics and household gadgets generally, there is nowhere they can learn so much in a short time as at this Exhibition.

But, as we have said, the Exhibition has its appeal for the layman ; probably more people pay for admission to Olympia at this, than at any other time of the year, and in spite of unusually good planning of gangways and passages from hall to hall, congestion must always be considerable with so many people present. London architects, who fit in a visit to the Exhibition in the course of the normal daily round, and provincial architects, who make a day of it, find the enormous crowd of visitors somewhat disconcerting. The atmosphere is one of holiday rather than of business, and the architect finds it difficult to concentrate on an individual exhibit that may arouse his interest. Unlike the majority of those present he has not come to find entertainment—such a visit would be a poor sort of busman's holiday—but is here as a duty, seeking information that will put him in a position to be of greater service to his client. But under present conditions his intentions become submerged. He finds it rather like trying to do business in an amusement arcade at Brighton.

Yet the Exhibition is very much an architects' show, and the presence of the profession at Olympia must be of great potential value to the exhibitors. It is strange, when the plan and the appearance of the Exhibition are so much in his hands, the architect should be neglected from opening day onwards.

The exhibitors' representatives on the various stands are usually salesmen, rather than technical experts : their job is to be able to put over their wares to any casual visitor who may be attracted.

Surely, it would be an excellent policy, from every one's point of view, if the promoters saw fit to set aside one day, preferably before the official opening, for a pre-view by architects. Then manufacturers might spare, for this one day, their qualified technical representatives, who could give the architect something more than sales talk.

Architects who now avoid the Exhibition because of its popularity, but nevertheless feel they may be missing something, would certainly welcome the innovation. Manufacturers should jump at the opportunity of having, on a single day, so many serious-minded enquirers. Also it should foster an improvement in the general standard of products exhibited, for manufacturers are hardly likely to display anything that might be considered second-rate, to the gaze of such a company of critics.

The Daily Mail has always shown an intelligent appreciation of the functions of the architect, and through its activities, exhibiting firms, also, have gained some understanding of the architects' capacities. The success of the Ideal Home Exhibition is in no small measure due to well-ordered arrangements of stands, comparative freedom of space, and pleasant, light appearance.

Why not an expansion of the policy ? Why not a pre-view for architects ? Apart from other considerations there would be some headline-value in " Architects' Day at Olympia."

The Architects' Journal
9 Queen Anne's Gate
Westminster, S.W.1
Telephones: Victoria
9212-7
Telegrams:
Buildable
Parl
London

NOTES & TOPICS

RECLAIMING THE THAMES

IT is reassuring to find that we have still got people amongst us who are not afraid to "think big," as the Americans say; who are prepared to let themselves go in the grand manner of the eighteenth century—even if it is only on paper.

*

Mr. William Walcot's scheme for the replanning of London is important. It is not important because there is a possibility that it will ever be adopted; it is important because it shows how it is possible for men of imagination and courage to take a wide view of present and ultimate requirements in town planning.

*

The scheme depends, fundamentally, upon the short-circuiting of the course of the Thames so that its course would run in a straight line between Battersea and Greenwich, down a widened and lengthened Grand Surrey Canal.

*

The existing bed of the river would be used as public park ways, traffic arteries, etc., with carefully arranged buildings, both domestic and commercial. The amount of land thus reclaimed would be in the neighbourhood of 270 acres, the value of which would go far to meet the enormous expenditure involved.

*

It is easy to dismiss the whole scheme as "fantastic" and "impossible." But it should not be forgotten that the Dutch have reclaimed the Zuyder Zee; that Haussmann and Napoleon did not fear to embark on "fantastic" schemes in Paris.

*

We have great minds amongst our planners. Some great minds (even *one* great enough mind) amongst our administrators might lift us above the pettifogging jealousies and obstructions of that curse of modern existence—"vested interests."

GOUGH'S CAVE

I had last week one of the most extraordinary experiences of my life. In company with Lord Weymouth and half the population of Fleet Street I carried out an attack on Cheddar Gorge and Gough's Cave.

*

Fleet Street, which thought it had drained every draught, quaffed a new one. It had beer in a cave. The beer, the photographers ("Now, my lord—pointing *at* the skeleton *if* you please—(bang)—thank you"), the cigars exuding pale clouds between the rampant stalagmites and the pendant stalactites, Mr. Charles Graves with an umbrella—such was the drama that unfolded itself before a dazzling backcloth of nature's own stage scenery, set in the bowels of the earth.

*

The stage set had, of course, been there, lovely beyond the dreams of Appia, when the hairy rhinoceros hunted in Fleet Street. A million years or two. And luckily it is now, for a few more water drips, in the hands of men who understand what to do with Nature's backcloth. Mr. Waldo Maitland is lighting the cave with subtle indirectness. Mr. Jellicoe and Mr. Russell Page, two essentially civilized men, are building to preserve the amenities of cave tourism.

*

But, forgive me, I do *not* believe that all the stalagmites just growed where they are—I more than suspect Mr. Russell Page, that master of landscape gardening, of exercising his art. If so, he has done it with consummate skill.

CLOTHES AND BUILDINGS

I saw *Cavalcade of the Movies* last week at the Marble Arch Pavilion. A revealing film. It illustrates forcibly something which few people remember. And that is that thirty years ago, clothes, buildings, vehicles and people were all in one piece.

*

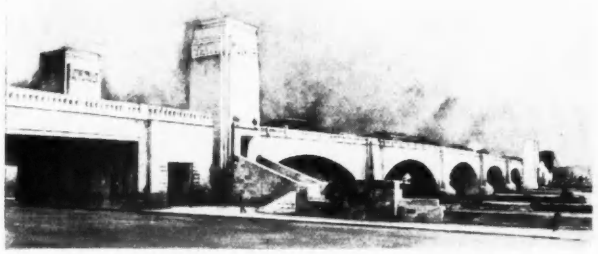
Shots from films taken in the late 'nineties and in the pre-war years are included in this "cavalcade." The background to the scene is composed of sore-looking Gothic, bulbous Classic, all of it overlaid with a thick coating of best mixed sweets in the way of ornament. And the bulbous and expanding draperies of women and the unwieldy roofing materials they used to protect a "hayrick head of hair" matched this background perfectly.

*

We have inherited the background and forgotten the clothes. Result: misery for anybody who uses their eyes. Remedy (according to H. G. Wells): new buildings for each generation.

LAST WEEK'S GREAT EVENT

The proudest, wealthiest city that the world has ever seen, the pulsating heart of a mighty and magnificent Empire, was flown over last week by an aeroplane trailing streamers inscribed with the felicitous legend: "Bile Beans."



Sir Giles Gilbert Scott's design for Waterloo Bridge

How nobly we have transcended " the glory that was Greece and the grandeur that was Rome . . ." !

*

Are such air raids to become common, I wonder, and if so, what is to be done about them ? I suppose the innocent idea of the instigators of this one was that London's teeming millions would stampede to the chemists' shops and indulge in an orgy of the commodity advertised.

*

Unless Bile Beans can prevent one's gorge from rising this method of advertising would not turn me into a purchaser.

" DECORATIVE ART 1934."

The Studio Year Book for 1934 contains a preface by Mr. John de la Valette. That preface is no less interesting than the rest of that admirable publication.

*

Mr. de la Valette sings pæans for our deliverance from " functionalism " (as evidenced by some recent designs) and rather gives himself away by embracing (æsthetically, or course) one of the most superabundantly vile and " clever " beds I have ever seen, even in a picture.

*

He sneers at the " starkness " which has been characteristic of the last few years in the decorative arts, but cannot deny that these plain surfaces are a fine setting for furniture and pictures.

*

Well, a purgative now and again is desirable ; and the fact that today some people still prefer the " early-curly " is not, in itself, an indictment against the " late-straight."

*

What Mr. de la Valette has missed is the whole significance of what, for lack of a better term, I call the "contemporary (not ' modern ') movement." (Though I am bound to confess that comparatively few people who do not think that way can find any significance in it.)

*

Put at its worst, the " contemporary outlook " in design is a rooted and conscious determination to extricate the world (or at least ourselves) from the welter of obscenity into which two or three pre-war generations plunged it. There is nothing new in that, as Mr. de la Valette says.

*

But there is rather more to it than that. This phase of " functionalism " is not a mere pose, even though many of its essentials may have been eagerly grabbed from abroad. There is among the younger people today a real feeling of need for it ; a feeling which they cannot quite understand and which their fathers will never understand.

*

The gradual mellowing of idea, which Mr. de la Valette has noticed with such relief and surprise, is a perfectly normal and pathological development, to which the present-day world is bound to drift as soon as it feels that it has a foundation upon which to build. Now that we have learnt to design forms and construct them we can be as " decorative " as we care to be—but not, I do hope, to the tune of the bed in " Decorative Art 1934."

SLUM

Having wasted many months of precious time in avoiding the plain issue involved by Slum Clearance ; having as a first inglorious move thrown overboard the State's responsibility for house-building, Sir Hilton Young seems now prepared to consider the possibility of going into the housing problem as though he meant it.

*

It might nearly appear that he sees that house-building and flat-building are in some way connected. And if we wait perhaps for another year or so while eleven Ministry inspectors hold enquiries on 1,428 clearance schemes, he may be coming to the final conclusion that housing and town-planning—both in a constructive sense of the word—are so closely connected that either fail when undertaken alone.

*

But at the moment it would look as though the only action which gives support to his optimism, apart from Mr. Keay's pioneer work in Liverpool, comes from Socialist activity in Leeds and London.

*

As Mr. Bryant, the Secretary of the Building Industries National Council, is reported to have said, the Minister's plans meet the housing needs of 1934 with the ideas of 1875.

THE LONDON PAVILION

They are going to pull down the London Pavilion and rebuild it as a super super cinema. On April 9 it goes. On September 1 the new one is ready.

*

Does anybody know whether on this site of first-rate importance at the " hub of Empire," as the half-baked press boys have it, we are to have a building that will rectify the present lack of unity in Piccadilly Circus and carry on the design of Regent Street to some fitting conclusion ? " The arrangement," says *The Evening News*, " has been made with the full consent of other parties having interest in the property and site."

*

For interest read financial interest, I suppose. But what about that other interest, that civic interest, which I, and thousands like me, nourish for such spots as Piccadilly Circus ? What about my consent ? Have our elected governors taken any hand in the matter ? And if not, then why, in the name of nineteen thirty-four, haven't they ?

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

The King, at a Privy Council last week, approved the grant of a Royal Charter to the Institution of Structural Engineers 452

There can be no such thing as over-production in public works 452

Artificial lighting should not be applied to a new building; it should be a part of it, whether it is "flood" or otherwise 461

Highly polished aluminium is one of the most reflective surfaces known, and, unlike most other bright metallic surfaces, retains its reflectivity practically undiminished under dead atmospheric conditions 477

THE ARCHITECTS' DIARY

Thursday, March 29

L.C.C. GEFFRYE MUSEUM. *At Kingsland Road, E.2. "Furnishing the Modern Home." By John Gloag.* 7.30 p.m.

Friday, March 30

GOOD FRIDAY. BANK HOLIDAY.

Saturday, March 31

ARCHITECTURAL ASSOCIATION. *At 36 Bedford Square, W.C.1. Exhibition, "Architecture of Transport." Last day.*

Monday, April 2

EASTER MONDAY. BANK HOLIDAY.

WATERLOO BRIDGE

The Highways Committee of the L.C.C., at a meeting of the Council on Tuesday last, urged the construction of a new Waterloo Bridge. The report of the Committee stated that "on traffic, navigation, architectural, and financial grounds, the only satisfactory method of dealing with Waterloo Bridge is to build a new structure of not more than five arches over the river to take six lines of vehicular traffic."

The estimated cost of re-conditioning and widening the existing bridge is £685,000 and that of a new bridge £1,295,000.

Mr. Herbert Morrison, in *The Observer* for March 25, referred to the proposed design. He said: "My personal view is that the design of Sir Giles Gilbert Scott is very impressive, and is more appropriate to the architectural setting of the bridge, and would be an improvement rather than the reverse. If we are going to do this job, we are going to do it well, and we are no less anxious than the æsthetic critics to build a bridge worthy of London."

NORTHAMPTONSHIRE, BEDFORDSHIRE, AND HUNTINGDONSHIRE ASSOCIATION OF ARCHITECTS

The annual meeting of the above Association was held at Northampton last week. Officers for the coming session were appointed as follows: President: Mr. W. A. Lea, F.R.I.B.A. (Huntingdon); vice-presidents: Messrs. G. P. Allen, F.R.I.B.A. (Bedford) and C. Croft, L.R.I.B.A., F.S.I. (Northampton); Council: Lt.-Col. J. W. Fisher, F.R.I.B.A. (Northampton); Major B. C. Deacon, F.R.I.B.A. (Bedford); and Messrs. F. H. Allen, F.R.I.B.A. (Northampton); J. A. Gotch, F.R.I.B.A. (Kettering); G. H. Goode, L.R.I.B.A. (Bedford); H. Haines, A.R.I.B.A. (Bedford); S. F. Harris, F.R.I.B.A. (Northampton); W. H. G. Hubbard, L.R.I.B.A. (Luton); and G. H. Lewin, F.R.I.B.A. (Northampton); Hon. Secretary and Treasurer: Mr. F. A. Coles, L.R.I.B.A. (Northampton).

Mr. C. Croft retired from the office of Honorary Secretary and was presented with a set of stainless steel golf clubs, with caddie bag and box of balls, in appreciation of his services during the past thirteen years.

PUBLIC WORKS

A "Statement on the Need for the Initiation of Public Work Schemes" has just been issued by the Building Industries National Council.

The statement, which has been circulated to Members of Parliament, says:

"One effect of the economy campaign and its continuance for a period of some two and a half years is that there is today more scope for an extension of public works activity than for some years past. Local authorities have deferred as many schemes as they were able, and in some cases have curtailed even maintenance work.

"The effect of the economy campaign may be seen very vividly from official statistics. The amount of loans sanctioned by the Minister of Health for Public Works has fallen from £47,400,000 in 1930-31 to £34,400,000 in 1931-32 and £20,000,000 in 1932-33. Loans requiring the sanction of the Minister of Health were thus halved in two years. The economy reductions in work assisted from the Road Fund amounted to £34,500,000. It is unofficially estimated by the National Union of Teachers that the reductions in school building programmes under the Board of Education amounted to £12,000,000.

"There is, therefore, on all sides much lee-way to be made up: roads to be repaired; bridges to be repaired and built; sewage and water supply facilities to be expanded; administrative, school and medical buildings to be erected. *There is no overproduction of public works.*

"The Building and Constructional Industry has more subsidiary industries and is more widespread geographically than any other industry. A greater proportion of the expenditure on Public Works goes, in one way or another, in the payment of weekly wages than is the case with any other industry. It follows that a stimulus applied through the Building and Constructional Industry will spread both more widely and more quickly, and also affect a greater number of industries than any other stimulus.

"*National investment in sound schemes of public works provides the most effective means of developing the national market at home.*"

LEEDS HOUSING TRUST

A public utility society, named the Leeds Housing Trust, Ltd., has been formed on the lines of the St. Pancras House Improvement Society. The Trust is to build a block of flats in East Street, Leeds.

This scheme is estimated to cost £20,000, and plans have been prepared by Mr. John C. Procter, F.R.I.B.A.

INSTITUTION OF STRUCTURAL ENGINEERS

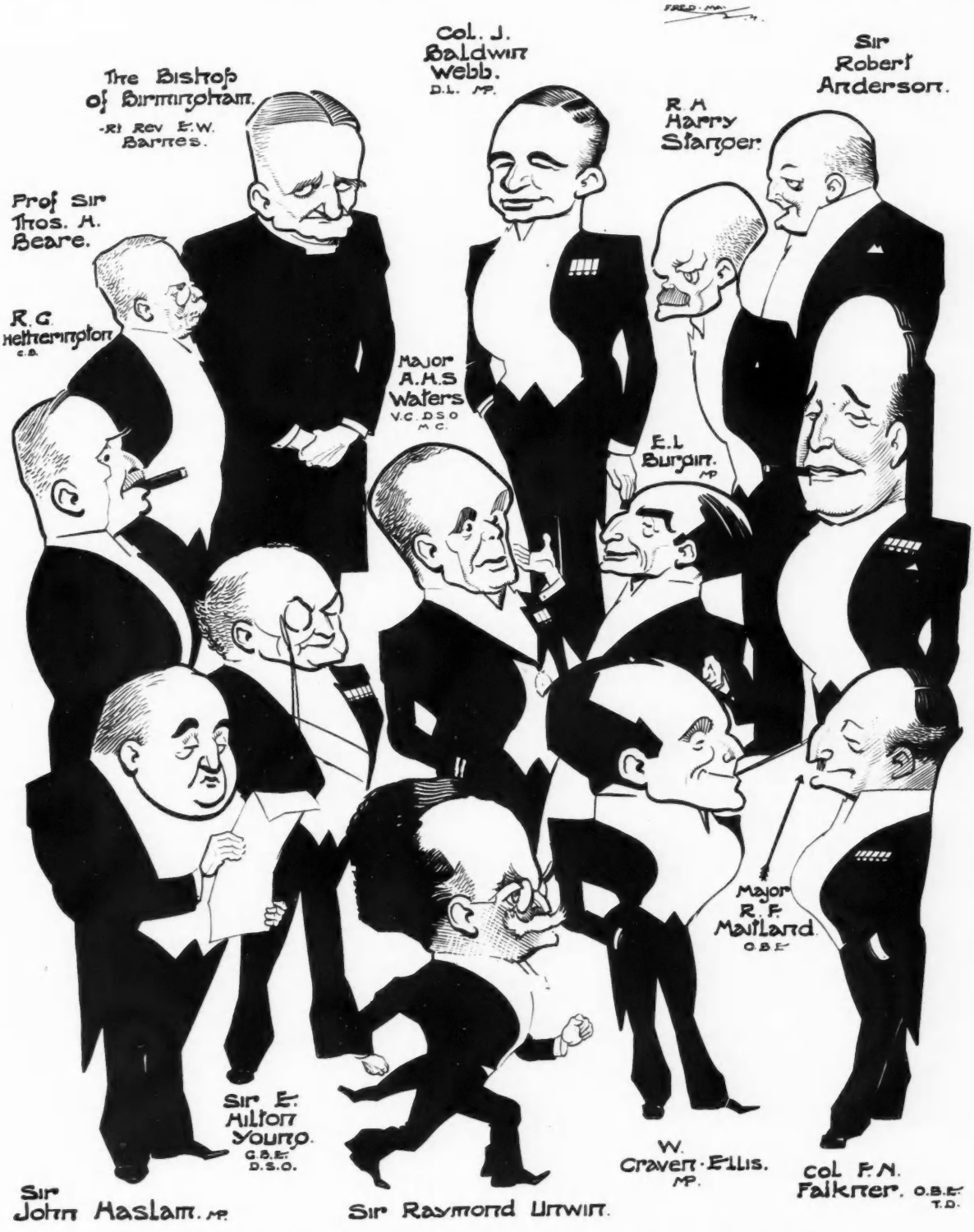
The annual dinner of the Institution of Structural Engineers was held at the Dorchester Hotel, London, on Friday last. Major A. H. S. Waters, V.C., D.S.O. (president) occupied the chair. The president announced that the King was pleased, at a Privy Council held last week, to approve the grant of a Royal Charter of Incorporation to the Institution.

The toast of "The Houses of Parliament" was proposed by Professor Sir Thomas Hudson Beare, D.L., B.A., B.SC., and responded to by the Rt. Rev. E. W. Barnes, M.A., SC.D., D.D. (Bishop of Birmingham), and Mr. E. L. Burgin, M.P. (Parliamentary Secretary to the Board of Trade).

Sir Hilton Young, P.C., M.P. (Minister of Health), proposing the toast of "The Institution of Structural Engineers," said: "The technique of flat building so as to preserve amenities and health had taken great strides in recent years. The advance had been largely the result of improvements in the quality and design of steel framework and concrete building. It was here that the Institution would be able to help the community. The best possible designs for flats, in accordance with the most advanced technique, must be ready for the beginning of the work. All must combine in concentrating available knowledge on the subject. He was himself forming a Committee of technical experts to assist this purpose. This Committee will be able to consider whether there are points in which building laws and bye-laws ought to be brought up to date, and whether they now set obstacles in the path of modern building. This was particularly the case with regard to the London Building Act and its related regulations. He was confident that the L.C.C. would press ahead with their consideration of the modernization of this legislation. It was essential that no obsolete enactments should stand in the way of the building and re-building now to be done.

"The task before them in their direct attack upon overcrowding was very great, but the prize for which they were striving was no less. They were launching the whole force of the community on a double

THE STRUCTURAL ENGINEERS' DINNER



Some of the members and guests present at the annual dinner of the Institution of Structural Engineers, held at the Dorchester Hotel, London, on Friday last. The above sketches are by Fred May.

front of attack—clearance of the slums and the provision of the right sort of home in the right place to make it possible to put an end to overcrowding."

The president responded. The toast of "Our Guests" was proposed and seconded by Mr. R. H. Stanger, A.M.INST.C.E., and Sir John Haslam, M.P., respectively.

SLUM

Sir Hilton Young, the Minister of Health, received a deputation last week from the National Federation of Property Owners' Associations.

The object of the deputation was to bring to the Minister's notice the hardship which property owners felt to be inherent in the site value basis of compensation for properties acquired under slum clearance schemes. In particular the deputation drew attention to cases of properties which though not bad in themselves might be taken at slight value because of their environment.

The Minister said in reply that he was at one with the deputation in desiring that the slum clearance schemes should be carried out without inequity. He repeated the assurances which he gave at Birmingham as to the spirit in which the Act would be administered in regard to the treatment of sound property in a bad environment.

BRITISH ELECTRICAL DEVELOPMENT ASSOCIATION

The annual luncheon of the above Association was held at the Savoy Hotel, London, on March 22. The Rt. Hon. Lord Eltisley, K.B.E., J.P., occupied the chair (in the absence of Lord Ashfield, the president of the Association). Lord Ashfield, in a letter to the chairman, stated that "the number of units of electricity generated by authorized undertakings last year, when welcome signs of recovery were beginning to appear, showed an increase of over ten per cent. compared with 1932, and reached the huge total of over 13,500 million units. The consumption per head of population per annum is now 256 units, and here again the increase is very substantial. While we may be well satisfied with the progress that has been made, we can find even greater cause for satisfaction in the knowledge that the outstanding feature of the electrical situation in this country is the almost unlimited opportunity which still exists for further development."

The chairman, referring to the grid, said the 261,000 towers which were projected had now been completed. He congratulated those responsible for carrying out the scheme in just over five years. The Hon. Oliver Stanley, M.C., M.P. (Minister of Transport) and Sir John Brooke also spoke.

AN ARCHITECT'S WILL

Mr. William Scorer, A.R.I.B.A., left £15,129 (net personalty £14,768). After specifying a large number of bequests, he gave the residue of the property as follows: one half to the R.I.B.A. Building Fund; the other half to the 28th Battalion London Regiment (Artists Rifles), the income to be applied for the help of wounded, sick and necessitous officers and men of the Artists Corps.

R. I. B. A.

ARCHITECTURAL INFLUENCES ON LONDON

The last lecture in the series, "Architectural Influences on London," organized by the R.I.B.A., was given at the Institute on March 21 by the Hon. Humphrey Pakington, F.R.I.B.A., the title of whose lecture was "Sunday."

Mr. Pakington endeavoured to show that we are today evolving a modern style in church building. Throughout the past, said Mr. Pakington, the church led the modernist movement in architecture; to experiment in building was one of her great traditions. During the last century was fought out a battle of styles which began with the High Church reaction that followed the long spiritual domination of the evangelical party, who had for years worked hand in hand with the speculative builder, erecting small chapels and meeting-houses for the glory of God if not of architecture. The battle of styles ended with a Gothic victory for church, and a classical victory for commercial architecture. Today there had emerged certain definite tendencies which were apparent in the materials, grouping, planning and decoration of recent churches. The modern style had an affinity with the Gothic, which could be seen from its logical use of material, the asymmetrical grouping of units, and its propensity for dramatic effect.

Mr. Pakington concluded by saying that there was no type of building so suitable to the modern style as the church, which lent itself readily to the expression of the ideal and is comparatively little hampered by material considerations. It had an opportunity of playing a leading part where architecture was concerned and it should be its ambition to follow the ancient tradition of experiment and adventure, and to treat architecture as a living, growing art.

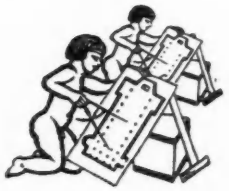
VICTORY SCHOLARSHIP AND TITE PRIZE

In the United Kingdom 122 students took part in the Preliminary Competition for the Victory Scholarship and 244 students took part in the Preliminary Competition for the Tite Prize. The following students have been selected to take part in the Final Competitions:—

THE VICTORY SCHOLARSHIP: Messrs. W. E. Cousins (Liverpool School of Architecture, University of Liverpool); M. D. Furniss (Architectural Association, London); W. P. Hunt (School of Architecture, Victoria University, Manchester); Allan Johnson (Leeds School of Architecture); V. N. Prasad (School of Architecture, Edinburgh College of Art); G. L. Price; Wyn Roberts (The Welsh School of Architecture, The Technical College, Cardiff); Hugh B. Thompson (Armstrong College School of Architecture (University of Durham), Newcastle); and Miss R. H. Inch Morrison (School of Architecture, Edinburgh College of Art).

THE TITE PRIZE: Messrs. D. W. Aberdeen (Bartlett School of Architecture, University of London); A. Brian Bunch (Birmingham School of Architecture); H. T. Cadbury-Brown (Architectural Association, London); J. C. Charter (Architectural Association, London); A. E. A. Dod (Liverpool School of Architecture, University of Liverpool); Dennis A. Green (Birmingham School of Architecture); R. W. Higgs (Birmingham School of Architecture); Peter L. Joseph (Birmingham School of Architecture); G. F. Kendrew (Bartlett School of Architecture, University of London); K. A. Lloyd (Birmingham School of Architecture); C. M. Middleton (Glasgow School of Architecture); J. J. O. Orpen (Architectural Association, London); Maurice W. Smith (Department of Architecture, The Northern Polytechnic, London); R. S. Tubbs (Architectural Association, London); J. T. Wilkinson (School of Architecture, University of Sheffield); and H. M. Wright (Birmingham School of Architecture).

COMPETITION



NEWS

SCHOOL AT BEDFORD

The Education Committee of the Borough of Bedford propose to hold a limited competition for the design of a new council school to be erected in London Road, Bedford. Mr. J. R. Leathart, F.R.I.B.A., has been appointed assessor. Conditions, etc., are not yet available.

LIBRARY AND MUSEUM BUILDINGS, WORKSOP

The Worksop Corporation are holding a competition for the design for new central Library and Museum buildings. Premium, £50. Full particulars may be obtained from Mr. A. Norman Schofield, Town Clerk, Town Hall, Worksop.

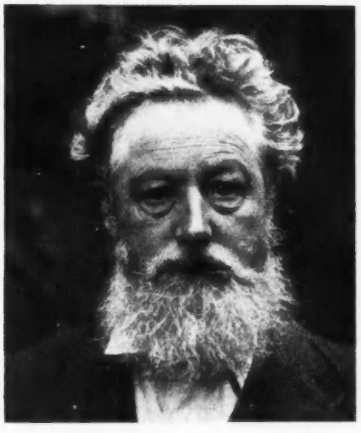
HACKNEY TOWN HALL COMPETITION

The three premiated designs in the Hackney Town Hall Competition are now on view at the Building Centre, 158 New Bond Street, W.1. They will remain on exhibition until April 10.

Competition Open

June 26.—Sending-in Day. Proposed Council Offices, Slough, for the Slough U.D.C. Assessor: H. S. Goodhart-Rendel, V-P.R.I.B.A. Premiums: £250, £150 and £100 for designs placed first, second and third, respectively. Conditions, etc., may be obtained from F. R. Duxbury, Clerk to the Council, Council Offices, Slough. (Deposit £1 1s.). Last day for sending in questions: April 23. Last day for submission of designs: June 26.

1



2

William Morris. Born March 24, 1834.

TOPSY-TURVY*

[*By HERBERT CALTHROP*]

"It was the most beautiful sight in the world," says one of these friends, "to see Morris coming up from the cellar before dinner, beaming with joy, with his hands full of bottles of wine and others tucked under his arms." When his first daughter was christened, in 1861, the house was so full that beds were strewn about the drawing-room, and Swinburne slept on a sofa. Faulkner remarks on Morris's tranquillity at this time: "I grieve to say he has only kicked one panel out of a door this twelvemonth past."

Morris was one of those men who are chaffed the more they are admired and loved. His friends knew that he was a great man, but did not treat him as one. Indeed, he never gave himself the airs of a great man, and preferred companionship to admiration. No one resented his furies, because he himself laughed at them when they were over, and never used them to enforce his predominance. He was intolerant of certain opinions; but when he flew into a rage it was the opinion that made him angry, not the person who expressed it. It cannot be said that he suffered fools gladly; but he had no cold contempt for them, and grew angry with trying to make them less foolish. One can see from the accounts of his friends that he forgot himself utterly in whatever he was doing at the moment; and it was, perhaps, the incongruity between their general idea of him and his appearance when absorbed in some trivial task which made them laugh at him. Morris, coming up from the cellar with his hands and arms full of bottles, was the very picture of a jolly host out of Dickens. No one would have laughed at him if he had been nothing else. But he was the very picture of a hundred different things, great and small, in one day, and always unconsciously. So his friends laughed to see the essential Morris passing through all those changes and venting the same fury upon a door panel as upon a social iniquity. But they laughed because they were at ease in loving him.—From WILLIAM MORRIS, *by A. Clutton-Brock (Thornton Butterworth).*

"THE timber to be English Oak very slightly wrot"—thus the direction of one of Phillip Webb's working drawings in a fine bold flowing hand.

"Hand woven be my wefts, hand made
My pottery for pottage,
And hoe and mattock, aye, and spade,
Hang up about my cottage . . ."

Mr. John Betjeman's famous lines pronounce the final verdict in mocking yet loving laughter. Olde Worlde, Cotswolde, hand wrotte. Dead. Dead as the bust-less bustle-less Burne-Jones young women who provided George Du Maurier and the readers of *Punch* with decades of such embarrassingly innocent fun.

And the man who created it all? The painted glass windows? the Arras tapestry woven on the high-warp loom? the carpets? the embroidery? the tiles? the furniture? the printed cottons? the wallpaper? the woven stuffs? the velvets? the cloths? the upholstery? Nine people out of ten today, would answer that William Morris, like so many eminent Victorians, a man of the best intentions, took the wrong turning and walked energetically up a cul-de-sac.

But which cul-de-sac?

It has been said that the terms Gothic and Classic represent the two extremes of the building impulse; the Classic principle essentially ornamental, Man, the humanist, daubing the walls of his cave; the Gothic principle essentially structural, Man, the constructor, working out a fitter way to support the roof.

Such a generalization, though it may oversimplify the issue, does make clear the dilemma in which men with the building impulse found themselves in the mid-nineteenth century. A classic age was dead. The spirit of humanism was dead, mortally offended at seeing her favourite daughter, Science, brought to bed and delivered of a Machine. On the revolutions of the machine rose to power a race unbaptized in the religion of humanism. For them wealth was the only criterion of the good, and profit calculated in £ s. d. the only criterion of wealth.

To the artists, who after all were still the product of the Renaissance, the whole state of affairs seemed balmy beyond words. On every hand they were ousted by the manufacturer whose cheap and nasty parodies of pictures, of houses, of sculpture, of furniture, appealed not only to the pockets but, worse still, to the taste of the public. And since there was nothing they could do, most of the artists just did nothing, except produce more and more precious works for the few remaining cultured people who by reaction against the new Barbarism were forced into a state of extra preciousness. They did nothing except curse the new Barbarism, and prophesy the collapse of civilization. But civilization had already collapsed, at least that phase of culture had—which was what they meant by civilization.

Into this world, to Navy Pay Office official, to a wine merchant, to a Birmingham craftsman, to a bill-broker, was born, each at the appropriate time, a son. And at the appropriate time all these young gentlemen grew up and must be thought of, as Mr. Paul Bloomfield says, as having rather long hair brushed down over their ears—the coiffure of the young women of seventy-five years later. There they were artistic and earnest, looking round them at a world rich beyond dreams in powers of production yet poor beyond dreams in the pleasures of life. William Morris learnt from Ruskin why, and became not a bill-broker but a Gothic revivalist. Had he become a bill-broker, he said, "I should have broken the bills into very small bits."

But where Morris differed from all the

* William Morris was christened Topsy at Oxford by Burne-Jones.

other artists and all the other prophets, even including Ruskin, was that he was what in England is known as a " man of action." Everyone, of course, is a man of action. I mean that phrase to be understood in its specific English sense of one whose reaction in all circumstances is to act rather than to think, and who as often as not acts without thinking at all.

Despite the fact that he wrote a lot and talked a lot Morris was not a great thinker. He was not even a quick thinker. Most of what he consciously thought, and most of what he consciously said, was copied from other people, from Ruskin, from Carlyle, from Dickens, from Rossetti.

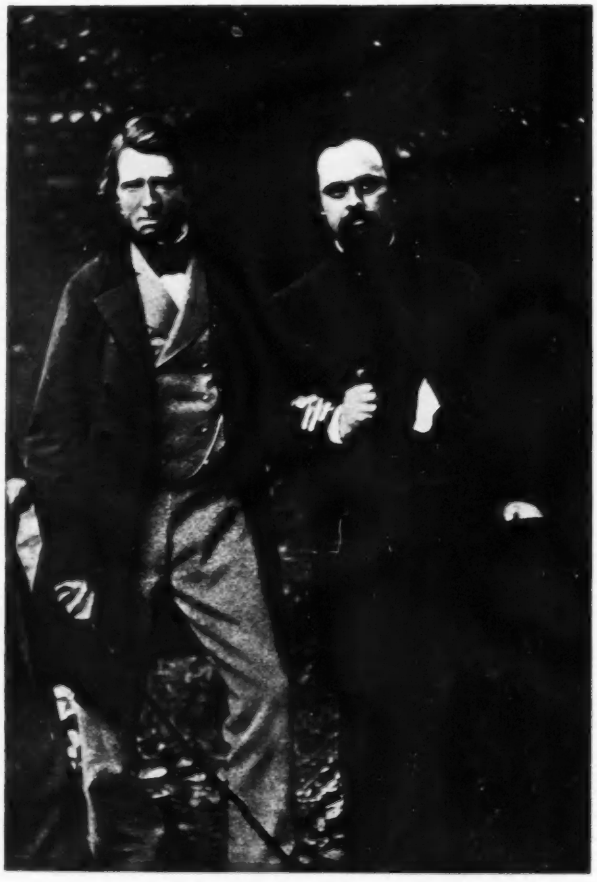
But although he was not a great thinker he had certain very simple thoughts, or perhaps it would be better to say a simple method of making deductions from experience, quite different from the professional thinker's speculations on theory, a method so simple that it amounted to genius. He could not understand all this religio-social stuff, though his natural humility was so profound that he never sought to debunk it.

What he did understand quite clearly

FOOTNOTE TO HISTORY: IN

3 *THE INDIVIDUAL—*
(Jane, William Morris's wife: an early photograph.)

4 *—IS TRANSFERRED TO CANVAS (Rossetti)—*



5 *Morris's Background: John Ruskin and Dante Gabriel Rossetti.*

was that things had changed and, despite miraculous inventions, not for the better. He could see that humanism and Mr. Gradgrind were two incompatible forces; that, except in name, the Renaissance was defunct. He could see that in art, and in craft, design had got adrift since men had ceased to have more than a mechanic's knowledge of materials. And above all he could see that men were no longer happy because they no longer found pleasure in their work. Art to him was the expression of the workman's pleasure in his work, and as the workman was now a " hand " in the machining room, and the machining room was simply the material evidence of other men's desire to make things for profit rather than for pleasure, it seemed clear to him that the machining room was wrong.

In this last deduction he was following the lead of the thinkers of the time, and fell, at least as we see it today, into error. But where the thinkers left off he went on, for, as I say, his genius lay in that he was a man of action, a kind of Cecil Rhodes of art. His genius lay in doing the right thing even if he did it for the wrong reason. For it was not reason that dictated his actions but instinct. He would be lead to take a certain course through a feeling of obscure but profound dissatisfaction, and he would think up afterwards why he took it. He was not really in the least worried about inequalities in the social structure.

THREE ACTS

THE SIX-MARK TEAPOT.

6 *Æsthetic Bridegroom.* "IT IS QUITE CONSUMMATE, IS IT NOT?"
Intense Bride. "IT IS INDEED! OH, ALGERNON, LET US LIVE UP TO IT."

—AND BECOMES A TYPE

What irritated him beyond words was the knowledge, forced upon him by the experience of his own life, that people no longer had a good time.

And as he was an artist as well as a man of action it all came back to making things. Because it all came back to making things, whatever he said is of little importance today, particularly if one doesn't agree with it. Nor, if it comes to that, are the things he made of much importance today, though some of them may be good, and his woven patterns may be great, as in my opinion they are. They may be good, but they are not important today. His importance today lies not in the fact that he was a great artist but in the fact that he was the first artist, the first artist in the world, to jettison, deliberately and with intent, the whole copy-book of conventional shapes. He threw them overboard, and started to design afresh. But unlike his followers, the less wise apostles of Art Nouveau, with a wonderful wisdom and the instinct which make one feel that he was indeed a great craftsman, Morris sat down and studied the materials of which things are made, and with this purpose he went for inspiration and instruction to that age of vernacular art in which the craftsmen were doing automatically and unerringly what he was setting out to do with conscious intent.

The return to the Gothic was not an affectation. Nor was it fortuitous. It was inevitable. Gothic was the art of England. It was, as Clutton Brock said, "the art of his own people and his own country which had been for a time ousted by a foreign art, just as the Southern art of Italy was for a time ousted by Gothic." Of this urge, the movement which is technically known as the Gothic Revival was merely the false start. That revival was a real cul-de-sac—the real humanist's cul-de-sac, as Morris found out in Street's office. It was Morris who saw that Street was a blind alley, and it was he who brought about at last a real Renaissance not of the Gothic *style*, but of the Gothic *spirit*, not the Gothic form but the Gothic principle. He taught men to study materials, and exercised them once again in practical problems of construction, the one basic stimulus of design. He taught them to respect the limitations of their media, and to work in terms of materials so that it might be said the materials dictated the design. This is the true structural principle of Gothic art, and he, after four hundred years, brought it back, and opposed it to the exhausted principle of the ornamental overmantel.

It was a revolution, a revolution so great yet so subtle that even today, forty years after his death, the very people who are carrying on Morris's intention are often those who laugh at him for a decorative old woman. For Morris's Gothic revival is today known as the modern movement. Firmly founded on structural principles to which the jargon of the day bears witness in terms like functionalism and fitness for purpose, it edges its way slowly towards a new Gothic Renaissance, surrounded on all sides by the anger of anarchists, the obstructionism of stupid old men, and the plaintive cries of Morrisy handicraftsmen who have mistaken the message of the Master. Slowly at least to our eyes. To the historian of the future it will no doubt appear to have spread with the rapidity of a contagious disease, sharing with the Salvation Army and the Boy Scouts their unenviable reputation for cropping up with the least provocation in the most unexpected places. In every country of the world are to be found the true descendants of Topsy; Gropius, le Corbusier. Mies van der Rohe, Aalto, Sert, Lescaze—I omit English names for diplomatic reasons—different on the face of things as they or their opinions appear to those good Morris lovers—or haters—who still cling to the belief that his contribution to civilization was the arty-crafty Cotswoldie-handie-wrottie world which belongs today to speculative builder and the Oh-so period furniture manufacturer.

When the great men of the nineteenth century are totted up and given their marks by the lucky men who will fill our shoes when we have made the world fit for them to live in, it seems to me inevitable that the name of William Morris will be put at the head of the list—how angry it would make him—over the heads of prophets, Prime Ministers and able company promoters. For it was he, starting in the humblest way with a few tools so that he might

7

Morris and Burne-Jones. By Max Beerbohm.

set his own house quite literally in order, who set going once more that impulse for rational building in terms of the needs of the problem and the nature of the materials used, which led in course of time to the modern conception of an esthetic based on the science of construction, and to the idea of an organized community expressing its needs in an ordered plan.

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ACKNOWLEDGMENTS

1 and 2. William Morris. By courtesy of Emery Walker.

3. Miss Jane Burden (from a photograph). By courtesy of Mrs. Hueffer. From THE WIFE OF ROSSETTI. *By Violet Hunt.* [*John Lane.*]

4. The Day Dream. By D. G. Rossetti (1880). By courtesy of the Victoria and Albert Museum.

5. Ruskin and Rossetti. From WILLIAM MORRIS. *By Paul Bloomfield.* [*Barker.*]

6. From the Du Maurier Centenary number of PUNCH.

7. Morris and Burne-Jones. By courtesy of Hugh Walpole. From ROSSETTI AND HIS CIRCLE. *By Max Beerbohm.* [*Heinemann.*]

LAW REPORT

HOUSING ACTS : SLUM CLEARANCE ORDERS

Ellen Street Estates, Ltd., v. L.C.C. and Minister of Health. Before Lords Justices Scrutton and Maugham and Mr. Justice Talbot.

THIS matter came before the court on an appeal by the Ellen Street Estates, Ltd., of Tachbrook Street, Westminster, from a decision of Mr. Justice Swift, sitting in the King's Bench Division, dismissing the appellants' application for the quashing of wo slum clearance orders made by the L.C.C., and confirmed by the Minister of Health under the Housing Act, 1930, in respect of certain property at Westminster.

Mr. H. A. Hill, for the appellants, said in the court below the matter was fully argued, but his clients felt that they had legal grounds for challenging the decision of Mr. Justice Swift. The contention on behalf of his clients was that the L.C.C. had no jurisdiction to make, and the Minister of Health no jurisdiction to confirm, the Orders made under the Act, and further, that those orders attempted to apply a basis of compensation inconsistent with that prescribed by the Acquisition of Land (Assessments of Compensation) Act, 1919. The submission on behalf of the appellants was that, as the property was the subject of an order under the Housing Act, 1923, that had not been carried out owing to the expiration of the statutory period, it was beyond the powers of the L.C.C. to make a fresh order in relation to it under the Housing Act, 1930. The L.C.C. and the Minister, on the other hand, contended that the orders made were valid, as the provisions of the Housing Act kept alive any improvement scheme of any local authority. Mr. Justice Swift decided against the appellants, who now appealed.

Counsel submitted that it was impossible now to make an order about the houses, because an order had been previously made and not enforced.

The court, without calling upon the Attorney-General, Sir T. Inskip, K.C., for the Minister of Health, or Mr. H. G. Robertson, for the L.C.C., dismissed the appeal.

Lord Justice Scrutton, in his judgment, after dealing with Mr. Hill's contention, said the submission seemed to be that houses in an unhealthy and dangerous condition must remain so for the 60 years of the lease unless the local authority paid the owner what he asked for them. His lordship could not understand how such a contention could reasonably be argued, and in his view the point failed. But Mr. Hill had taken another point, and that was that the provisions of any Act, subsequent to the 1919 Acquisition of Land Act, that were inconsistent with that Act, were of no effect. But in his lordship's opinion Parliament could, and did, alter an Act by passing another Act which contained inconsistent provisions. That being so, that point also failed.

Lord Justice Maugham and Mr. Justice Talbot concurred, and the appeal was accordingly dismissed.

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EDINBURGH ARCHITECTURAL ASSOCIATION

At the annual meeting of the Edinburgh Architectural Association, held last week, Mr. A. F. Balfour Paul, F.R.I.B.A., was elected president for the year, while Messrs. W. J. Walker Todd, A.R.S.A., and B. H. H. Orphoot, A.R.S.A., were elected vice-presidents. Messrs. A. Lorne Campbell, James MacGregor, C. E. Tweedie, jnr., and J. M. Johnston were elected to the four vacancies on the Council, Messrs. G. S. Taylor, J. D. Carnegie, and T. W. Marwick being elected as the Associate representatives thereon. Messrs. A. F. Balfour Paul, W. J. Walker Todd, A. Lorne Campbell, J. Wilson Paterson, James A. Arnott, G. S. Taylor, and James Macgregor were appointed Chapter Representatives to the Council of the Royal Incorporation of Architects in Scotland.

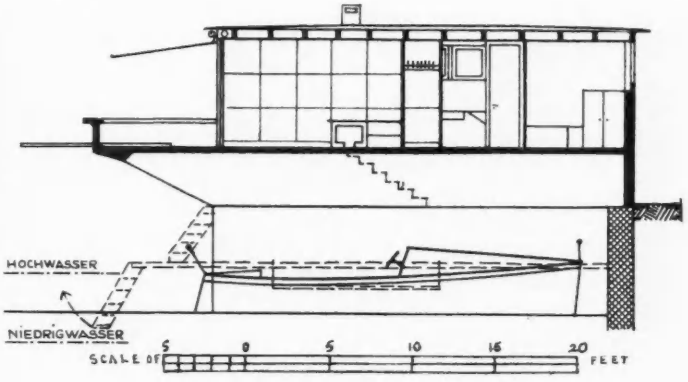
The secretary, Mr. A. Nicol Bruce, W.S., in his report, stated that the membership of the Association was now 427.

GLASGOW INSTITUTE OF ARCHITECTS

Mr. A. Graham Henderson, F.R.I.B.A. at the annual meeting of the Glasgow Institute of Architects, held on Wednesday, March 21, spoke of the tendency to place the designing of public buildings into the hands of officials, to the almost complete exclusion of the private practising architects.

"I am not going to attempt to argue with the member of our Corporation who declared that he was saving £20,000 by not giving us an opportunity of designing certain hospitals," he said. "He could, with equal reasonableness, in the light of his apparent knowledge of the subject, have proposed to save another £20,000 by leaving out the drains or some other equally necessary part of the scheme."

COMBINED BOAT-HOUSE AND BUNGALOW, HERRLIBERG



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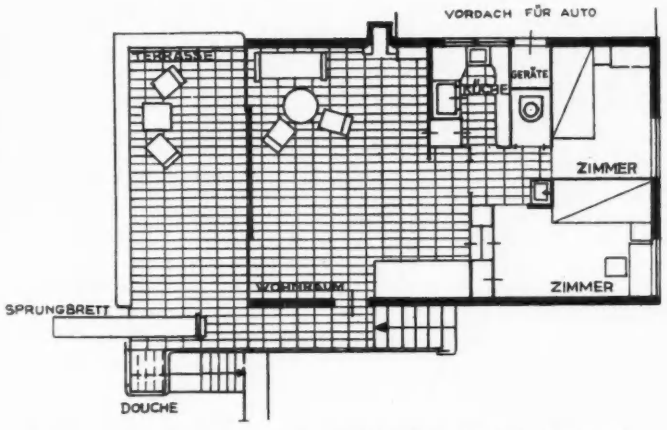


PLAN OF THE LIVING ACCOMMODATION

This combined boat-house and bungalow, which commands a magnificent view of the Lake of Zürich and the Alps beyond, has been designed for one of the architects' own use; and primarily for an "on-and-in-the-water" life during the summer months.

The boat-house occupies a rectangular cavity cut into the masonry embankment. It is connected with the bungalow on its roof by a suspended plank gangway running round to the water steps, which are placed opposite an outside stairway leading to the living quarters above. There are moorings in the boat-house for a canoe, a motor-launch, and a small sailing-yacht. There are two diving-boards: one at floor level, between the living-room balcony and the entrance-platform; and the other, lower down, between ground- and water level.

A photograph of the living room, detail plan and constructional details are given on pages 471-472.

The photographs show: top, view from the lake, showing the interior with the living room above; right, side view from the approach.

DESIGNED BY HUBACHER AND STEIGER

LETTERS FROM READERS

SYDNEY TATCHELL, V-P.R.I.B.A.

HENRY FISH

A. R. POWYS, A.R.I.B.A.
(Secretary for the Preservation of Ancient Buildings)

1931 Form of Building Contract

SIR,—As one who had more than a little to do with the drafting of the 1931 Form of Building Contract and who, moreover, was entirely responsible for the practical suggestions issued by the R.I.B.A. for its use, I am grieved to find that according to the advertisement (page xlviii) in your current issue, learned Counsel has devoted his energies to a production on a new form of Building "Concrete," which undoubtedly will have a most stimulating effect on the whole industry. Perhaps Mr. Manning might be induced to deal scientifically with the Form of Contract and thus correct the balance.

SYDNEY TATCHELL.

Foreign Architects in England

SIR,—I note with regret the insular attitude that Mr. Burford reveals in his several letters to THE ARCHITECTS' JOURNAL. If his views were entirely disinterested, they would still show a narrowness of mind not altogether in harmony with the intelligence required for one of the leading professions. Why, when an Englishman was among the prize winners in the Stockholm town-planning competition and another won the open competition in connection with the Columbus Memorial in South America, did we not see a letter protesting against this Anglicized favouritism at the cost of the home architects? Is it because the Swedes and South Americans realize that art knows no country?

Perhaps Mr. Burford would like to abolish all foreign literature in this country, read only English books, listen only to English music, destroy non-English paintings and sculptures; for surely an Englishman could write another book, compose another piece of music, and fashion another picture?

HENRY FISH

Artificial Lighting of Churches

SIR,—May I, as Secretary of the Society for the Protection of Ancient Buildings, ask a space in your JOURNAL in which to refer to Mr. H. C. Wheat's paper on the artificial lighting of churches, from which extracts were made in your issue for February 15.

Mr. Wheat said there was really no justification for lights fixed or hung comparatively near the floor. He said that equipment is essentially utilitarian, and should not be judged by its apparance; that in buildings of the earlier architectural periods lighting units should be concealed so as not to be normally seen, for a church with lighting confined to the pews was a depressing spot; that many of the churches have beautifully decorated roofs which can scarcely ever be seen even by daylight, and that it is essential to provide high lighting in the choir and sanctuary.

Mr. Wheat's paper appears to be an attempt to rebut the considered advice of the Central Council for the Care of Churches as given in the Fifth Report of that Body, which is to be obtained from the Church House, Westminster, S.W.1, price 3s. This body, appointed by the Church Assembly, knows the needs of a church, and from this knowledge has made definite recommendations as to the lighting of old churches.

In the treatment of an ancient building, opinion properly derives from, but is not of necessity ruled by, the methods employed by those who built and used these buildings in the past. Such artificial lighting as was used until the beginning of the nineteenth century in our old churches was candle light, and the light was always fairly near the floor. In many churches each pew had a staff on which a single candle was set. The church lit with many small lights as this was, and is, humanly interesting and æsthetically stimulating. The night present overhead and apparent in the shadows of a transept or an aisle, compelled, as in like circumstances it still compels, a conscious acknowledgment of the forces of nature, of the movement of the planets round the sun, and of the turn of the earth in his brilliant light. To leave this presence undisturbed, to let it be felt in the remote parts of a church, is an acknowledgment very proper by man to the power that makes night and day. In our homes, where we read, sew, write and talk, the most pleasant artificial light is to be had from movable standard and table lamps, but where a management of public amusement places has to cater for the tastes of many whose individual needs for light and the quantity of light is different, it is convenient to fix the points and to put them where the result will be an even brilliance rather than to provide that light against shadow which carries with it a human poetry and a kindly rhythm. Mystery has interest, and is in its nature divine. To symbolize the greater mysteries of nature by dim shadows in an overhead roof is no ill thing; rather, a varying light is one of beauty's attributes and indicates to man an awareness of the ways of life.

If, for the science of archæology or for a technical inspection, or out of interest in the art of architecture, it is proper on occasion to light a dim roof, this may be done without difficulty, and the precise form and line of a roof can be shown by clear lighting it. There is no need that these qualities should be paraded in public, like a horse is paraded in a market—indeed, in a way it is unseemly and unreasonable to do this. It is pleasant that beauty, like antiquity, should lurk out of sight, gently revealing its presence to the mind. It is of their nature to be sensitive of publicity and advertisement—under blatant exposure they flag.

A church (which serves the same purpose now as it did in time past—an unchanging purpose) is modest rather than assertive; it is more like the guest chamber of a house than the lounge of an hotel, more akin to a library than to the blazing crush-room of a modern picture theatre. The pride of man, powerful to provide throughout the length and breadth of an ancient church an even brilliance of light, may rightly be there considered an inappropriate and ignorant conceit.

Hear what has been said on this point:

> Few people seem to consider that light can be a source of beauty or that it can help or hinder the devotional atmosphere of a church. It is either a case of going for the lowest possible cost, or, if they can afford it, of producing a monotonous glare in which a fly on the ceiling will be able to read his hymn book and the man on the floor can feel as if he were in a prosperous public house. That sort of thing is blatantly obvious. But to say how to do the right thing takes a good knowledge of technical possibilities and long, careful observation of how good effects are produced.

In these brief sentences reside the heart of the matter, not only as to the general, but as to the particular. The last is important, for it points, not to the assertions of the providers of "flood lighting," but to their willing and thoughtful co-operation, not to their criticism, but to their help.

Mr. Wheat emphasized the "invisibility of the flood lamp bulbs and their reflectors." Is it right to hold that things not seen do not matter

æsthetically? It is unpleasant to contemplate cruelty even though it is distant: the thought of a hidden ugliness is a nastiness. Surely æsthetics consist in knowledge as well as in vision? In practice, these reflectors are seldom hidden except from one point of view.

To find, as I lately found, in a church newly designed in the mediæval manner, and newly built, tie beams burdened on the east face with tiny reflectors, showed that the architect had not had the prescience to design the lighting with the church. To illustrate such methods, I propose to use a parallel case. It is offensive to put soil pipes across an eighteenth-century pediment, as I have seen done in the learned city of Oxford. To offence is added absurdity when both drains and pediment are twin creations. No person respecting decency of life would so offend, and to make the lovely and wholesome timbers of an old roof or the hewn stones of an ancient wall bear fittings appropriate for the mechanically devised lounge of a new hotel is an offence against literate civilization. In the better modern lounges, crush halls, theatres and restaurants the newer forms of lighting form a part of the decorative scheme of evening use, and are not applied to a structure born of a very different thought.

In general, it may wisely be held that artificial lighting *should not be applied* to a new building; it should be a part of it, whether it is "flood" or other.

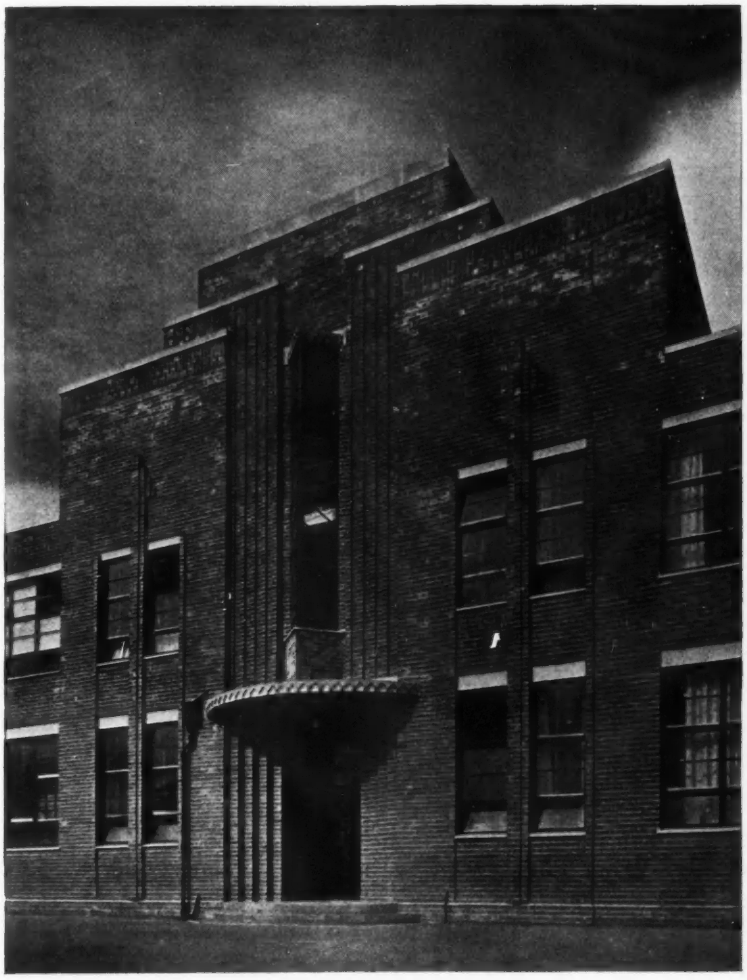
Use and convenience, however, makes it necessary *to apply* new ways to old structures, but this application should be done always in a way that can never unexpectedly reveal a new ugliness. Further, it is true to say that ugliness is apt to become worse, where, as is commonly the case, it is hidden, for if the new fittings were easily seen, the form would more probably receive careful thought, and it would be so considered that much, if not all, of its ugliness would inevitably fall from it. On the whole, then, the advice of the Society for the Protection of Ancient Buildings gives is that the globes of light should be kept low in the church, they should not be placed on the axis lines, and should generally be hung from the roof, but they may, on occasions, like candles of old, shine from the top of staves rising from the pews.

In practice, the Society I serve considers that it is its duty, and the duty of those who advise on the lighting of ancient churches, to hear what the parish desires, to tell those who represent it the advantages and disadvantages resulting from their wishes, to urge them to avoid this or that fault, using what persuasion may properly be used. If in the end, and after reasonable time has been given for inquiries and inspections, the parish adhers to its own ways, the advisor should no longer be persuasive on the other side, but then should help to obtain what is desired in a seemly and dignified way.

In dealing with old buildings, it should always be remembered that new fittings should be arranged whether they concern lighting or furniture, with a presumption that a future generation may dislike what is now done, as we now dislike the works of the decade that followed 1870. Therefore, new fittings in old churches should be so arranged that this new work shall be such as can be easily removed, and, when the removal is done, that no mark or bruise may be found on the ancient structure against which the new was set.

A. R. POWYS

SCHOOL AT ASHFORD

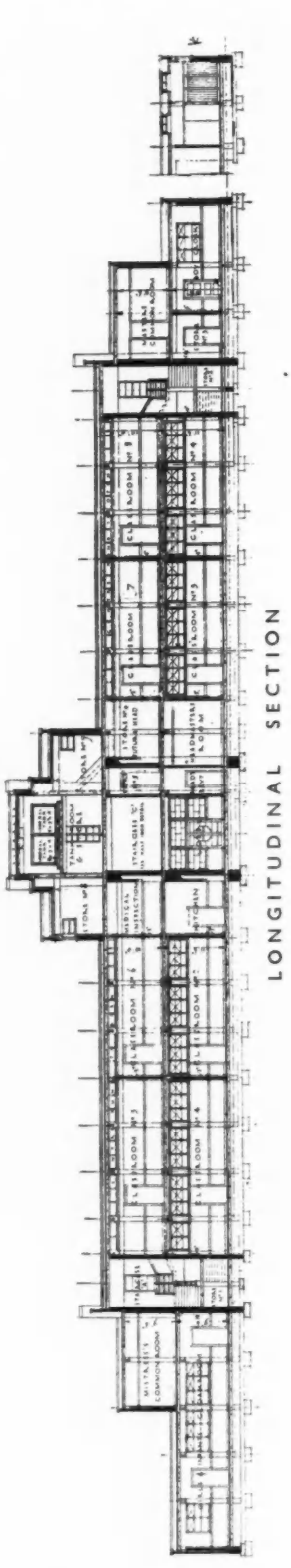


This new school, designed by the Middlesex County Architect, stands on a site of about 2½ acres in Knapp Road, Ashford. It was the second Middlesex elementary school to be put in hand after the financial crisis and, like its predecessor, the Oakington Manor School, Wembley (illustrated in the JOURNAL *for November 23, 1933), the cost has been considerably reduced by the adoption of a "functional" style of architecture. The cost was £12,500 (including cottage).*

The structure consists of a reinforced concrete skeleton with concrete floors and flat roofs, with brick cavity filling walls. Internally, the classroom walls are left fair face brickwork, the partition walls between the rooms being hollow building block. Staff room walls are plastered. The windows throughout are metal casements, extending the full length of the external walls to the classrooms.

DESIGNED BY W. T. CURTIS

SCHOOL AT ASHFORD, MIDDLESEX:



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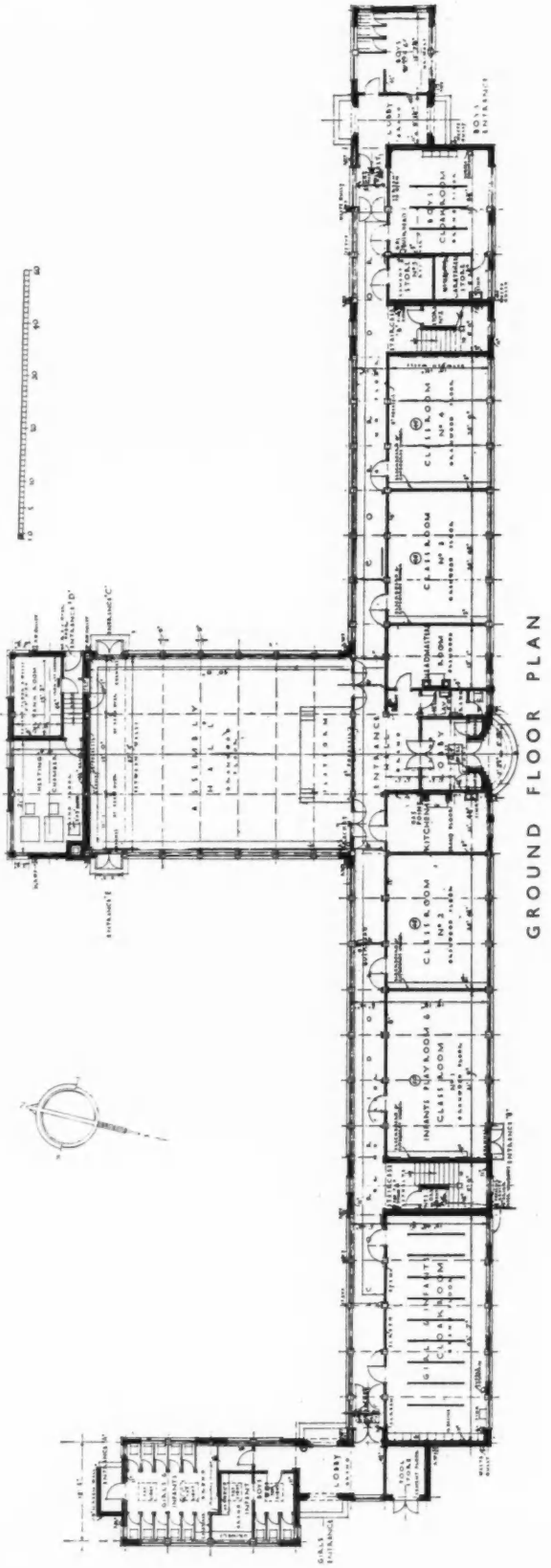
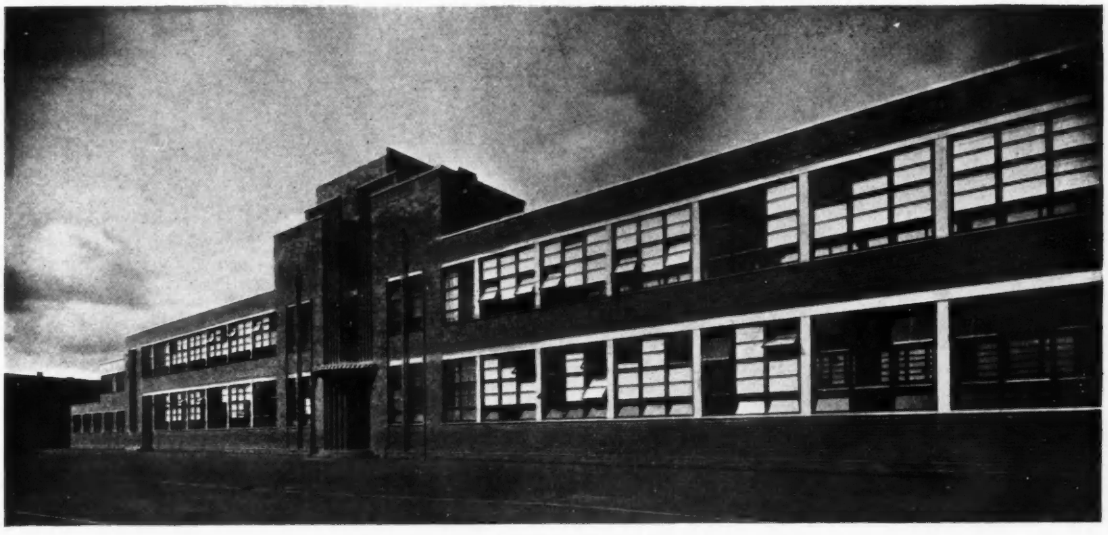


GROUND FLOOR PLAN

DESIGNED BY W. T. CURTIS



The main (south) elevation.

The rear elevation and the assembly hall block.

The accommodation provides for 388 junior mixed scholars, as follows:

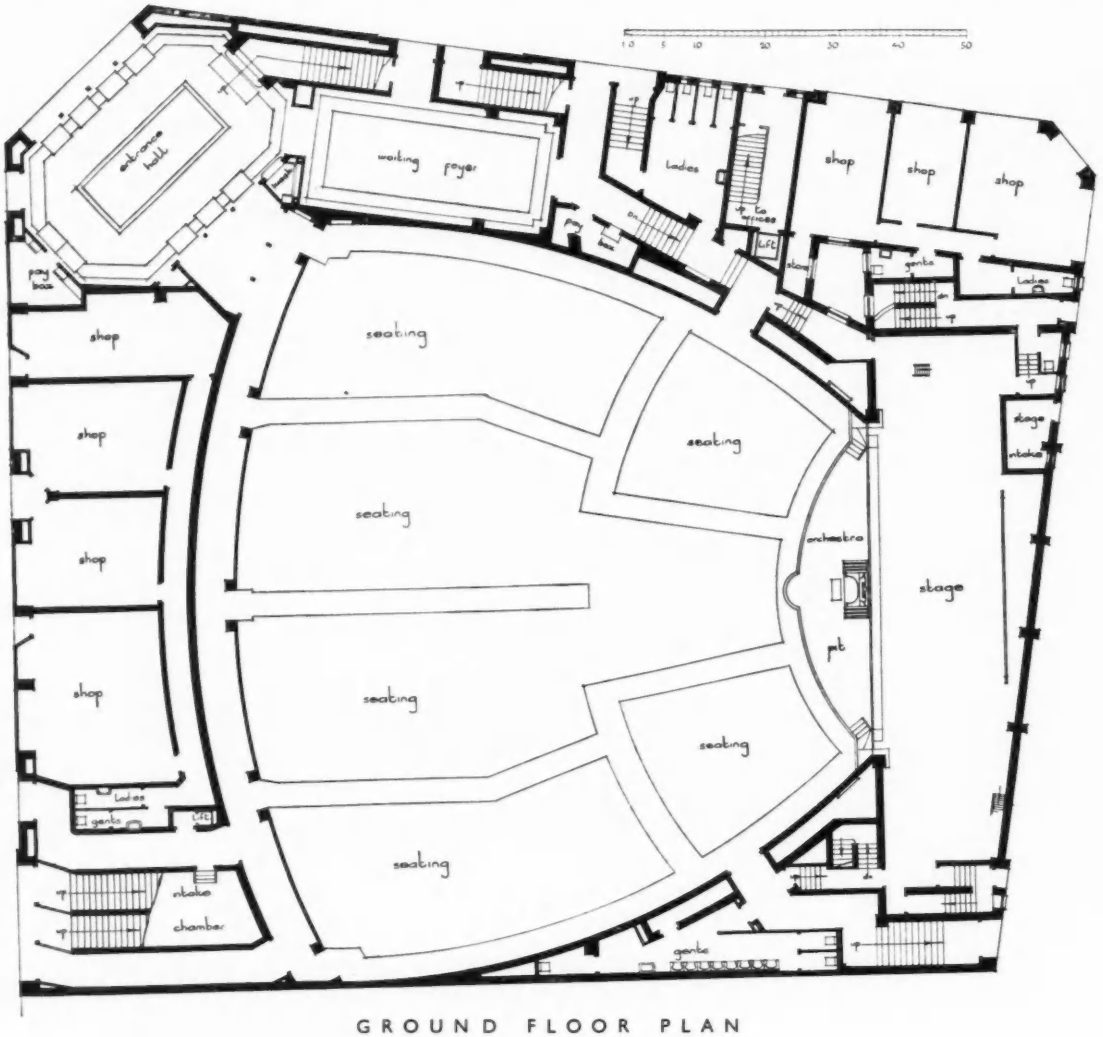
Ground Floor: Assembly hall; 3 classrooms for 48 scholars each; 1 classroom for 50 scholars; head teacher's room; kitchen; cloakroom and lavatory accommodation; and caretaker's and general stores. First Floor: 3 classrooms for 48 scholars each; 1 classroom for 50 scholars; medical inspection room; large store room (future head teacher's room); masters' common room; mistresses' common room; staff cloakroom and lavatory accommodation; and stores.

Classroom staff room and assembly hall floors are of granwood patent blocks, while cloakrooms and corridors, etc., are paved in granolithic. Internal woodwork throughout is of British Columbian Pine, and all classrooms have fitted cupboards under the blackboards, extending the full width of the room. Other classroom furniture is mainly of oak.

Heating is by low pressure hot water apparatus with separate gas boilers for domestic hot water supply. Artificial lighting is by electricity; gas is installed for emergency lighting, cooking, etc.

A caretaker's cottage, designed to harmonize with the main school building, has been provided on the site.

THE REGAL CINEMA, HULL:

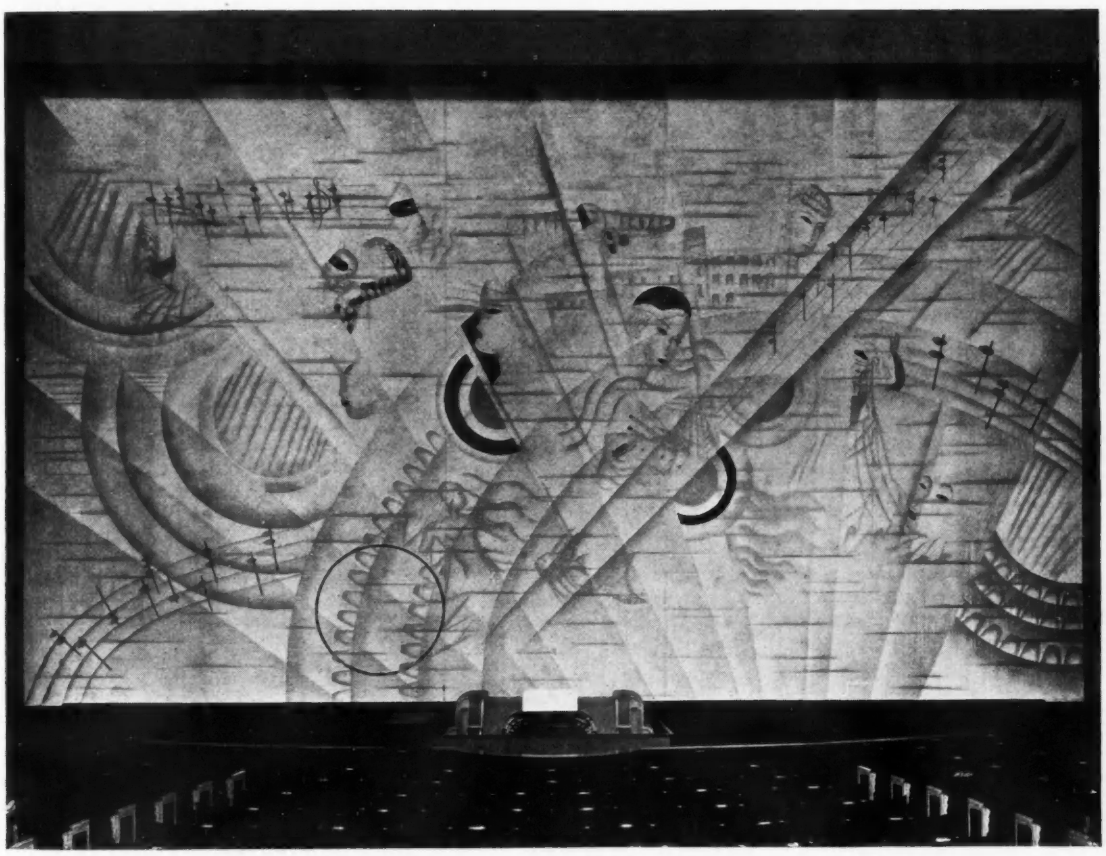


GROUND FLOOR PLAN

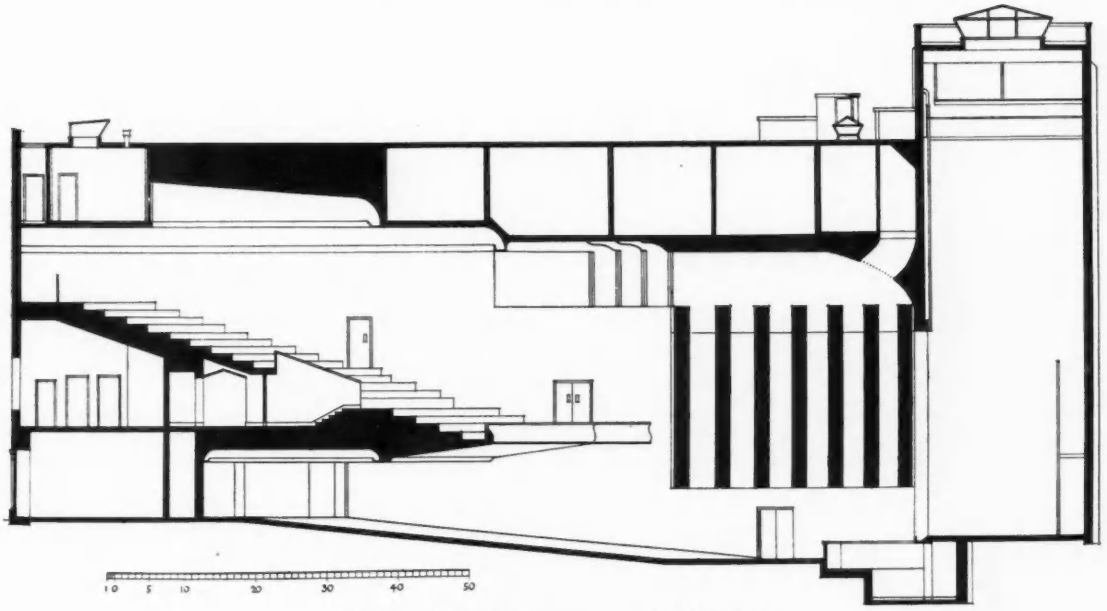
This cinema has been erected on a site in Ferensway,—a new street in the centre of Hull, the lay-out for which was the subject of a competition held in 1929. It was a condition of the competition that the elevations should be of 2 in. multi-coloured bricks, with Portland stone dressings. The cinema has been designed to conform with the general scheme.

The façade to Ferensway is on the right of the illustration.

DESIGNED BY ROBERT CROMIE



A competition for the design of the safety curtain was instituted among the students of the Hull College of Art; this was won by Miss Lesley Ansdell. The painting was executed by E. Mollo.



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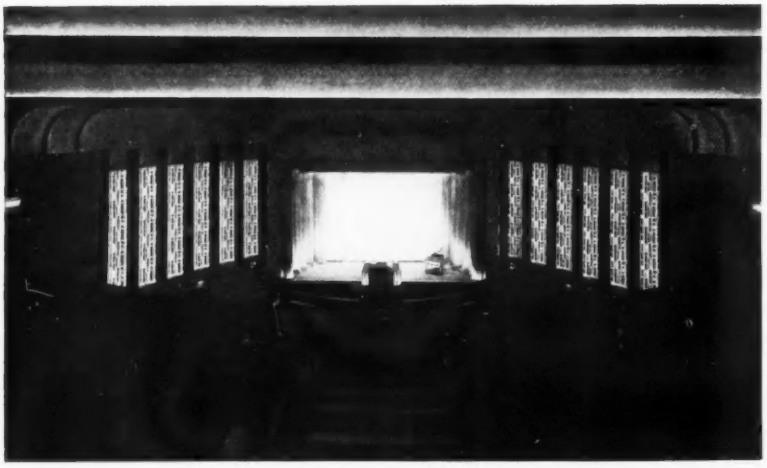
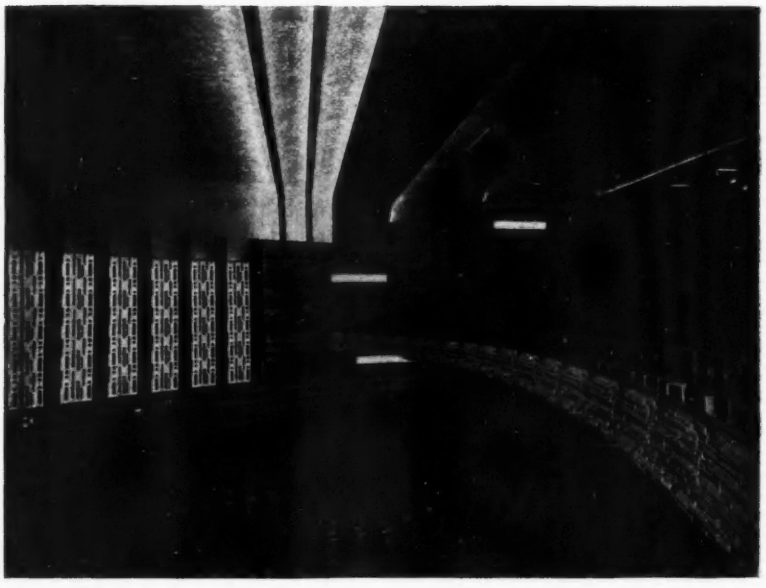
THE REGAL CINEMA, HULL

DESIGNED BY ROBERT CROMIE



Above: The stage, as seen from the back of the balcony. A colonnade of seven detached columns has been arranged on each side of the proscenium. Each column contains a vertical strip of electric lighting, which reflects upon the surfaces of the coves.



Right: The auditorium. The balcony front is cast into a form of ornament consisting of innumerable recesses and projections—not merely to enrich it, but to avoid any directional ricochet of sound waves back to the front stalls.

Left: The café is planned immediately over the entrance hall. It is furnished with chromium-plated chairs and tables, and carpeted in grey and green. The centre part of the carpet is movable, and covers a polished cork dancing area.

ECONOMY IN SMALL HOUSE CONSTRUCTION

[BY FRANK H. HEAVEN, A.R.I.B.A., P.A.S.I.]

This is the first of a short series of articles on small house construction, in which the author sets out to show how savings in building costs may be made through minor but cumulative economies, whilst departing little from normal building practice.

I. INTRODUCTION

ECONOMY in the design and construction of buildings is always of importance, but, at the present juncture it is an imperative necessity. Monetary stringency demands it, and every penny saved is potential power for further advances.

In particular, the extreme necessity arises in connection with the smaller types of building: houses, bungalows, light industrial buildings, and such like, where initial reforms will soon be converted into general practices, by reason of repetition over a wider area, and in a shorter period of time, than is likely to be the case in any other class of building.

Although they may be small in themselves such economies are cumulative in effect and grow to wide dimensions in a short while.

Matters of planning and design are not considered here, only those things which affect construction where there is ample room for a revision of many present-day methods. Strict adherence to customary practice has stifled imagination, induced lethargy and premised a decadence of true craftsmanship in what was once one of the most virile of craft industries.

Inspection reveals many possibilities which can be explored to advantage. Certain departures from the orthodox are suggested here and are such that, if practised with reasonable care and circumspection, will not affect the design, impair the usefulness, or reduce the anticipation of life of any building in which they may be adopted, yet will produce savings in material and labour, weight and transport, and other auxiliary services.

Perhaps a charge of "jerry-building" may be levelled against some or all of them, yet what has been termed jerry-building in the past is still with us, after 50, 70 and 100 years of usefulness, and, in many cases, not a great deal the worse constructionally for the economies practised. Why, for that matter, persist in building for perpetuity? Our progeny may resent our creativeness, and, in any case, it's bad for trade.

Economic building is not the prerogative of any one age; it has been practised before, and without the dire results that some predict as the inevitable corollary.

The suggestions, as set out under the various trades below, are later summarized and resolved into actual monetary savings which may be expected to result from their adoption, and whilst these may or may not be applicable to any individual case or district, they form a basis from which particular deductions can be evolved.

II. EXCAVATOR

It seems hardly possible that any change can be made under this heading that would affect the cost of any simple type of building, yet there can be no reason for the practice of making excavations larger than is necessary to receive the work that is to be put into them.

For example, in cutting trenches for foundations to light buildings, in which elaborate brick footings are not required, very little change in method is apparent, although much more work of this class has probably been executed on housing schemes during the past decade than for a generation previously, and in every case there has been opportunity and necessity for the practice of economy.

Trenches for 9 in. solid or 11 in. hollow walls need never be more than 18 in. to 21 in. wide, even if the width of concrete base is required to be greater; because any further width can be obtained by scooping

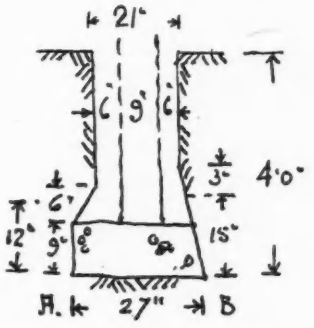


Figure 1.

out the sides of the trenches near the bottom to accommodate the concrete, somewhat on the lines indicated in Fig. 1. Here alternative methods of cutting are shown on opposite sides of the trench. To take a case in which the sides of the trench are to be excavated as at "A," to receive a concrete base 27 in. wide, and where the depth of the trench is to be 4 ft., in certain soils a saving in the excavation can be effected to the extent of 0·16 of a cubic yard for every lineal yard of trench, and that without detriment to the superstructure. The calculation is made thus:—

$$(27 \text{ in.} - 21 \text{ in.}) \times (4 \text{ ft.} - 1 \text{ ft. average}) \times 3 \text{ ft. length} = \frac{0{\cdot}5 \times 3 \times 3}{27} = 0{\cdot}16 \text{ c. yd.}$$

If the sides of the trench were cut to the shape indicated at "B" there would be, in addition, a small saving in the amount of concrete required as well.

Another instance of a similar nature occurs at the base of an inspection chamber or manhole on a drainage system, where the concrete base is usually required to extend 6 in. all round outside the brick walls. Here similar savings in excavation and concrete could be effected.

Again, drain trenches are usually excavated with vertical sides. In certain positions these could be made to slope with

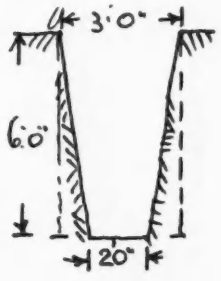


Figure 2.

advantage, as shown by the following example.

A drain, 6 in. in diameter, is to be laid at an average depth of 6 ft. The width of trench at bottom need only be 20 in., i.e. (6 in. internal diameter of pipe, plus twice 1 in. for walls, plus twice 6 in. for footways on either side), and at the top its width need not exceed 3 ft., as shown in Fig. 2. The saving in excavation equals 0·44 of a cubic yard for every lineal yard of trench, calculated as follows:—

$$(36 - 20) \times \tfrac{6}{12} \times 3 \text{ ft. length} = \frac{1 \text{ ft. } 4 \text{ in.} \times 3 \text{ ft.} \times 3 \text{ ft.}}{27} = 0{\cdot}44 \text{ yd c.}$$

Where timbering is required to the sides of the trench, the width would be correspondingly increased, but the principle of a sloping side need not be abandoned.

III. CONCRETOR

Machinery for the mixing of concrete is almost a *sine qua non* of modern constructional methods, but in many cases manual labour is still employed. On the average the machine has the advantage, in that the *unknown* or variable quantity, the human element in mixing, is almost entirely eliminated.

With hand mixing the most frequent defect is to be found in the use of too much water. The cement, the most valuable of the ingredients, even after very accurate gauging, is lost to some extent by being washed away under a too-powerful application of water; or, on the other hand, the concrete is weakened by reason of a too liberal allowance of water. The latter perhaps is the commonest cause of poor concrete; it reduces the amount of labour required in mixing, but it also reduces the ultimate strength of the concrete by as much as 70 per cent. in extreme cases.

Now, a "banker" with a curb around it is no more difficult to construct than one

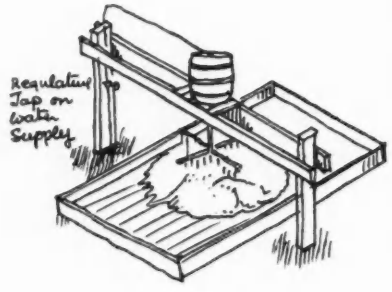


Figure 3.

without, but its value in the retention of the cement must be apparent. See Fig. 3.

The slinging of a bucket, or barrel, with sparge pipe attached, which when full contains the calculated amount of water required for each mix, is not a serious addition to overhead costs; in any case, it would be quickly recouped in the amount of cement saved, and in the better concrete obtained. Fig. 3 illustrates the suggested arrangements. The scientific grading of sand and aggregate for concrete requires consideration in practice, as well as in theory. A mere statement of the respective proportions of the materials to be used is of little value, without previous ascertainment of the voids in the various ingredients. This practice will be changed only when those responsible for repetition of empirical formula realize that static quantities of such immensely variable materials as sand and aggregate will not in themselves result in a perfect or reliable concrete. A more intimate knowledge is essential, especially in regard to the amount of voids, or air spaces present in each; the percentage of which is usually an indication of its grading, and invariably suggests the kind of concrete which will result from its use. A denser, stronger and more waterproof concrete is obtained from well graded materials. To ascertain such percentages for each material and to codify them for use, by means of trial mixtures, is not a long or a difficult process. The time so spent is repaid directly by a saving of cement, and indirectly by a more satisfactory concrete. As an instance of comparison, take the following case.

A naturally graded sand may contain voids to the extent of 33 per cent. of its volume, yet in sand artificially graded, as a result of trial mixtures, voids can be reduced to 25 per cent. The use of artificially graded material would mean a considerable saving on the cost of the concrete, for, in an average mixture the cost of the cement may equal that of the sand and aggregate added together.

Where concrete is required to be spread over a foundation of "hard core," as broken brick or stone to a coarse gauge, a considerable quantity is lost in filling the interstices. Waste can be prevented by spreading a layer of damp ashes over the hard core foundation immediately before laying the concrete; the ashes being damp, adhere together to some extent and fill up the surface cavities of the hard core. If laid dry, the ashes would quickly disappear. The amount required varies with the gauge of the core and the manner in which it has been consolidated. The damp ashes help in keeping the concrete moist, prevent undue absorption of moisture, and aid the setting and curing of the concrete, and so increase its ultimate strength.

In mass-concrete of the coarser varieties, the use of "*plums*," or large flat stones, is a legitimate economy, in certain cases.

Excess concrete from mixings need not be thrown away and wasted, but turned into bricks or blocks for future use, by improvizing rough moulds from planks or other convenient plant available.

In lighter types of buildings, a small amount of concrete in the foundations can be saved by adopting the form of trench-cutting indicated at "B" in Fig. 1. In the case shown, the amount so saved would be about 0·01 of a cubic yard in every lineal yard of trench, calculated as follows:

$$\frac{27''-21''}{2\times 2}\times\frac{18''}{2}\times 3'0 \text{ length} = \cdot 01 \text{ cu. yard.}$$

Small in itself, but it becomes appreciable when repeated over considerable lengths of trench work.

Extra dimensions to foundations for dwarf, fender, or sleeper walls can be obtained at a minimum cost by making use of the "site" concrete and increasing its depth below such walls, as at Fig. 4 (a). This is an expedient often adopted for

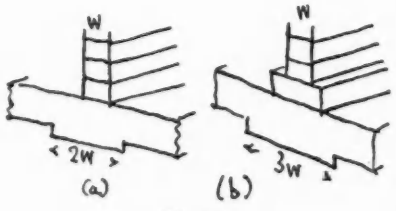


Figure 4.

half-brick partition walls which do not carry any considerable amount of load. In such cases, a course of header bricks, either on flat or edge, as at Fig. 4 (b) is introduced, and the width of the concrete base correspondingly increased as shown. The approximate saving in excavation and concrete may be as great as 50 or 60 per cent. on the old method of taking the partition walls through the site concrete on to separate bases below.

Partitions a whole brick in thickness may be similarly treated, with or without the introduction of expanded metal as reinforcement to the concrete, as shown in Fig. 5. Mild steel bars at specified centres could be substituted for the mesh reinforcement, but they are not so economical or satisfactory, owing to the greater labour required in placing and maintaining in

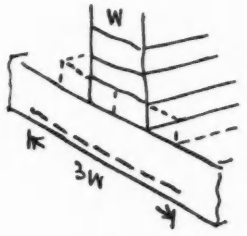


Figure 5.

position during the laying of the concrete. A course of header-bricks in English Bond may be introduced, as shown by dotted lines in Fig. 5, if desirable.

[*To be continued*]

●

Stone Textured Rendering

"Architects" write: "*We have a job of re-fronting an old compo-faced building with a view to modernization, and we are proposing hacking off old plaster and re-rendering and fining in Snowcrete. Our clients desire to obtain a Bath or similar stone texture and colour and we shall be glad of any information as to whether the use of stone dust in the fining coat can be relied upon to stand. The use of Patent Stone in this case is prohibitive from the point of view of cost. We feel that as the stone dust cannot be mixed under pressure, as it is a Patent Stone, the result might not be satisfactory, particularly by the seaside.*"

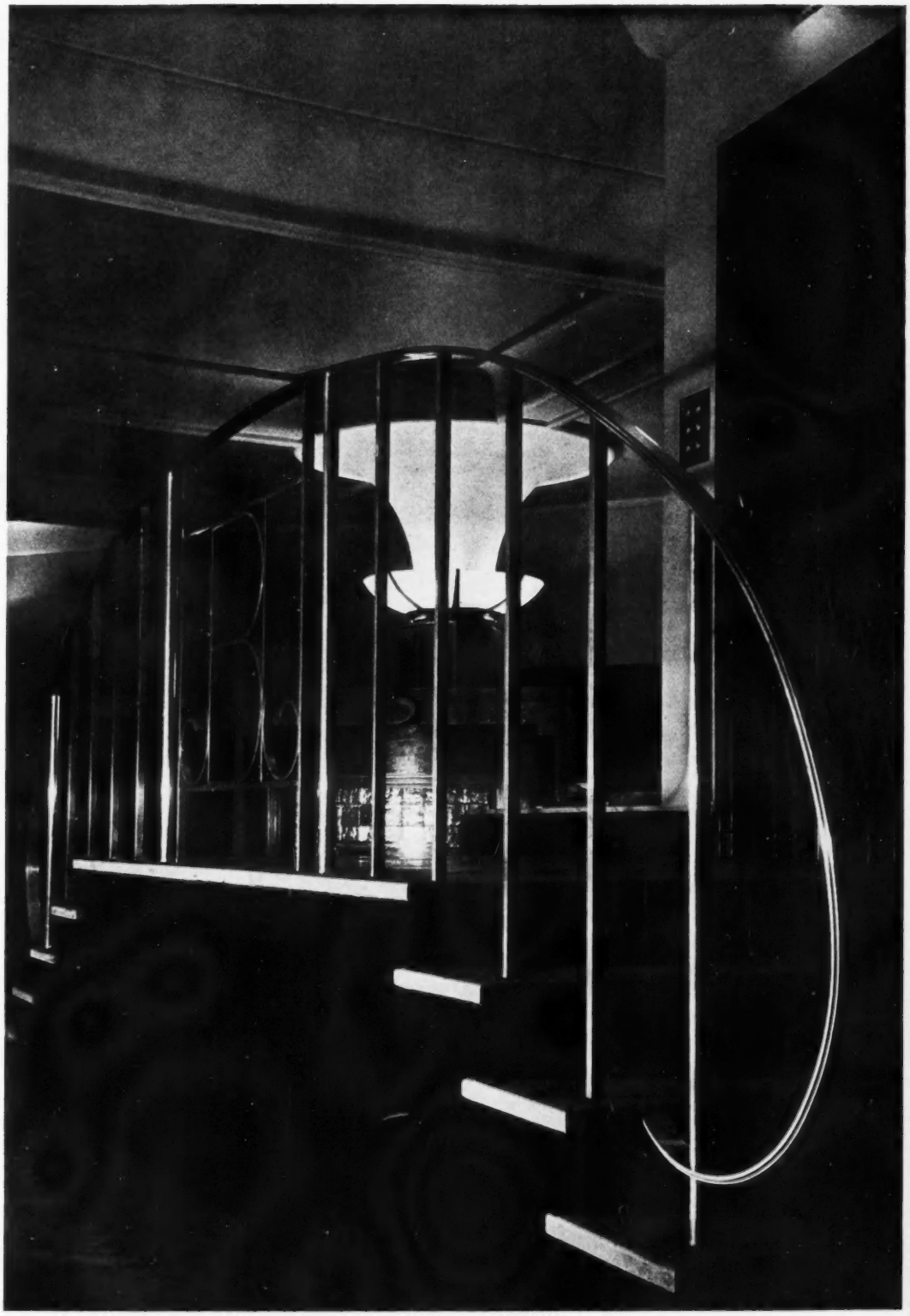
This seems an obvious opportunity to make use of one of the prepared rendering materials consisting of Snowcrete mixed with selected coloured sand and sold under the name Cullamix, by the Cement Marketing Co. By choosing a suitable colour from the range of creams and finishing with a wood float, the desired texture and colour could readily be obtained. No doubt your correspondent realizes that only the finishing coat need be in Snowcrete mixture, but that the rendering coat should be carefully executed in water repellant cement, and well cured to obviate crazing.

Crushed stone aggregate has been successfully used in cast work, with a ground or polished surface after hardening, but the mixing for ordinary plaster finish is apt to give an uneven result, and it would be safer to rely on the mechanically - incorporated cement and fine aggregate.

E. G.

WORKING DETAILS : 25

STEPS AND BALUSTRADE • SHOWROOMS IN DAVIES STREET, W. • BRADDELL AND DEANE

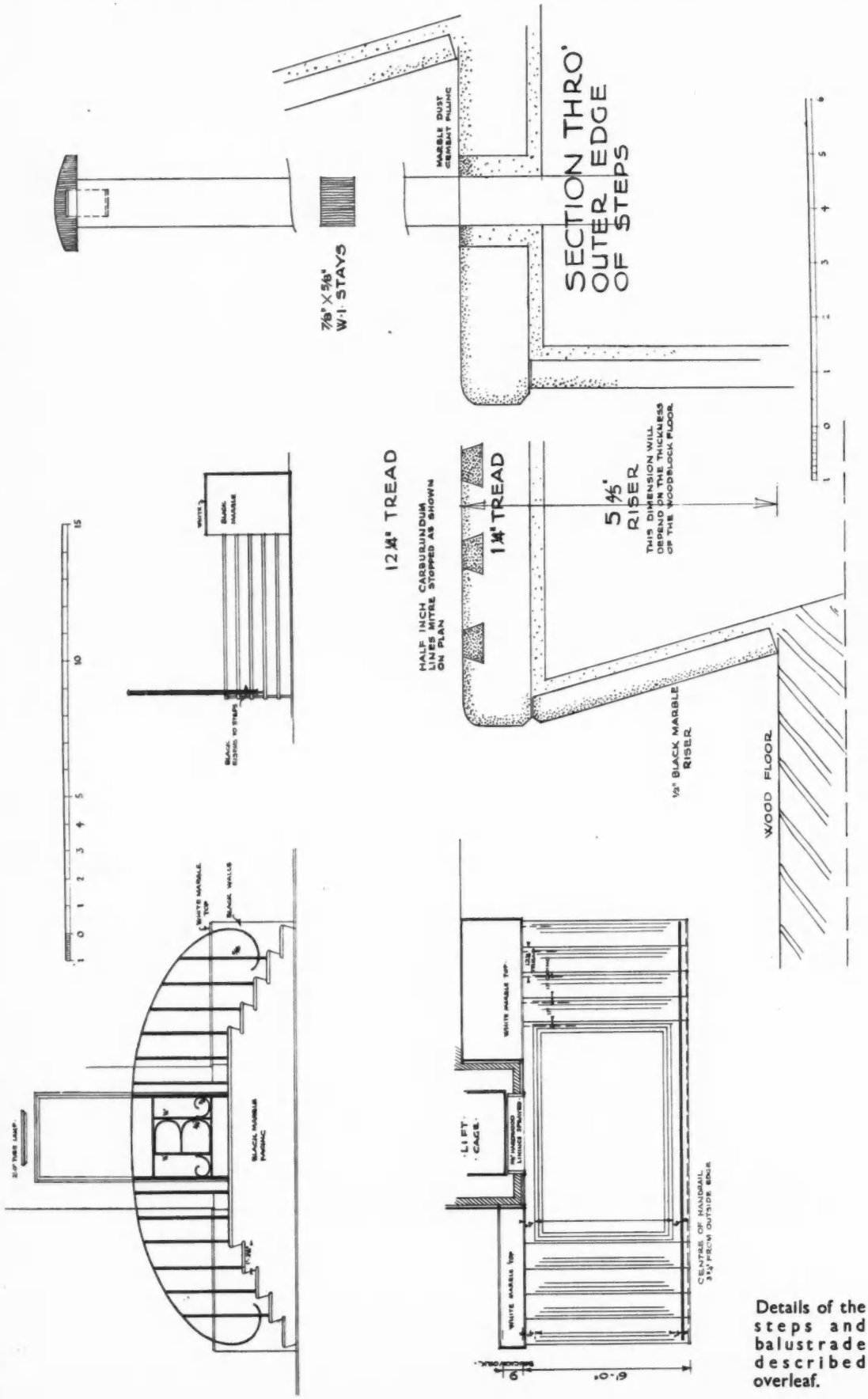


In these showrooms, to obtain the necessary space at the foot of the lift shaft, the lift was raised above floor level and a feature made of the platform and steps in front of the gates. Detail drawings of the steps and balustrade will be found overleaf.

The treads are of Roman stone and the risers and front of the platform are of black marble. The hand-rail and balustrade are of Birmabright. The architrave to the lift opening is finished in Chinese red, the walls elsewhere in the showroom are grey, and the ceiling cream.

WORKING DETAILS : 26

STEPS AND BALUSTRADE • SHOWROOMS IN DAVIES STREET, W. • BRADDELL AND DEANE



Details of the steps and balustrade described overleaf.

WORKING DETAILS : 27

TIMBER CONSTRUCTION • BOAT-HOUSE AT HERRLIBERG • HUBACHER AND STEIGER

This combined Boat-house and Bungalow, of which a photograph of the living room and balcony is reproduced above and a detail plan overleaf, is situated at Herrliberg, on the Lake of Zürich, Switzerland.

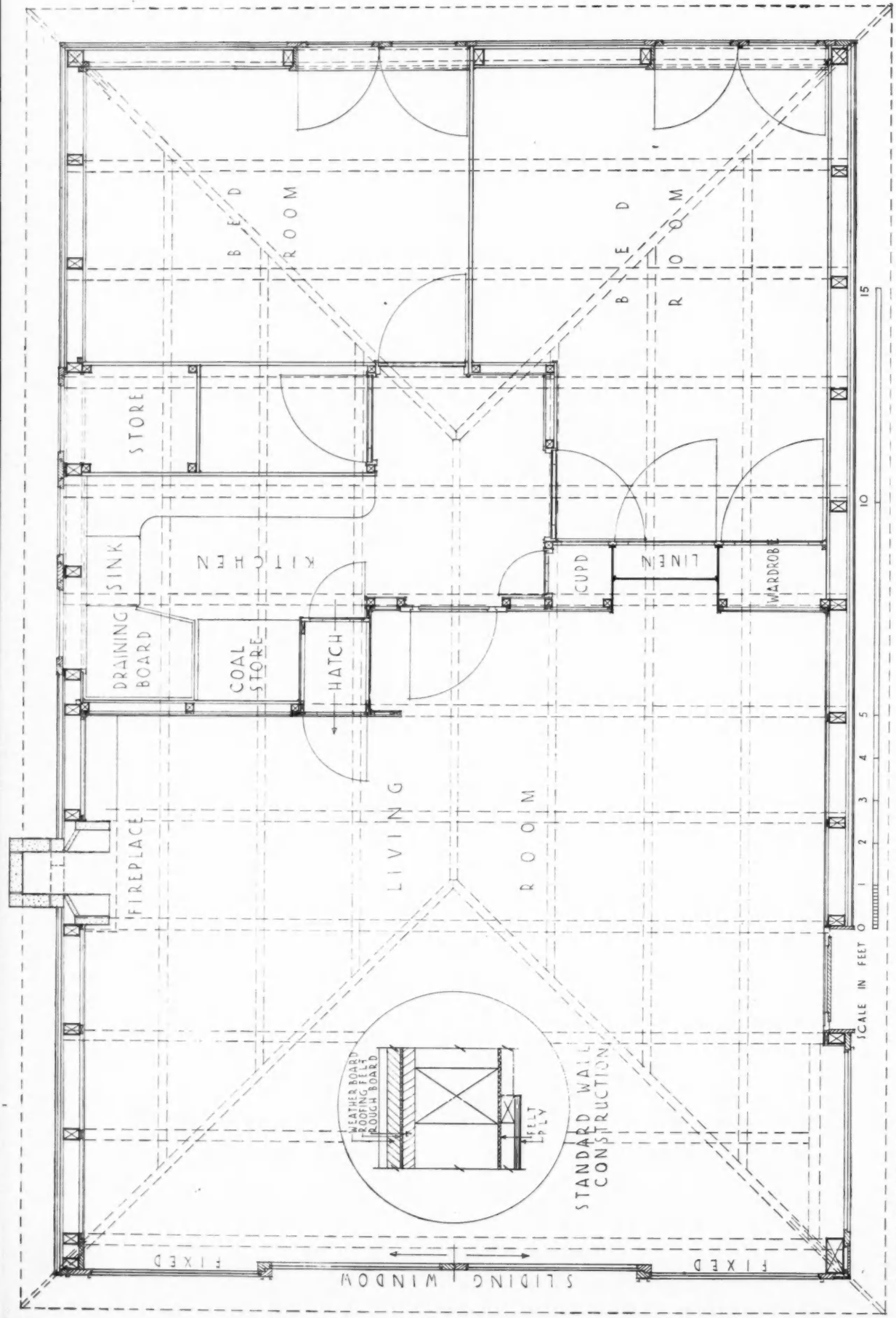
The superstructure contains two bedrooms at the back, and a large living room in front, with a small kitchen and other offices placed centrally. The living room is continued by a wide balcony, with a low parapet boldly cantilevered out over the lake. This can be shaded by a collapsible canvas awning, fitted into the soffit of the slightly protruding flat roof. The entrance is on one side, facing the narrow platform on which debouches the open concrete stairway from the embankment.

The lower part of the structure and the floor are of reinforced concrete; the superstructure has a timber frame carrying creosoted weatherboarding; and the roof is of flat boarding covered with tarred felt. The windows are of the sliding type. The floor and balcony are flagged with multi-coloured tiles.

Further illustrations and plans of the Boat-house and Bungalow are given on page 459 of this issue.

WORKING DETAILS : 28

TIMBER CONSTRUCTION • BOAT-HOUSE AT HERRLIBERG • HUBACHER AND STEIGER



Plan and constructional details of the combined boat-house and bungalow, described overleaf.

THE HOUSE OF LORDS

S L U M

THE first debate on the Government's new housing policy took place in the House of Lords last week; the Archbishop of Canterbury moved:—

"That this House welcomes the measures proposed by his Majesty's Government with regard to slum clearance and the evils of overcrowding, and hopes that they will take early steps to secure the effective operation of these measures."

He said that the housing schemes and subsidies of the post-war years had had some good results, but had left unsolved the three problems of slum clearance, the provision of houses at rents which the lower-paid workers could afford, and the evils of overcrowding. The first of these great problems had been tackled with great energy by the Ministry of Health in the Acts of 1930 and 1933, and in the Minister's Circular of last April. There was every reason to congratulate the Minister on his scheme and the local authorities for the promptitude and public-spirited response they had made to it. It was remarkable that 1,428 out of 1,716 housing authorities had already submitted schemes which had been approved. The White Paper which had just been issued showed that one of the greatest efforts in housing policy which had ever been contemplated was definitely on foot. If this great scheme was carried out there would be a demolition of 266,851 slum houses and the building of 285,189 houses in replacement. That meant that between 1933 and 1938 an average of 248,000 slum dwellers would be rehoused each year. These figures showed the magnitude of the enterprise on which the Government and the local authorities had embarked.

The Minister had not seemed to realize fully or clearly the gravity of the situation. Last Thursday, however, with almost dramatic suddenness, the Minister broke his silence and announced that he was now undertaking a new campaign to follow his campaign for slum clearance. Certainly these last proposals of his went a very long way to meet the evil which the slum clearance scheme would have left largely unsolved. If—again it was a very big "if"—this second stage could be completed the Minister of Health would have put the coping-stone upon a scheme of home building unprecedented in this country, and for which he would deserve the country's gratitude.

Many people living in the inner areas of cities and towns were unable to pay the cost of transport to outside areas in addition to their rent, and they liked their neighbours and the places with which all the associations of their lives were bound up. If that were so, in the inner areas of towns, where building land was scarce, building must be largely upward in flats. He viewed that with some regret, but it must be remembered that the new flats were very different to the old tenements, and that even the wealthier classes were betaking themselves to flats. But it would be a pity if the Government insisted too much on that mode of housing. He would like the Government to make it plain that the subsidy was not to be confined to urban tenements, but would be equally available for low-rented cottages outside the central areas.

The public utility societies had done admirable pioneer work, and their place would have to be even greater in future.

The question was whether too great a burden was being placed on the local authorities. There were those who asked whether it would not have been wiser to entrust the second part of this great problem to the independent National Housing Corporation. Such a body would be independent of the pressure of parties, whether central or local, free from the intrusion of private interest, able to secure great economies in the purchase of material in bulk, able to adjust the supply of labour, and in many ways to keep the whole matter moving along steadily and coherently. He knew that the Moyne Report decided against that proposal, but he thought that public opinion required that the Government should let it be known whether they had carefully considered this alternative proposal, and if they had rejected it they should state the grounds on which such rejection was based.

The Government reply was entrusted to Viscount Gage, who said that the new Housing Bill would be introduced at the earliest possible moment that progress with slum clearance permitted. If the population in the inner areas of towns desired or required to live there it was useless to move them to the outskirts, and where sites were not available or were prohibitive in price new methods had to be adopted. Legislation to be effective would have to be both comprehensive and drastic, and it might be necessary in extreme cases to clear even good buildings and pull them down and erect large blocks of flats in their place. For those purposes it was proposed to arm local authorities with wide powers to clear properties and carry on redevelopment. The decision which the Government had taken that overcrowding should be prevented by law was no light decision; surely it was one of the biggest steps ever taken in the history of housing. The Government, although they agreed with the general conclusions of the Moyne Committee, were not satisfied at present that the specific proposals regarding the refund method of compensation were really practicable. The public utility societies would occupy a well-defined place in the new machinery. With the suggestions which had been made as to the management of housing the Government were in general agreement. The Minister of Health was convinced that the local authorities would be able to carry the new responsibilities which would be placed upon them.

With regard to rural areas, the conditions were very different from those in large cities and towns. On the whole, sites for building were easily acquired and small houses would be provided by private enterprise at approximately £250 a house and let at considerably under 10s. a week. If overcrowding persisted in rural areas and if private enterprise showed no signs of remedying it, the Minister of Health had said it was the duty of the public local authority to build houses, which they could do without subsidy and without loss. The Rural Housing Act of 1926 provided for reconditioning, which was one way of dealing with overcrowding. Where sites were cheaper, the Government believed that private enterprise had already made a start and would continue to satisfy the demand on a more extensive scale than hitherto.

Since the war the Government and the local authorities together had spent no less than £450,000,000 in relieving overcrowding and slum conditions. Two million houses had been built, but the Government had discovered that comparatively few of them were occupied by the people who were living in such shocking conditions at the time when the great housing effort was begun. The Government were convinced in view of this experience that they must make full use of the fall in interest rates to place the provision of houses where possible on a sound economic basis. That was why the subsidy was confined to places where sites were expensive.

The Bishop of Winchester said that he was not detracting from the value of the Government's statement when he said that the programme was still a paper one, and he was perfectly certain that the local authorities would find themselves in many cases opposed by every kind of obstruction and difficulty in carrying out the proposals. The programme would not be carried out during the next five years, unless there was steady and persistent pressure from above and from public opinion. Private enterprise had completely failed.

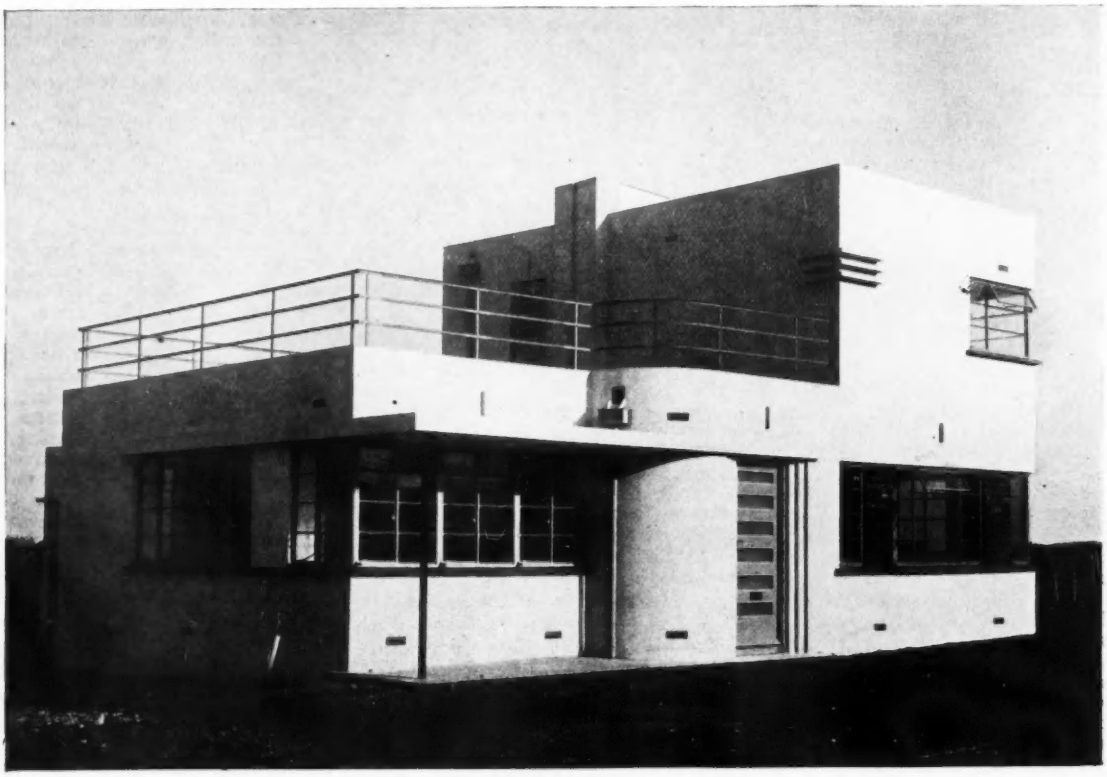
Lord Moyne said he did not think that the Government had any reason to be dissatisfied with the reception which had been given to their housing programme announced last week. This was the first time since the war that we had had a comprehensive attack on the housing problem along the whole front. The Committee over which he presided found it was outside their terms of reference to recommend the creation of a public authority for housing at large. But there was a case for enabling public utility societies, where the need for houses was great owing to the breakdown of private enterprise, to erect houses with the support of public finance. If subsidies were to be granted at large many would get the subsidy who did not need it, and private enterprise would be driven out of the field altogether, but it did not follow that the same evil results would come about if such activity were confined to areas where private enterprise had been found to be wanting. Provision of houses to let was very disappointing, and he could not see how the need could be met by private enterprise.

The Earl of Dudley said that there must be some central co-ordinating board charged with the duty of advising the Minister of Health on the comprehensiveness of the housing programme.

Lord Trent supported the suggestion.

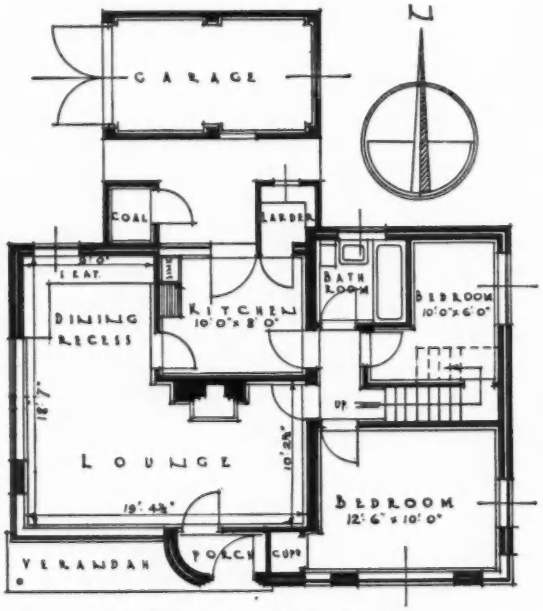
The motion was agreed to.

HOUSE AT BEESTON REGIS, NORFOLK

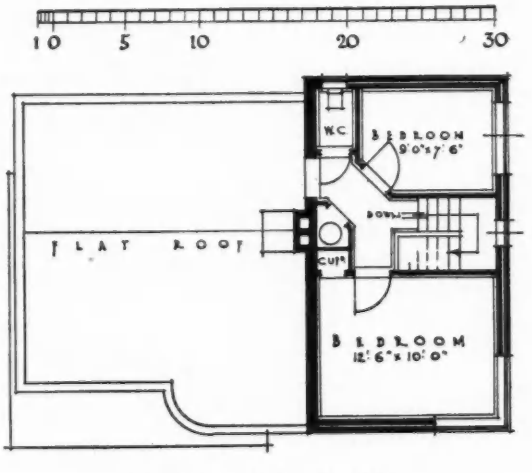


This is the first of a group of houses to be erected on the Beeston Regis estate, which is situated on the cliffs of Norfolk. From the flat roof extensive sea and woodland views are obtained.

The walls are built of keyed flettons rendered in cement, and the walls over the angle window on the south side is cantilevered on steel joists. The two pieces of wall connecting the three windows on the same side are built in 2 in. bricks, with alternate courses recessed ¾ in. The canopy over the verandah is constructed in reinforced concrete; metal casement windows are used throughout. The general colour scheme, both internally and externally, is carried out in emerald green and cream; the walls being cream, windows and doors emerald green lined out in cream, and the column on the verandah signal red. The rails round the flat roof are also cream. Above is a view of the south elevation.



GROUND FLOOR PLAN



FIRST FLOOR PLAN

DESIGNED BY W. F. TUTHILL

SOCIETIES AND INSTITUTIONS

MANCHESTER SOCIETY OF ARCHITECTS

The last of this winter's sessional meetings of the Manchester Society of Architects was held on March 14, when a lecture was given by Mr. R. H. Wilenski.

Mr. Wilenski had originally given the title of his lecture as "Art and Architecture in the Future," and prepared his paper envisaging a future when buildings would be tree-like in form, having shafts containing lifts and other services and widening out at the top into the living accommodation, and leaving almost the whole surface of the ground free for traffic and agriculture and other purposes.

Mr. Wilenski confessed, however, that he knew little of architecture but said that as a student of painting he proposed to discuss the architectural qualities of paintings, by which he meant the organization of space within the frame of the picture. He showed some slides which were examples of the romantic quality in painting, conveyed by a variation from the normal, in the exaggerated qualities of neck, lips and hair, which romantic quality preoccupied the artist to the exclusion of architectural qualities. The impressionists, again, were concerned with effects of light rather than the organization of space, and many of their paintings were much influenced by the camera.

Mr. Wilenski then showed a number of slides of pictures in which, he said, the architectural qualities appeared. Examples by Piero della Francesca and Fra Angelica were shown against a back cloth, as though upon a stage, in which the shallow depth of the picture was strongly emphasized by the position of the figures and their foreshortening. Manet's "Folies Bergère Bar" and other examples were produced as showing the introduction of the third dimension. In Montagna's "Death of the Virgin," Bellini's "Transfiguration," the effect of depth was much greater, and the spectator was carried into the picture, while in the work of Poussin, a great and more deliberate architectural organization was present. One felt that each part of the space represented upon the picture was fully accounted for.

At a later date, Seurat was again concerned with the same problem and slides of his "Sunday Afternoon" were shown to illustrate the painter's preoccupation with the idea of space within the picture. In the present generation the work of Chirico showed a similar interest in this quality, with the addition of a "pleasurable disquietude."

Professor Cordingley proposed a vote of thanks, which was seconded by Mr. G. Sanville.

SOCIETY FOR CULTURAL RELATIONS WITH SOVIET RUSSIA

What we called the war on the slums was nothing more than a rather genteel little sham fight, Mr. Clough Williams-Ellis told a Liverpool audience recently.

He was lecturing in the theatre of the Liverpool School of Architecture to the Liverpool branch of the Society for Cultural Relations with Soviet Russia on Russian architecture, and in answer to a vote of thanks proposed by Mr. Gordon Stephenson, lecturer in the Liverpool School, he touched on the slum problem. In a real war all resources were used, whether offered by volunteers or conscripted. But we were toying with the problem. We let hundreds of architects and architectural students remain idle with the problem still before us.

We in England were perfectly right to be terrified of what we described as the "Russian menace," for Russia was planned out to use all her resources. Everything was put where it was, for good and sufficient reasons.

It was not our fault that England had come down to us in such a hopeless tangle so far as planning was concerned. But to work in such a "hugger-muggers" as the confused industrial area in the hinterland of Liverpool, would put us at a disadvantage compared with a country where everything could be planned from the beginning.

Russia affected the functionalist style because it was economical and speedy of erection. Maybe it did not always function, because of bad workmanship and the use of wrong materials. It was often awfully dour and dull and pedestrian. But during the whole of the considerable time he was in Russia he never saw one new building that was vulgar.

"I wish I could say the same of England," said Mr. Williams-Ellis. "In a day's motoring here if you see one new building that is not vulgar it is a wonderful day. Occasionally you see a post office or a house that is good. But on all the journey to Liverpool today, from Portmeirion I have not seen one building that I should like to look at again."

MAIDSTONE ART AND CRAFT SOCIETY

A survey of the intellectual background of Architecture was given by Prof. Beresford Pite, M.A., F.R.I.B.A. when he lectured to the Maidstone Art and Craft Society recently.

Lord Northbourne, welcoming the lecturer, said that "Architecture was the oldest of the arts of man" and probably the most comprehensive, as it came nearer to the life of man than any other art.

Prof. Beresford Pite said that a sketch of the architectural ideals up to the present day would enable us to see where we stood, so that we could form a "hopeful idea of the direction before us."

Taking the Renaissance as his starting point, he said that the renewed interest of the time in classical art meant a re-orientation of architectural ideals. Henceforth architects looked backward for their ideals, and not forward.

Art's ideal, he declared, lay in the past, science's in the future, and this was characteristic of all architectural progress from Renaissance to the present day in one form or another.

Although Elizabethan Protestantism excluded the culture of Latin Europe, Inigo Jones and Wren later came into contact with the European classical tradition, in the middle of the eighteenth century, Winckelmann's classical studies opened up a new world of Greek and Roman Architecture. The British Museum was one of of the fruits of that ideal of that devoted study of classical antiquity.

Later in the century, said the lecturer, the classical ideal began to pall, being succeeded by "Romantic" Chinese, and Gothic predilections. But still architects looked back for their ideal. Again, the nineteenth century was architecturally preoccupied with the past, seen in the Perpendicular Houses of Parliament and in the enthusiasm for ecclesiastical Gothic.

After the war originality was needed. A great stimulus in this direction had come from the countries untouched by the war (i.e., Scandinavia) and on every hand there developed new materials, new methods of construction and new possibilities. The modern architect, he declared, was looking forward and not backward. Finally he appealed to students to study the fundamentals in architecture.

YORK AND EAST YORK ARCHITECTURAL SOCIETY

The annual dinner of the above Society was held recently at Hull. Mr. Frederick J. Horth, F.R.I.B.A. (President), occupied the chair, and among those present were :—Mr. J. R. Macdonald (Stipendiary Magistrate), Mr. D. Harvey (City Architect), Alderman W. C. Holwell (chairman, Hull Corporation Works Committee), Mr. B. R. Gribbon (president, West Yorkshire Society), Mr. E. A. Sallis Benney, Mr. E. G. Walker, Canon Hall, Mr. G. E. Stephenson, Mr. A. B. Burleigh, Mr. T. Sheppard, M.SC., Mr. Ian MacAlister (secretary, R.I.B.A.), Mr. F. W. Elwell, A.R.A., Principal A. E. Morgan, M.A., Mr. R. Jackson (hon. secretary), Mr. E. A. Pollard (hon. treasurer), and Messrs. C. Leckenby, H. Andrew, and C. W. C. Needham (vice-presidents).

Mr. C. W. Needham, proposing the toast of "The City of Hull," referred to slum clearance. He said he would like to see a shortening of the period between the date of representation and the acquisition of the site.

In one particular instance it had taken more than three years to acquire a site, and it would be a further nine months before new houses would be built on the site. Ald. W. C. Holwell responded.

Sir Giles Gilbert Scott, P.R.I.B.A., responding to the toast of "The R.I.B.A." (proposed by Mr. H. Andrew), said he had heard that Hull was shortly to develop a civic centre, and he hoped it would not be spoiled by a faulty policy in regard to securing the best lay-out and design for buildings.

He could assure the Corporation that the Institute would be glad to help in any way possible.

NORTH STAFFORDSHIRE ARCHITECTURAL ASSOCIATION

At the annual meeting of the above Association, held recently Mr. F. V. Hulme, L.R.I.B.A., of the firm of Messrs. A. Cotton,

Son and Hulme, Tunstall, was elected President of the Association for the ensuing year, in succession to Mr. F. Morrall Maddox, A.R.I.B.A.

Other officers elected were :—Vice-presidents, Mr. R. L. Jones, L.R.I.B.A., Mr. J. R. Piggott, A.R.I.B.A. ; hon. treasurer, Mr. Harold Goldstraw, A.R.I.B.A. ; hon. secretary, Mr. D. C. Campbell, L.R.I.B.A. For the encouragement of architectural students, it has been decided to form an Associate and Student Section.

LIVERPOOL ARCHITECTURAL ASSOCIATION

Lecturing to the Liverpool Architectural Society recently on the post-war development of Central London, Mr. T. A. Darcy Braddell, F.R.I.B.A., said that large-scale replacement had led to an architectural chaos unparalleled in the city's history. London had no coherence because it had no orderly plan based on a definite idea of accepted values.

In fact, London had never been developed by anybody. Wren made an attempt and Nash got nearest, but he never had the advantage of the culture possessed today by the Swedes. The English had the ineradicable habit of being governed and advised by amateurs and of entrusting the solution of problems to Royal Commissions and never to individuals.

" Every captain of industry," Mr. Braddell added, " thinks in his secret heart that he could have designed his offices better than his architect and the architect, poor fish, knows that to get on he must be what is known as good in committee, and that if his building fails it will be no use putting the blame on the committee."

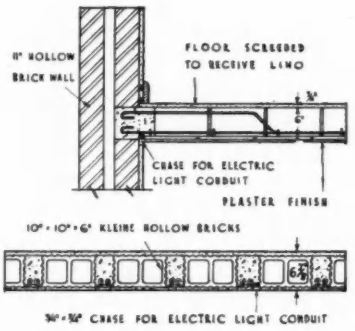
Mr. J. S. Allen, A.R.I.B.A., said London was suffering from the nineteenth century's wrongful view of the importance of individual effort. Architecture was the most communal of all the arts, and it was tragic that London should have been chosen for experiment by men many of whom, he was sorry to say, were R.A.'s.

Building Activity in Sweden

Building constructions for tens of millions of kronor is being put in hand in Stockholm and Sweden generally, following the settlement of the long standing dispute between building contractors and their workmen. In the time which elapsed between the strike breaking out in April last year and its settlement in February this year, all building undertakings of any magnitude were held up.

Among the large works which will now be set in hand in Stockholm are a mental hospital estimated to cost 6½ million kronor (£357,929 at par), a bacteriological laboratory, a museum of marine history, a large hospital and several other buildings.

Not only in Stockholm but all through Sweden builders are getting ready to make up for the time lost during the long months when it was impossible for employers and workers to come to agreement. The university towns of Upsala and Lund have plans ready for the construction of laboratories and libraries, many buildings for provincial administrations will now be started and several schools will be able to carry out long-awaited extensions.



TRADE NOTES

[*BY F. R. S. YORKE, A.R.I.B.A.*]

Hollow Brick Floors for Houses

IN Trade Notes for March 15 there appeared letters from Mr. C. Sweett and the Kleine Company, discussing the economy of hollow tile floors in small house construction. Here is Mr. Sweett's reply to the Kleine Company's comments.

SIR,—Thank you for your letter of yesterday's date enclosing the further information provided by the Kleine Company's reply to my letter, and their booklet, *The All-Brick House*, tends rather to increase my fears that the saving shown could not in practice be effected, and I hope you will excuse what threatens to be a further rather long letter.

I would comment on their replies as follows :—

1. The type of house illustrated on page 10 of the booklet is of much greater size than one is accustomed to find erected in lots of fifty in the South of England, but this type may be more common in Birmingham where apparently the pricing data has been obtained.

9 in. by 2½ in. joists would, I agree, be necessary to span the living room shown, but 5 in. by 2 in. joists would be sufficient to span the hall, and by spanning the kitchen and dining room in the opposite direction to that shown, 8 in. by 2 in. joists would be adequate. Presumably the reason for spanning in the more expensive way is the large opening between the kitchen and dining room which extends from floor to ceiling. This is a very unusual feature I imagine in a house of this type ; 5 in. by 2 in. joists would be adequate over the garage. These revisions would effect a saving on timber for floors and a lesser saving on Kleine. Advantage of the revised spanning has been taken, I notice, for the Kleine floor over the kitchen, 4½ in. being specified in lieu of 6 in.

2. It is not necessary to pack wall bearings to obtain a slightly pitched roof, the plate is normally fixed one course higher at the back edge than the front, or alternatively the joists are notched. No cutting has been measured for the back edge of the 4¾ in. Kleine floor which does not work to a brick dimension as is the case with the 6 in. floor. This labour should, I think, be measured or, alternatively, an extra shown for packing up edge of flat to total 6 in. thickness.

3. The explanation for the specification of 1¼ in. deal tongued and grooved flooring, read in conjunction with paragraph 4 with its reference to client, suggests an individual house needed for a particular client. Would the fixing of wood fillets as shown on page 8 of the booklet, which cuts away the top portion of the rib beam, be allowed under the standard code? If not, fillets must be placed on the surface and at least 1 in. boarding would be required. This would not only be more costly, but would reduce the saving effected on brickwork.

4. I must reiterate my impression that the average client would not be satisfied with a screeded surface only to first floor and I am of opinion that the cost of linoleum or some other surfacing material should be added.

5. I notice from the elevations that all windows are apparently carried up to ceiling level. Presumably the lintols which would be required to the side windows of the garage have been left in ; 3d. per foot run seems to me a very low figure for extra reinforcement to lintols. The formation of lintols over the large windows on the ground floor front elevation would seemingly necessitate the formation of a cantilever construction at right angles to the structural rib of the floor, entailing the use of considerable extra labour and steelwork. Concrete lintols, I suggest, would be not only the cheapest, but the most satisfactory way of dealing with window openings. If this is the case, savings shown by omission of lintols and reinforcement would not be realized.

6. I note that Pioneer plastering is specified on page 12 as one coat work and is priced at 1s. per yard super.

The specification issued by Messrs. Imperial Chemical Industries, the manufacturers of the material, governing the use of Pioneer plaster to soffits of reinforced concrete hollow tile floors, reads as follows :—

" Render with cement and sand, mix in the proportions of one part of Portland cement, three parts of clean sharp sand by volume, 10 per cent. of Limbux, hydrated lime or lime putty can be added if desired.

" Allow a time interval of three days under normal weather conditions before applying setting coat and set in neat Pioneer plaster."

This treatment would, I suggest, cost at least 1s. 6d. per yard super.

7. Priced bills of quantities are available for the type of domestic work suggested in the comparison, executed around London, where the mechanics' rate is 1d. per hour more than that ruling in Birmingham. These prices carrying 10 per cent. profit are approximately 10 per cent. lower than those shown against the detailed bill of quantities on page 11 for the timber floor and for the omission of brickwork.

Will you please impress upon the Kleine flooring company that the sole purpose of this correspondence is in order that I may

be in a position to give accurate information to the large number of people, who since the publication of Messrs. Kleine's comparative figures have asked my opinion as to the possibility of using hollow tile floors in brick built domestic work, without increasing the cost. The advantages in other respects of hollow tile floors are, I think, obvious and its use in and as part of reinforced concrete structures a different matter

Yours faithfully,

C. SWEETT

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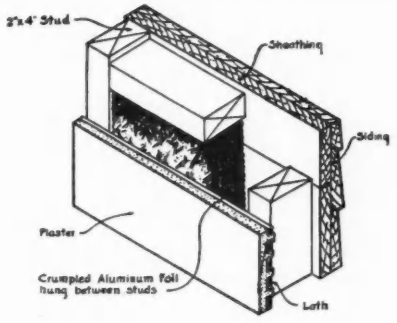
I have received a reply to the above from the Kleine Company, but it arrived too late for inclusion in this issue, and is held over until next week.

Aluminium Foil for Insulation

In *Architectural Forum* for January, 1934, is a research report on the value of aluminium foil for insulation by John H. Callender. The author says the principle involved in all uses of aluminium for insulation is the reflection of radiant heat. Still air offers a higher resistance to the transmission of heat by conduction than any available insulating material. Unless special precautions are taken, however, considerable heat will be transferred through an air space by radiation and convection.



Crumpled aluminium foil suspended between studding to outer wall of timber frame building.

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Insulation is a special provision for the elimination of heat transfer through an air space by radiation and convection. Convection may be minimized by subdividing the air space into small cells. Radiation may be almost eliminated by bounding the air spaces with a material that does not really absorb and emit heat.

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Highly polished metals which reflect most of the radiant heat are particularly efficient materials for this purpose. Since all metals have a very high thermal conductivity, however, and since reflection is exclusively a superficial function, the thickness of metals used for insulation must be reduced to the practical minimum in order that heat transfer by conduction may be prevented.

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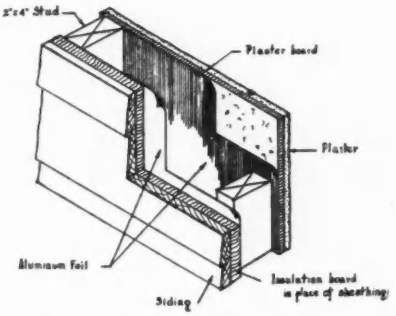
Highly polished aluminium is one of the most reflective surfaces known and, unlike most other bright metallic surfaces, retains its reflectivity practically undiminished under dead atmospheric conditions. It is easily rolled into sheets of any thickness down to 0.00023 in. Aluminium in this form—highly polished foil—is suitable as an insulating material.



Aluminium foil insulation in the walls of timber framed buildings. Foil is here applied on the surfaces of plaster board and compressed fibre board facing the cavity.

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Aluminium foil may be applied to structural or insulating materials, or it may be used to subdivide an air space. It is obtainable in America already applied on building paper, fibre- or plaster-board, and paper-backed wire mesh. When used to subdivide an air space, several sheets of foil may be separated by a skeleton framework of wood or other material, or by sheets of corrugated paper or asbestos, or by partially crumpling the sheets of foil. When the air space is to be divided only once or twice, aluminium foil on heavy paper may be nailed between studs, joists or rafters.

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Aluminium foil is most efficient as an insulator when the sheets are separated by a framework of wood or rigid insulation board. Properly designed, this type of insulation practically eliminates convection, reduces radiation to a very small amount, and its conductivity is similar to that of air. Foils of .005–0.00023 in. thick are used generally. For protection in handling, the outside sheets of foil may be pasted on heavy paper or cardboard, at a slight loss of insulating efficiency. Sheets of corrugated paper may be used instead of wood frame for separating the sheets of foil. This gives a less fragile and therefore for some purposes more practical form of insulation, but conduction will be somewhat higher. Sheets of corrugated asbestos similarly used have the advantage of being fireproof, but they lower the resistance still further. Another simple, easily applied type of aluminium insulation for wood frame buildings is Kraft paper covered on both sides with foil. Rolls are 17 in. wide with the edges scored so that they may be easily turned up and tacked to the studs, joists or rafters. This method is not practical for dividing the air space more than once or twice in the case of 2 in. by 4 in. studding, and should be augmented by foil insulation applied on the materials forming the other surfaces of the air spaces.

Aluminium foil on building paper, plaster board and wire lath, is commercially available in America for use in wood frame construction. In using these materials it must be remembered that aluminium foil has no insulating value except when adjoining an air space. Applied to the inside of sheathing or lath, a single layer of foil has approximately the same insulating value as ½ in. of average insulating board.

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The foil not only increases the thermal resistance of the wall but in addition protects the insulation to some extent from moisture, decay and fire. It should be remembered that when aluminium foil is applied to another material only half of its potential reflective power is employed.

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Some authorities have questioned the permanence of the reflective surface upon which the insulating qualities of aluminium depend. Since no figures from a thoroughly disinterested source are available, and the material is still so new, it is difficult to say positively that this charge is untrue. However, several engineers of high standing in their profession have stated that the loss of reflectivity is so slight as to be negligible, amounting to not more than 2 or 3 per cent. under normal conditions. When aluminium oxidizes, a transparent film is formed which prevents further oxidation. Under severely corrosive conditions a thin coat of lacquer can be applied to the foil.

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A disadvantage, apparently inherent in the material, due to its extreme thinness, is difficulty in handling. To avoid tearing. considerable care is required to crumple, stretch out, cut and nail in place large sheets of foil. This difficulty is, of course, overcome when the foil is backed by Kraft paper or a stronger material.

Literature Received

Industrial Plant

G. A. Harvey and Company

IN PARLIAMENT

[BY OUR SPECIAL REPRESENTATIVE]

Housing

Sir G. Ellis asked the Minister of Health whether, in the Housing Measure announced in the King's Speech, provision would be made for dealing with the evils of overcrowding, in addition to measures to promote the reconditioning of unfit houses dealt with in the Moyne Report; and, if so, whether he could make any statement as to the nature of the intended provisions.

Sir Hilton Young said it was proposed that the measure should include provisions for combating the evils of overcrowding, and that assistance from public funds should be made available for the purpose subject

to certain conditions. These provisions would be in addition to provisions dealing with reconditioning. It would not be of advantage that details of the nature of the provisions in question should be stated before the introduction of the Bill.

Mr. Levy asked the Minister of Health how many slum clearance areas had been marked out and how many protests he had received from property owners, as distinct from site owners, against condemnation without compensation of property which was in good condition merely because it formed part of a slum-clearance area.

Mr. Shakespeare, who replied, said that up to February 28, 2,083 areas had been declared by local authorities to be clearance areas. As regarded the second part of the question, the Minister had received representations in favour of an amendment of the law, but its present effect was not accurately indicated by his hon. friend. Objections by property owners to the inclusion of houses and other buildings in clearance areas were frequent at the local inquiries held by Inspectors of the Ministry before clearance area orders were confirmed, and houses or buildings shown to have been improperly included in an area were excluded from the confirmed order.

In reply to Sir W. Sugden, Sir Hilton Young said that the Housing Division of the Ministry had been strengthened since April, 1933, by the addition of the assistant secretary, two principals, two assistant principals, three staff officers, eight higher clerical officers, and 28 clerical officers. Of these officers, five had previous experience of housing work in the Ministry; two were promoted on transfer to the Division. On April 1, 1933, 20 officers in the Housing Division in different grades had been continuously on housing work for ten years or more—none of them had since been promoted.

Mr. Robinson asked the Minister of Health whether, in order to allay the anxiety caused by the recent inquiries into the adequacy of the slum-clearance schemes of Bootle, Croydon, Durham City, Leicester, Lewes, Maidstone, Margate, Widnes, Whitby, Willesden, and Worthing, he would cause to be published as a White Paper all the speeches made and evidence taken at the inquiries, together with the terms of the inspectors' reports.

Sir Hilton Young said that the inquiries had served the purpose with which they were held of accelerating action by providing him with fuller information than could be obtained by correspondence or otherwise of the actual position in the towns. He had communicated his conclusions to the local authorities concerned. It would not be in accordance with the recognized practice that he should publish correspondence of this kind with a local authority.

Sir G. Collins informed Sir A. Sinclair that the numbers of State-assisted houses under construction by local authorities and private enterprise in Scotland at the end of last October, November, December, and January (the latest month for which statistics were available) were 20,238, 19,259, 18,856, and 18,694 respectively. The numbers of houses approved for subsidy but not begun at the same dates were 5,008, 4,794, 4,609, and 3,441 respectively.

LAW REPORT

DISPUTE OVER COVENANT IN A LEASE

Plummer v. *Ramsey—King's Bench Division. Before Mr. Justice Branson.*

THIS matter came before the Court on two preliminary points of law in the action of Plummer *v.* Ramsey.

Mr. Hallitt, for the plaintiff, said the claim in the action was for a sum of £405 alleged to be due on the expiration of certain leases granted to a tenant of which house defendant was executrix. The plaintiff was tenant of premises at 66 Baker Street, and on different dates sub-let different portions of the premises to the deceased, whom the defendant represented. Four sub-leases were granted, and as the plaintiff's own lease terminated on March 24, 1933, all four were made to terminate on February 24, 1933. All the four sub-leases contained identical covenants, a repairing covenant, which was here material, providing that the tenant would paint during the last month of the tenancy. There was another covenant in clause 15, which was the basis of the first point in the present dispute, which provided that the lessor might, at his option, elect that the lessee should pay him a lump sum in lieu of painting and decorating in the last year of the lease in full satisfaction and discharge of all liability and obligation of the lessee for dilapidations. Counsel argued that the repairing covenant and the covenant in clause 15 were alternative obligations. The second point in dispute was whether a notice of election under clause 15 to take the specified sum had been served in the time, and counsel's contention was that a valid notice could be given at any time.

Mr. A. Jackson, for the defendant, said his client denied that the sum claimed was owing, that the notices given were not valid and that the plaintiff had not in fact suffered any damage. He contended that the obligation to repair and the obligation to pay money under clause 15 were not alternative obligations. The claim for money under clause 15 was to be accepted in full satisfaction of any breach of the covenant to repair.

His lordship, in giving judgment, said in his view clause 15 gave the landlord the power to elect whether he would accept a specified sum of money in lieu of the tenant's obligation to repair. His lordship thought that clause 15 simply gave the landlord his choice whether he would have the tenant paint the premises or whether he would accept the specified sum in discharge of the tenant's obligation. He therefore held that the sum claimed was not a penalty or liquidated damages, but could be recovered under option given by clause 15.

With regard to the notice, clause 15 did not specify any length of notice, and he came to the conclusion that notice of option could be given at any time so long as the obligation of the tenant existed and the tenant was not in breach. It was not suggested that the tenant had made any preparations for painting before the notice was given, and therefore the eviction of estoppel did not arise. He answered both questions raised in the case in favour of the plaintiff, and as there remained no defence to the action, he gave judgment for the plaintiff of £1405 and costs.

The Defilement of Jersey

The island of Jersey, and to a less extent, the Isle of Guernsey, are being spoilt for the next hundred years by indiscriminate building. In neither island is there any proper town planning or control of building elevation. Accordingly the speculative builder is being allowed to erect all kinds of monstrosities. Owing to the financial attraction hundreds of English people are flowing to the Channel Islands on their retirement. The income-tax in Jersey has just been reduced from 6d. to 4d., and this fact is leading more persons to buy, regardless of appearance, the villas and bungalows erected by builders in all parts of the island.

THE BUILDINGS ILLUSTRATED

Sub-Contractors' List

Following are the names of the general contractors and some of the sub-contractors for the buildings illustrated in this issue.

Echelford School, Knapp Road, Ashford (pages 461-463). General contractors, Fassnidge and Son, Ltd. Sub-contractors: Grant Engineering Co., heating and hot water installation; White and Mantle, Ltd., electrical installation; Gas Light and Coke Co., gas services; Wm. F. Rees, Ltd., tarpaving; Granwood Flooring Co., Ltd., flooring (to classrooms, assembly hall, staff rooms, etc.); Indented Bar and Concrete Engineering Co., Ltd., concrete reinforcement; Henry Hope and Sons, Ltd., metal windows; Ragusa Asphalte Paving Co., Ltd., asphalting to flat roofs; Enfield Stone Co., Ltd., artificial stone; T. A. Harris, Ltd., sanitary fittings; Henry J. Greenham, Ltd., facing bricks; Samuel Elliott and Sons (Reading), Ltd., flush doors.

Regal Cinema, Hull (pages 464-466). General contractors, Robt. G. Tarran. Consulting structural engineer, S. W. Budd. Consulting electrical engineer, Basil Davies. Sub-contractors: Dorman, Long & Co., Ltd., steelwork; Mollo and Egan, painted decoration; Booker and Tarran, electrical installation; The Franki Compressed Pile Co., Ltd., foundation; Northern Asphalt Co., Ltd., asphalt roofing; A. J. Snelling & Co., heating; Chas. Raine and Sons, Ltd., ventilating; F. P. Tarran, plumbing; Kingston Cast Stone Co., cast stone and pre-cast steps; J. Peers and Son, masonry; Watts Bros., haulage; Brandesburton Gravel and Concrete Co., Ltd., gravel and sand; W. J. Wilson and Son, fibrous plaster; Storry, Smithson & Co., Ltd., decorative paints; Rapid Precast Floor Co., concrete roof; General Electric Co., Ltd., electrical fittings; Strand Electric and Engineering Co., Ltd., electrical stage equipment; George Pixton & Co., Ltd., seating; Hampton and Sons, Ltd., carpets; F. H. Carpenter and Son, Ltd., curtains, draperies and café furniture; The Hull Electric Supply Co., electrical kitchen equipment; O. Toffolo and Son, mosaic work; Swanser and Son, canopy, metal grilles and special handrails; Armitage and Greenwood, balconnette and metal grilles; Gimson & Co. (Leicester), Ltd., counterweights; Walter Cassey, Ltd., door furniture; The Western Electric Co., Ltd., sound equipment; P. Conacher & Co., organ; J. Frank Brockliss, Ltd., projection equipment; A. Coltman & Co., Ltd., publicity frames; Electrolux, Ltd., refrigerators; Fairfax, Ltd., uniforms; Phillips & Co., cutlery and silverware.

House at Beeston Regis (page 474). General contractors, A. G. Brown. Sub-contractors Crittall Manufacturing Co., Ltd., windows; Permanite Asphalte Co., asphalt; TenTest Fibre Board Co., Ltd., ceilings.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILE RADIUS)

ACTON. *Factory, Workshops and Houses.* Plans passed by the Corporation: Factory, Chase Road, for Mr. F. E. Simpkins, on behalf of Messrs. L. Lazarus, Ltd.; workshop and stores, Wales Farm Road, for Messrs. W. H. Gaze and Sons, Ltd., on behalf of Telegraph Condenser Co., Ltd.; 48 houses, Western Avenue, for Mr. W. Atkinson.

CITY OF LONDON. *Rebuilding.* The City of London Corporation is to effect an improvement, at a cost of £20,950, in connection with the proposal of the Sackville Estates (London) Ltd., to rebuild Nos. 154, 155 and 156, Fenchurch Street.

DARTFORD. *Houses.* Plans passed by the Corporation: Two houses, Colney Road, for Mr. H. J. Horton; eight houses, Red Lodge Road, for Messrs. Rivers and Bryant; two houses, Watling Street, for Mr. L. Fuller; 14 houses, Chatsworth Road, for Mr. W. G. Cooper; shop and flats, High Street, for Prices Tailors, Ltd.

EALING. *Factories, Shops, Flats, etc.* Plans passed by the Corporation: Two shops, South Ealing Road, for Mr. S. H. West; three shops and flats, Ruislip Road, for Mr. E. R. Taylor, on behalf of Greater London Properites, Ltd.; 14 houses, Coniston Avenue, for Mr. A. E. Murdock; 4 houses, Russell Road, for Hayes Bridge Estate Co., Ltd.; 140 houses, Burnham Way, for Mr. A. J. Ginger, Norwood Green, Southall; six houses, Bridgewater Road, for Houselands, Ltd.; 68 houses, Clarendon Road, for Messrs. B. Smith (Builders), Ltd.; two houses, Greenford Gardens, for Mr. H. T. Buckingham; 10 houses, Corringway, for Messrs. Haymills, Ltd.; church hall, Halsbury Road, for Mr. J. P. Blake; eight garages and bedrooms, Empire Road, for Messrs. Swannell and Sly; factory, Long Drive, for Dental Products, Ltd.; shop, The Broadway, for Messrs. Hall-Jones and Partners; club house and flats, Ruislip Road, for Mr. F. E. Simpkins; factory, Wadsworth Road, for Messrs. Tillett, Ltd.; additions, Hoover factory, Western Avenue, for Messrs. Wallis, Gilbert and Partners; nine shops, Church Road, for Messrs. Grainger Bros., Ltd.; block of flats, Longfield Avenue, and showrooms and flats, Uxbridge Road, for Mr. E. Schaufelberg.

WATFORD. *Houses and Factories.* Plans passed by the Corporation: Two houses, St. Albans Road, for Mrs. F. Swain; four shops, Hamper Mill Lane, for Messrs. Lawton and Wright; factory extension, Vicarage Road, for Watford Printers, Ltd.; nine houses, St. Albans Road, for Messrs. Allen and Seaman; seven shops and flats and 12 houses, Russells estate, for Mr. C. J. W. Hopwood; eight houses, Knutsford Avenue, for Mr. F. J. Allen; houses in Ridge Lane, for Messrs. Burgess and Read; 35 houses, Kingswood estate, for Hillingdon Estate Co.; four houses, Bushey Lodge estate, for Messrs. Tomlin Bros.; factory extension, Rickmansworth Road, for Messrs. S. C. Church; six houses, Westfield Avenue, for Mr. Elbourn; two houses, Grover Road, for Mr. W. E. Lowe; four houses, Berceau Walk, for Mr. E. W. Puddifoot.

WESTMINSTER. *Flats and Shops.* Mr. M. Rosenauer is to erect flats, shops and maisonettes, on the sites of Nos. 17, 18 19 and 20, Arlington Street, Westminster.

SOUTHERN COUNTIES

BRIGHTON. *Bathing Pool.* The Corporation recommends the scheme for the construction of a sea water bathing pool at Black Rock, at an estimated cost of £75,000.

BRIGHTON. *Car Park.* The Corporation recommends the provision of a car park in connection with the proposed bathing pool at Black Rock, at an estimated cost of £9,500.

KENT. *Schools.* The Education Committee has decided to proceed with the following schemes: Sidcup, county school for boys, new building; Gravesend, county school for boys, new building; Maidstone, grammar school for girls, new building; Bexley, Crayford, Dartford and Erith, establishment of a new secondary school for girls in the urban district of Bexley; erection of separate gymnasium and kitchen for the county school for girls, Dartford; replacement of huts; improvements to the premises of the Dartford grammar school; and new building for boys at Erith; Dover, county school for girls, completion of extension; Ramsgate, county school for girls, extension; Beckenham, county school for girls, extension; Canterbury, Simon Langton School for girls, new building; Faversham, grammar school and William Gibbs' school for girls, adaptions and extension to replace existing temporary accommodation; Gillingham, county school for boys, additional science accommodation and gymnasium; Dartford, technical college, gymnasia block and part of main technical college building; Medway, technical college and school of art, buildings of light construction at Fort Pitt, and reorganization of accommodation for further education and the school of art in existing buildings; extension of premises at Rochester and Gillingham; Maidstone, technical institute and school of art, adaptations to old grammar school premises, and extension for purposes of further education, and reorganization of accommodation in the existing technical institute for the purposes of the school of art; Tunbridge Wells, technical institute and school of art, adaptations to the technical institute for purposes of further education, and adaptation of new premises for the school of art; Beckenham and Bromley: Development of further education in existing or new buildings, at Beckenham, and acquisition and adaptation of new premises at Bromley.

LITTLEHAMPTON. *Houses.* Plans passed by the U.D.C.: 48 houses, Milton Avenue, etc., for Mr. C. Swain; 51 houses, off Lyminster Road, for Messrs. A. R. Dairy, Ltd.

EASTERN COUNTIES

CHELMSFORD. *Sanatorium.* The Essex C.C. has purchased the Broomfield Court estate, of 250 acres, as a site for a sanatorium.

LOWESTOFT. *Houses.* Plans passed by the Corporation: Four bungalows, Dell Road, Oulton Broad, for Mr. G. Gaze; three houses, Carlton Road, for Mr. D. G. R. Draper; three houses, Laundry Lane, for Messrs. J. Gaze and Sons; two houses, Winnipeg Road, for Mr. D. Algar; six houses, Colville Road, for Mr. D. Dowell.

YARMOUTH. *Houses.* The Corporation has obtained sanction to borrow £33,600 for the erection of 120 houses on the Middleton Road site.

MIDLAND COUNTIES

HANLEY. *Houses and Shops.* Plans passed: 23 houses, Central Avenue, Bucknall, for Mr. F. J. Williams; six houses, Victoria Street, Bucknall, for Mr. T. Holdcroft; three shops, Old Hall Street, for Mr. F. S. Adcock; four houses, Abbey Lane, for Mr. W. Withington; 22 houses, Rothesay Avenue, for Messrs. Barlow Bros.; six houses, Chell Street, for Messrs. R. Ray and Sons; six houses, Albany Road, for Mr. B. Stubbs.

KETTERING. *Houses, Garages and School.* Plans passed by the U.D.C.: 11 garages, off Wallis Road, for Messrs. O. P. Drever and Sons, Ltd.; two houses, Pipers Hill Lane, for Messrs. Mutton and Clarke; four houses, Neale Avenue, for Messrs. Smith, Edmunds & Co.; two houses, Lewis Road, for Messrs. A. P. Lewis and Son; nursery school, Laburnum Crescent, for Kettering Voluntary Committee.

LONGTON. *Houses.* Plans passed: 25 houses, Drubbery Lane, for Messrs. Holloway & Co.; two houses, Sandon Old Road, for Mr. D. Shone; house and shop, Stone Road, for Mr. J. Barber; four houses, Blurton Road, for Messrs. Prestwood Bros.; 12 houses, Belgrave Road, for Mr. H. Gilbert.

STOKE. *Houses.* In connection with the proposal to erect 558 houses at the Stanfield site, at Burslem, the Corporation has decided to make provision for the erection of 50 houses for large families.

STOKE-ON-TRENT. *Houses.* The Corporation has agreed to make a grant to Church Army Housing, Ltd., in connection with a scheme for the erection of 24 houses at Meir.

Plans passed by the Corporation: Four houses, Corporation Street, for Messrs. Cooper and Jones; three houses, Highfield Avenue, for Messrs. W. Ball and Sons; two houses, Chorley Avenue, for Mr. H. Sale; four houses, New Inn Lane, for Mr. H. J. Emery; four houses, Albany Road, for Mrs. Pearson.

NORTHERN COUNTIES

AUSTERSON. *Smallholdings.* The Cheshire C.C. recommends a scheme for the purchase of over 400 acres at Austerson, for smallholdings purposes, at a total estimated cost of £23,000.

BARROW-IN-FURNESS. *Houses.* Plans passed by the Corporation: Two houses, Thorncliffe Road, for Mr. Jos. Strickland; 14 houses, Flass Lane, for Mr. E. Kendall; two houses, Flass Lane, for Messrs. E. Last and Sons; two houses, Rampside, for Mrs. Bevan; 10 houses, Yarlside Road, for Miss F. West; six houses, Yarlside Road, for Mr. W. H. Paul.

BLACKPOOL. *Houses.* Plans passed by the Corporation: Two houses, Bentinck Avenue, for Mr. T. Southworth; 15 houses, St. Lukes Road, for Mr. E. Elliott; eight houses, Pembroke Avenue, for Sir W. Parkinson & Co., Ltd.; six houses, London Road, for Messrs. Hindle Bros.; two houses, Harcourt Road, for Mr. A. Taylor; two houses, Holmfield Drive, for Messrs. T. Bannister and Sons; two houses, Anchorsholme Lane, for Mr. A. A. Holt; two houses, Beetham Place, for Mr. H. B. Lloyd; two houses, Queen's Drive, for Mr. T. E. Greenwood; four houses, Luton Road, for Messrs. Findley and Watson; two houses, Grasmere Road, for Messrs. Matthews and Buttery; two houses, Sunny Bank Avenue, for Messrs. R. Brown and Son; four houses, Wetherby Avenue, for Mr. W. B. Snape; 20 houses, Bucklet Crescent, for Messrs. Kennard and Mills; 12 houses, Powell Avenue, for Messrs. Hollas and Nutter; two houses, Durley Road, for Mr. James Gregson; two houses, Brun Grove, for Mr. John Massey; house and shop, Benson Road, for Messrs. Deane and Thorley; two houses, St. Lukes Road, for Mr. H. D. Whiteside; two houses, Norbreck Road, for Mr. W. Spencer; two houses, St. Martins Road, for Messrs. Croasdale and Brown; four houses, Ansdell Road, for Mr. A. Nuttall; two houses, Albion Avenue, for Messrs. Streule and Briande; four houses, Swanage Avenue, for Messrs. A. and G. R. Fletcher; two houses, Devonshire Road, for Mr. J. W. Lee.

CARLISLE. *Houses.* The Corporation is to obtain tenders for the erection of 80 houses on the Currock House estate for accommodation of tenants displaced by slum clearances.

ECCLES. *Sewer, Town Hall Extensions and Houses.* The Corporation has approved the following schemes: Outfall sewer, Winton, £47,800; town hall extensions, £30,000; 30 houses, £12,346.

LEEDS. *Houses.* The Corporation has made arrangements for the erection of approximately 30,000 houses during the next five years.

The Corporation is considering the question of making a grant to the Leeds Housing Trust for the proposed erection of 36 houses in East Street.

ROTHERHAM. *Bridge.* The Corporation has approved an amended scheme for the reconstruction of Greasborough Road canal bridge, at a cost of £7,500.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I	II
			s. d.	s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A_1	Abergavenny ..	S Wales & M.	1 5	1 0½
A_2	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1½
A_2	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1½
A	Airdrie ..	Scotland	*1 5½	1 1½
C	Aldeburgh ..	E. Counties	1 1½	10½
A	Altrincham ..	N.W. Counties	1 5½	1 1½
B_2	Appleby ..	N.W. Counties	1 2	10½
A	Ashton-under-Lyne	N.W. Counties	1 5½	1 1½
A_2	Atherstone ..	Mid. Counties	1 4	1 0
B_2	Aylesbury ..	S. Counties	1 2½	11
B_1	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_2	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1½
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow ..	N.W. Counties	1 5½	1 1½
A	Barry ..	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke ..	S.W. Counties	1 3	11½
A_2	Bath ..	S.W. Counties	1 4½	1 0½
A	Batley ..	Yorkshire	1 5½	1 1½
A_2	Bedford ..	E. Counties	1 4½	1 0½
A_2	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_2	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	*1 7	1 2½
A	Birmingham	Mid. Counties	1 5½	1 1½
A_1	Bishop Auckland	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1½
A	Blackpool ..	N.W. Counties	1 5½	1 1½
A	Blyth ..	N.E. Coast	1 5½	1 1½
B_1	Bognor ..	S. Counties	1 3	11½
A	Bolton ..	N.W. Counties	1 5½	1 1½
A_2	Boston ..	Mid. Counties	1 4	1 0
A_2	Bournemouth ..	S. Counties	1 4	1 0
B_2	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1½
A_1	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M.	1 5½	1 1½
B_1	Bridgwater ..	S.W. Counties	1 3	11½
A_1	Bridlington ..	Yorkshire	1 5	1 0½
A	Brighouse ..	Yorkshire	1 5½	1 1½
A_2	Brighton ..	S. Counties	1 4	1 0
A	Bristol ..	S.W. Counties	1 5½	1 1½
B_2	Brixham ..	S.W. Counties	1 2½	11
A_2	Bromsgrove ..	Mid. Counties	1 4½	1 0½
B_2	Bromyard ..	Mid. Counties	1 2	10½
A	Burnley ..	N.W. Counties	1 5½	1 1½
A	Burslem ..	Mid. Counties	1 5½	1 1½
A	Burton-on-Trent	Mid. Counties	1 5½	1 1½
A	Bury ..	N.W. Counties	1 5½	1 1½
A_1	Buxton ..	N.W. Counties	1 5	1 0½
A_1	CAMBRIDGE	E. Counties	1 5	1 0½
B_1	Canterbury ..	S. Counties	1 3	11½
A	Cardiff ..	S. Wales & M.	1 5½	1 1½
A	Carlisle ..	N.W. Counties	1 5½	1 1½
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Carnforth ..	N.W. Counties	1 5½	1 1½
A	Castleford ..	Yorkshire	1 5½	1 1½
B	Chatham ..	S. Counties	1 3½	11½
A_2	Chelmsford ..	E. Counties	1 4	1 0
A_2	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester ..	N.W. Counties	1 5½	1 1½
A	Chesterfield ..	Mid. Counties	1 5½	1 1½
B_1	Chichester ..	S. Counties	1 3	11½
A	Chorley ..	N.W. Counties	1 5½	1 1½
B_1	Cirencester ..	S. Counties	1 3	11½
A	Clitheroe ..	N.W. Counties	1 5½	1 1½
A	Clydebank ..	Scotland	1 5½	1 1½
A	Coalville ..	Mid. Counties	1 5½	1 1½
A_2	Colchester ..	E. Counties	1 4	1 0
A_2	Colne ..	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_2	Consett ..	N.E. Coast	1 5	1 0½
A_2	Conway ..	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1½
A_2	Crewe ..	N.W. Counties	1 4½	1 0½
A	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1½
A	Darwen ..	N.W. Counties	1 5½	1 1½
B_1	Deal ..	S. Counties	1 3	11½
A_2	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby ..	Mid. Counties	1 5½	1 1½
A	Dewsbury ..	Yorkshire	1 5½	1 1½
B	Didcot ..	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1½
B_2	Dorchester ..	S.W. Counties	1 2½	11
A_2	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley ..	Mid. Counties	1 5½	1 1½
A	Dundee ..	Scotland	1 5½	1 1½
A	Durham ..	N.E. Coast	1 5½	1 1½
A_2	FASTBOURNE	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1½
A_1	E. Glamorganshire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter ..	S.W. Counties	*1 4½	1 0½
B	Exmouth ..	S.W. Counties	1 3½	11½
A_2	FELIXSTOWE	E. Counties	1 4	1 0
A_2	Filey ..	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1½
B_1	Folkestone ..	S. Counties	1 3	11½
A	Frodsham ..	N.W. Counties	1 5½	1 1½
B_2	Frome ..	S.W. Counties	1 2½	11
A	GATESHEAD	N.E. Coast	1 5½	1 1½
B	Gillingham ..	S. Counties	1 3½	11½
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole ..	Yorkshire	1 4½	1 0½
A_2	Gosport ..	S. Counties	1 4½	1 0½
A_2	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0½
A	Greenock ..	Scotland	*1 5½	1 1½
A	Grimsby ..	Yorkshire	1 5½	1 1½
B	Guildford ..	S. Counties	1 3½	11½
A	HALIFAX ..	Yorkshire	1 5½	1 1½
A	Hanley ..	Mid. Counties	1 5½	1 1½
A	Harrogate ..	Yorkshire	1 5½	1 1½
A	Hartlepools ..	N.E. Coast	1 5½	1 1½
B	Harwich ..	E. Counties	1 3½	11½
B_1	Hastings ..	S. Counties	1 3	11½
A_2	Hatfield ..	S. Counties	1 4½	1 0½
B	Hereford ..	S.W. Counties	1 3½	11½
A_2	Hertford ..	E. Counties	1 4½	1 0½
A	Heysham ..	N.W. Counties	1 5½	1 1½
A	Howden ..	N.E. Coast	1 5½	1 1½
A	Huddersfield ..	Yorkshire	1 5½	1 1½
A	Hull ..	Yorkshire	1 5½	1 1½
A	ILKLEY ..	Yorkshire	1 5½	1 1½
A	Immingham ..	Mid. Counties	1 5½	1 1½
A_2	Ipswich ..	E. Counties	1 4½	1 0½
B_2	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1½
A	KEIGHLEY ..	Yorkshire	1 5½	1 1½
B	Kendal ..	N.W. Counties	1 3½	11½
B	Keswick ..	N.W. Counties	1 3½	11½
A_2	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster	Mid. Counties	1 4½	1 0½
B_1	King's Lynn ..	E. Counties	1 3	11½
A	LANCASTER ..	N.W. Counties	1 5½	1 1½
A_1	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester ..	Mid. Counties	1 5½	1 1½
A	Leigh	N.W. Counties	1 5½	1 1½
B_2	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln ..	Mid. Counties	1 5½	1 1½
	Liverpool ..	N.W. Counties	*1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly ..	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12-15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1½
A	Loughborough	Mid. Counties	1 5½	1 1½
A_2	Luton	E. Counties	1 4	1 0
A	Lytham ..	N.W. Counties	1 5½	1 1½
A_1	MACCLESFIELD	N.W. Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11½
A_2	Malvern ..	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1½
A	Mansfield ..	Mid. Counties	1 5½	1 1½
B_1	Margate ..	S. Counties	1 3	11½
A	Matlock ..	Mid. Counties	1 4	1 0
A_1	Merthyr ..	S. Wales & M.	1 5	1 0½
A	Middesbrough	N.E. Coast	1 5½	1 1½
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1 2½	11
A	Morecambe ..	N.W. Counties	1 5½	1 1½
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson	N.W. Counties	1 5½	1 1½
A	Newcastle ..	N.E. Coast	1 5½	1 1½
A	Newport ..	S. Wales & M.	1 5½	1 1½
A	Normanton ..	Yorkshire	1 5½	1 1½
A	Northampton	Mid. Counties	1 5½	1 1½
A	North Staffs ..	Mid. Counties	1 5½	1 1½
A	North Shields ..	N.E. Coast	1 5½	1 1½
A_1	Norwich ..	E. Counties	1 5	1 0½
A	Nottingham ..	Mid. Counties	1 5½	1 1½
A	Nuneaton ..	Mid. Counties	1 5½	1 1½
A_2	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham ..	N.W. Counties	1 5½	1 1½
A_2	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford ..	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	*1 5½	1 1½
B_2	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth ..	Scotland	*1 5½	1 1½
A_2	Peterborough ..	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	*1 5½	1 1½
A	Pontefract ..	Yorkshire	1 5½	1 1½
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_2	Portsmouth ..	S. Counties	1 4½	1 0½
A	Preston ..	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate ..	S. Counties	1 3½	11½
A_2	Retford ..	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A_2	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1½
B	Rochester ..	S. Counties	1 3½	11½
A_1	Ruabon ..	N.W. Counties	1 5	1 0½
A	Rugby ..	Mid. Counties	1 5½	1 1½
A_2	Rugeley ..	Mid. Counties	1 4½	1 0½
A	Runcorn ..	N.W. Counties	1 5½	1 1½
A_1	ST. ALBANS ..	E. Counties	1 5	1 0½
A	St. Helens ..	N.W. Counties	1 5½	1 1½
B_2	Salisbury ..	S.W. Counties	1 2½	11
A_1	Scarborough ..	Yorkshire	1 5	1 0½
A	Scunthorpe ..	Mid. Counties	1 5½	1 1½
A	Sheffield ..	Yorkshire	1 5½	1 1½
A	Shipley ..	Yorkshire	1 5½	1 1½
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton ..	Yorkshire	1 4½	1 0½
A_2	Slough ..	S. Counties	1 4½	1 0½
A_1	Solihull ..	Mid. Counties	1 5	1 0½
A_2	Southampton ..	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport ..	N.W. Counties	1 5½	1 1½
A	S. Shields ..	N.E. Coast	1 5½	1 1½
A_1	Stafford ..	Mid. Counties	1 5	1 0½
A	Stockport ..	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud ..	S.W. Counties	1 3½	11½
A	Sunderland ..	N.E. Coast	1 5½	1 1½
A	Swadlincote ..	Mid. Counties	1 5½	1 1½
A	Swansea ..	S. Wales & M.	1 5½	1 1½
A_2	Swindon ..	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton ..	S.W. Counties	1 3½	11½
A	Teesside Dist. ..	N.E. Counties	1 5½	1 1½
A_2	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1½
A_1	Torquay ..	S.W. Counties	1 5	1 0½
B_2	Truro ..	S.W. Counties	1 2½	11
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall ..	Mid. Counties	1 5½	1 1½
A	Tyne District ..	N.E. Coast	1 5½	1 1½
A	WAKEFIELD	Yorkshire	1 5½	1 1½
A	Walsall ..	Mid. Counties	1 5½	1 1½
A	Warrington ..	N.W. Counties	1 5½	1 1½
A_1	Warwick ..	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid. Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby ..	Yorkshire	1 4½	1 0½
A	Widnes ..	N.W. Counties	1 5½	1 1½
A	Wigan ..	N.W. Counties	1 5½	1 1½
B	Winchester ..	S. Counties	1 3½	11½
A_2	Windsor ..	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_2	Worksop ..	Yorkshire	1 4	1 0
A_1	Wrexham ..	N.W. Counties	1 5	1 0½
A_2	Wycombe ..	S. Counties	1 4	1 0
B_1	YARMOUTH ..	E. Counties	1 3	11½
B_1	Yeovil	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	1 1½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	£ s. d.
Bricklayer . . . . . per hour	1 7
Carpenter . . . . . ,,	1 7
Joiner . . . . . ,,	1 7
Machinist . . . . . ,,	1 8
Mason (Banker) . . . . . ,,	1 7
,, (Fixer) . . . . . ,,	1 8
Plumber . . . . . ,,	1 7
Painter . . . . . ,,	1 6
Paperhanger . . . . . ,,	1 6
Glazier . . . . . ,,	1 7
Slater . . . . . ,,	1 7
Scaffolder . . . . . ,,	1 3
Timberman . . . . . ,,	1 3
Navvy . . . . . ,,	1 2½
General Labourer . . . . . ,,	1 2½
Lorryman . . . . . ,,	1 5
Crane Driver . . . . . ,,	1 6
Watchman . . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£ s. d.
Grey Stone Lime . . . . per ton	2 2 0
Blue Lias Lime . . . . ,,	1 16 6
Hydrated Lime . . . . ,,	3 0 9
Portland Cement . . . . ,,	2 6 0
Rapid Hardening Cement . . . ,,	2 13 6
White Portland Cement . . . ,,	8 15 0
Thames Ballast . . . per Y.C.	6 3
¾" Crushed Ballast . . . ,,	6 9
Building Sand . . . . ,,	7 3
Washed Sand . . . . ,,	8 3
2" Broken Brick . . . . ,,	8 0
¾" ,, ,, ... ,,	10 3
Pan Breeze . . . . ,,	6 6
Coke Breeze . . . . ,,	8 9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

	4" s. d.	6" s. d.
Straight Pipes . . per F.R	0 9	1 1
Bends . . . each	1 9	2 6
Taper Bends . . ,,	3 6	5 3
Rest Bends . . ,,	4 3	6 3
Single junctions . . ,,	3 6	5 3
Double . . ,,	4 9	6 6
Straight channels . . per F.R.	1 6	2 6
¾" Channel bends . . each	2 9	4 0
Channel junctions . ,,	4 6	6 6
Channel tapers . . ,,	2 9	4 0
Yard gullies . . ,,	6 9	8 9
Interceptors . . ,,	16 0	19 6

IRON DRAINS:

Iron drain pipe . . per F.R.	1 6 2 6
Bends . . . each	5 0 10 6
Inspection bends . . ,,	9 0 15 0
Single junctions . . ,,	8 9 18 0
Double junctions . . ,,	13 6 30 0
Lead wool . . . lb.	6 —
Gaskin . . . ,,	5 —

BRICKLAYER

	£ s. d.
Flettons . . . . . per M.	2 18 0
Grooved do. . . . . ,,	3 0 0
Phorpres bricks . . . . ,,	2 17 3
Phorpres Cellular bricks . . ,,	2 17 3
Stocks, 1st quality . . . ,,	4 11 0
,, 2nd ,, . . . ,,	4 2 6
Blue Bricks, Pressed . . . ,,	8 17 6
,, Wirecuts . . ,,	7 17 6
,, Brindles . . ,,	7 0 0
,, Bullnose . . ,,	9 0 0
Red Sand-faced Facings . . ,,	6 18 6
Red Rubbers for Arches . . ,,	12 0 0
Multicoloured Facings . . ,,	7 10 0
Luton Facings . . . . ,,	7 10 0
Phorpres White Facings . . ,,	3 17 3
Phorpres Rustic Facings . . ,,	3 12 3
Midhurst White Facings . . ,,	5 0 0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:	
Stretchers . . . . . ,,	21 0 0
Headers . . . . . ,,	20 10 0
Bullnose . . . . . ,,	27 10 0
Double Stretchers . . . ,,	29 10 0
Double Headers . . . . ,,	26 10 0
Glazed Second Quality, *Less* . . ,,	1 0 0
,, Buffs and Creams, *Add* . ,,	2 0 0
,, Other Colours . . ,,	5 10 0
2" Breeze Partition Blocks . per Y.S.	1 7
2½" ,, ,, ,, . . ,,	1 10
3" ,, ,, ,, . . ,,	2 1
4" ,, ,, ,, . . ,,	2 6

MASON

The following d/d F.O.R. at Nine Elms:	s. d.
Portland stone, Whitbed . . F.C.	4 4½
,, ,, Basebed . . ,,	4 9
Bath stone . . . . ,,	2 11
York stone . . . . ,,	6 6
,, ,, Sawn templates . . ,,	7 6
,, ,, Paving, 2" . . F.S.	1 8
,, ,, ,, 3" . .	2 6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£ s. d.
24" × 12" Duchesses . . . per M.	28 17 6
22" × 12" Marchionesses . . ,,	24 10 0
20" × 10" Countesses . . ,,	19 5 0
18" × 10" Viscountesses . . ,,	15 10 0
18" × 9" Ladies . . . ,,	13 17 6
Westmorland green (random sizes) . per ton	8 10 0
Old Delabole slates d/d in full truck loads to Nine Elms Station:	
20" × 10" medium grey per 1,000 (actual)	21 11 6
,, green ,, ,,	24 7 4
Best machine roofing tiles . . ,,	4 10 0
Best hand-made do. . . . ,,	5 0 0
Hips and valleys . . . each	9½
,, hand-made . . . ,,	10
Nails, compo . . . . lb.	1 4
,, copper . . . ,,	1 6

CARPENTER AND JOINER

	s. d.
Good carcassing timber . . F.C.	2 2
Birch . . . . as 1" F.S.	9
Deal, Joiner's . . . ,, ,,	5
,, ,, 2nds . . ,, ,,	4
Mahogany, Honduras . . ,, ,,	1 3
,, African . . ,, ,,	1 1
,, Cuban . . ,, ,,	2 6
Oak, plain American . . ,, ,,	1 0
,, Figured ,, . . ,, ,,	1 3
,, Plain Japanese . . ,, ,,	1 2
,, Figured ,, . . ,, ,,	1 5
,, Austrian wainscot . . ,, ,,	1 6
,, English . . . ,, ,,	1 11
Pine, Yellow . . . ,, ,,	1 0
,, Oregon . . . ,, ,,	4
,, British Columbian . . ,, ,,	4
Teak, Moulmein . . . ,, ,,	1 3
,, Burma . . . ,, ,,	1 2
Walnut, American . . . ,, ,,	2 3
,, French . . . ,, ,,	2 3
Whitewood, American . . ,, ,,	1 1
Deal floorings, ¾" . . . Sq.	18 6
,, 1" . . . ,,	1 1 6
,, 1¼" . . . ,,	1 2 0
,, 1½" . . . ,,	1 5 0
,, 1¾" . . . ,,	1 10 0
Deal matchings ¾" . . . ,,	14 0
,, 1" . . . ,,	15 6
,, 1¼" . . . ,,	1 4 0
Rough boarding ¾" . . . ,,	16 0
,, 1" . . . ,,	18 0
,, 1¼" . . . ,,	1 6 0

Plywood, per ft. sup.

Thickness	¼"			⅜"			½"			⅝"		
Qualities	AA.	A.	B.	AA.	A.	B.	AA.	A.	B.	AA.	A.	B.
	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.
Birch	4	3	2	5	4	3	7½	6	4½	8½	7	6
Alder	3½	3	2	5	4	3	6½	5½	4½	8	7	6
Gaboon Mahogany	4	3	3	6½	5½	4½	9½	7½	–	1/0½	10	–
Figured Oak 1 side	8½	7	–	10	8	–	11½	–	–	1/6	–	–
Plain Oak 1 side	6½	6	–	7½	7	–	9½	–	–	1/–	–	–
Oregon Pine	5	4	–	5½	5	–	6	–	–	–	–	–

	d.
Scotch glue . . . . . lb.	8

SMITH AND FOUNDER

Tubes and Fittings:

(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	¼"	⅜"	½"	¾"	1"	1¼"	1½"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10			
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9			
,, 3"-11½" long ,,	7	9	1/3	1/8	3/–			
Long screws, 12"-23½" long ,,	11	1/3	2/2	2/10	5/3			
,, ,, 3"M-1½" long ,,	8	10	1/5	1/11	3/6			
Bends . . . . ,,	8	11	1/7½	2/7½	5/2			
Springs not socketed . . ,,	5	7	1/1½	1/11½	3/11			
Socket unions . . ,,	2/–	3/–	5/6	6/9	10/–			
Elbows, square . . ,,	10	1/1	1/6	2/2	4/3			
Tees . . . . ,,	1/–	1/3	1/10	2/6	5/1			
Crosses . . . ,,	2/2	2/9	4/1	5/6	10/6			
Plain Sockets and nipples ,,	3	4	6	8	1/3			
Diminished sockets . ,,	4	6	9	1/–	2/–			
Flanges . . . ,,	9	1/–	1/4	1/9	2/9			
Caps . . . . ,,	3½	5	8	1/–	2/–			
Backnuts . . . ,,	2	3	5	6	1/1			
Iron main cocks . . ,,	1/6	2/3	4/2	5/4	11/6			
,, ,, with brass plugs ,,	—	4/–	7/6	10/–	21/–			

Discounts:

TUBES.

	Per cent.		Per cent.
Gas . . .	65	Galvanized gas .	52½
Water . . .	61½	,, water	47½
Steam . . .	57½	,, steam	42½

FITTINGS.

Gas . . .	57½	Galvanized gas .	47½
Water . . .	52½	,, water	42½
Steam . . .	47½	,, steam	37½

SMITH AND FOUNDER—*continued*

	s. d.
Rolled steel joists cut to length . . cwt.	10 9
Mild steel reinforcing rods, ¾" . . . ,,	8 6
,, ,, ⅝" . . . ,,	8 3
,, ,, ½" . . . ,,	8 0
,, ,, ⅜" . . . ,,	7 6
,, ,, ¼" . . . ,,	7 6
,, ,, 1" . . . ,,	7 6
,, ,, 1¼" . . . ,,	7 6
,, ,, 1½" . . . ,,	7 6

Cast-iron rain-water pipes of ordinary thickness metal	3" s. d.	4" s. d.
	. F.R. 8	10
Shoes	each 2 0	3 0
Anti-splash shoes . . . ,,	4 6	8 0
Boots . . . . ,,	3 0	4 0
Bends . . . . ,,	2 7	3 9
,, with access door . . ,,	—	6 3
Heads . . . . ,,	4 0	5 0
Swan-necks up to 9" offsets . ,,	3 9	6 0
Plinth bends, 4½" to 6" . ,,	3 9	5 3

Half-round rain-water gutters of ordinary thickness metal	5"	6"
	. F.R.	5	6
Stop ends	each	6	6
Angles . . . . ,,	1 7	1 11
Obtuse angles . . . ,,	2 0	2 6
Outlets . . . . ,,	1 9	2 3

PLUMBER

	£ s. d.
Lead, milled sheets . . . cwt.	1 0 0
,, drawn pipes . . . ,,	17 0
,, soil pipe . . . ,,	1 0 0
,, scrap . . . ,,	10 6
Solder, plumbers' . . . lb.	9½
,, fine do. . . . ,,	1 0
Copper, sheet . . . ,,	8½
,, tubes . . . ,,	11

L.C.C soil and waste pipes:	3"	4"	6"
Plain cast . .	F.R. 1 0	1 2	2 6
Coated . . .	,, 1 1	1 3	2 8
Galvanized . .	,, 2 0	2 6	4 6
Holderbats . .	each 3 10	4 0	4 9
Bends . . .	,, 3 9	5 3	10 3
Shoes . . .	,, 2 10	4 4	9 6
Heads . . .	,, 4 8	8 5	12 9

PLASTERER

	£ s. d.
Lime, chalk . . . per ton	2 5 0
Plaster, coarse . . . ,,	2 10 0
,, fine . . . ,,	4 15 0
Hydrated lime . . . ,,	3 0 9
Sirapite . . . . ,,	3 6 0
Keene's cement . . . ,,	5 0 0
Sand, washed . . . Y.C.	11 6
Hair . . . . lb.	6
Laths, sawn . . . bundle	2 4
,, rent . . . ,,	3 9
Lath nails . . . lb.	3½

GLAZIER

	s. d.	s. d.
Sheet glass, 21 oz., squares n/e 2 ft.	s. F.S.	2
,, ,, 26 oz. ,, ,, ,, ,,		3½
Arctic glass, white . . . ,,		7
Cathedral glass, white, dbl.-rolled, plain, hammered, rimpled, waterwite,		6½
¼" Hartley's rough rolled . . ,,		7
¼" ,, wired cast . . ,,		10
¼" Georgian wired cast . . ,,		11
¼" Polished plate, n/e 1 ft. . ,,	†10 to‡1	1
,, ,, 2 . . ,,	†1 2 ,, ‡1	4
,, ,, 3 . . ,,	†1 8 ,, ‡1	11
,, ,, 4 . . ,,	†2 3 ,, ‡2	6
,, ,, 6 . . ,,	†2 7 ,, ‡2	9
,, ,, 8 . . ,,	†2 9 ,, ‡3	2
,, ,, 12 . . ,,	†3 1 ,, ‡3	7
,, ,, 20 . . ,,	†3 7 ,, ‡4	2
,, ,, 45 . . ,,	†3 11 ,, ‡4	7
,, ,, 65 . . ,,	†4 4 ,, ‡4	11
,, ,, 90 . . ,,	†4 9 ,, ‡5	5
,, ,, 100 . . ,,	†5 0 ,, ‡5	7
Vita glass, sheet, n/e 1 ft. . ,,		1
,, ,, ,, 2 . . ,,		1 3
,, ,, ,, over 2 . ,,		1 6
,, ,, plate, n/e 1 ft. . ,,		1 6
,, ,, ,, 2 . . ,,		3 0
,, ,, ,, 5 . . ,,		4 0
,, ,, ,, 7 . . ,,		5 0
,, ,, ,, 15 . . ,,		6 0
,, ,, ,, over 15 . ,,		7 6
Putty, linseed oil . . . lb.		3

†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

	£ s. d.
White lead in 1 cwt. casks . . cwt.	2 6 0
Linseed oil . . . . gall.	2 2½
Boiled oil . . . . ,,	2 4½
Turpentine . . . . ,,	4 1½
Patent knotting . . . ,,	14 0
Distemper, washable . . . cwt.	2 6 0
,, ordinary . . . ,,	2 0 0
Whitening . . . . ,,	4 0
Size, double . . . firkin	3 0
Copal varnish . . . gall.	13 0
Flat varnish . . . ,,	14 0
Outside varnish . . . ,,	16 0
White enamel . . . ,,	1 15 0
Ready-mixed paint . . ,,	13 6
Brunswick black . . ,,	7 6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR		£	s.	d.
Digging over surface n/e 12" deep and cart away	Y.S.		2	9
" to reduce levels n/e 5' 0" deep and cart away	Y.C.		8	6
" to form basement n/e 5' 0" deep and cart away	"		9	0
" " 10' 0" deep and cart away	"		9	6
" " 15' 0" deep and cart away	"		10	0
If in stiff clay add	"		2	6
If in underpinning "	"		4	0
Planking and strutting to sides of excavation	F.S.		1	0
" " to pier holes	"			5
" " to trenches	"			5
" " extra, only if left in	"			3
Hardcore, filled in and rammed	Y.C.		10	0
Portland cement concrete in foundations (6-1)	"	1	6	0
" " (4-2-1)	"	1	12	6
" " underpinning	"	1	16	0
Finishing surface of concrete, spade face	Y.S.			7

DRAINLAYER		4" s. d.	6" s. d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1 6	2 3
Extra, only for bends	Each	2 8	3 9
" junctions	"	3 9	4 6
Gullies and gratings	"	16 6	18 0
Cast iron drains, and laying and jointing	F.R.	4 9	6 9
Extra, only for bends	Each	10 6	15 6

BRICKLAYER		£	s.	d.
Brickwork, Flettons in lime mortar	Per Rod	27	10	0
" in cement	"	28	15	0
" Stocks in cement	"	35	0	0
" Blues in cement	"	52	0	0
Extra only for circular on plan	"	2	0	0
" backing to masonry	"	1	10	0
" raising on old walls	"	2	0	0
" underpinning	"	5	10	0
Fair Face and pointing internally	F.S.			1½
Extra over fletton brickwork for picked stock facings and pointing	"			8½
" " " red brick facings and pointing	"			11
" " " blue brick facings and pointing	"		1	4
" " " glazed brick facings and pointing	"		3	6
Tuck pointing	"			7
Weather pointing in cement	"			3½
Slate dampcourse	"			10
Vertical dampcourse	"		1	1

ASPHALTER		s.	d.
½" Horizontal dampcourse	Y.S.	4	6
½" Vertical dampcourse	"	6	9
½" paving or flat	"	4	0
1" paving or flat	"	5	6
1" × 6" skirting	F.R.	1	0
Angle fillet	"		2
Rounded angle	"		2
Cesspools	Each	5	0

MASON		s.	d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C.	17	9
Bath stone and do., all as last	"	13	6
Artificial stone and do.	"	13	0
York stone templates, fixed complete	"	10	6
" thresholds	"	13	6
" sills	"	1	0	6

SLATER AND TILER		£	s.	d.
Slating, Bangor or equal, laid to a 3" lap, and fixing with compo nails, 20" × 10"	Sqr.	3	10	0
Do., 18" × 9"	"	3	7	0
Do., 24" × 12"	"	3	17	0
Westmorland slating, laid with diminished courses	"	6	0	0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course	"	3	0	0
Do., all as last, but of machine-made tiles	"	2	16	0
20" × 10" medium Old Delabole slating, laid to a 3" lap (grey)	"	4	6	0
" " " " " " (green)	"	4	15	0

CARPENTER AND JOINER		£	s.	d.
Flat boarded centering to concrete floors, including all strutting	Sqr.	2	5	0
Shuttering to sides and soffits of beams	F.S.			8
" to stanchions	"			8
" to staircases	"		1	8
Fir and fixing in wall plates, lintols, etc.	F.C.		3	9
Fir framed in floors	"		4	6
" " roofs	"		6	6
" " trusses	"		7	6
" " partitions	"		8	6
1" deal sawn boarding and fixing to joists	Sqr.	1	14	6
1" " " " "	"	1	17	6
1½" " " " "	"	2	3	0
4" × 2" fir battening for Countess slating	"		9	6
Do. for 4" gauge tiling	"		12	0
Stout feather-edged tilting fillet	F.R.			4½
Patent inodorous felt, 1 ply	Y.S.		2	3
" " " 2 "	"		2	9
" " " 3 "	"		3	3
Stout herringbone strutting to 9" joists	F.R.			10½
1" deal gutter boards and bearers	F.S.		1	2
1½" " " "	"		1	6
2" deal wrought rounded roll	F.R.			8
1" deal grooved and tongued flooring, laid complete, including cleaning off	Sqr.	2	1	0
1½" do.	"	2	10	0
2" do.	"	2	17	0
1" deal moulded skirting, fixed on, and including grounds plugged to wall	F.S.		1	6
1½ do.	"		1	9

CARPENTER AND JOINER—*continued*		s.	d.
1½" deal moulded sashes of average size	F.S.	1	9½
2" " " "	"	1	11½
1½" deal cased frames double hung, of 6" × 3" oak sills, 1¼" pulley stiles, 1½" heads, 1" inside and outside linings, ⅝" parting beads, and with brass faced axle pulleys, etc., fixed complete	"	3	7
2" " " "	"	3	10
Extra only for moulded horns	Each		6
1½" deal four-panel square, both sides, door	F.S.	2	0
2" " " "	"	2	8
1½" " but moulded both sides	"	2	4
2" " " "	"	3	0
4" × 3" deal, rebated and moulded frames	F.R.	1	0
4½" × 3½" " " "	"	1	4
1½" deal tongued and moulded window board, on and including deal bearers	F.S.	1	9
1½" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	"	2	6
1½" deal moulded wall strings	"	2	1
1½" " outer strings	"	2	4
Ends of treads and risers housed to string	Each	1	9
3" × 2" deal moulded handrail	F.R.	1	3
1" × 1" deal balusters and housing each end	Each	2	0
1½" × 1½" " " "	"	2	9
3" × 3" deal wrought framed newels	F.R.	1	3
Extra only for newel caps	Each	6	0
Do., pendants	"	6	0

SMITH AND FOUNDER		£	s.	d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt.		15	6
Riveted plate or compound girders, and hoisting and fixing in position	"		19	6
Do. stanchions with riveted caps and bases and do.	"		19	0
Mild steel bar reinforcement, ½" and up, bent and fixed complete	"		17	6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S.			11
Wrot-iron caulked and cambered chimney bars	Per cwt.	1	10	0

PLUMBER		£	s.	d.
Milled lead and labour in flats	cwt.	1	13	6
Do. in flashings	"	1	17	0
Do. in covering to turrets	"	2	3	0
Do. in soakers	"	1	9	0
Labour to welted edge	F.R.			3½
Open copper nailing	"			3½
Close " "	"			4½

Lead service pipe and fixing with pipe hooks	½" s. d	¾" s. d.	1" s. d.	1¼" s. d.	2" s. d.	4" s. d.
	F.R. 1 0	1 2	1 5	2 1	3 0	—
Do. soil pipe and fixing with cast lead tacks	—	—	—	—	—	5 9
Extra, only to bends	Each —	—	—	—	2 3	6 3
Do. to stop ends	" 6½	8	9	11	1 0	—
Boiler screws and unions	" 3 3	3 9	5 0	8 0	—	—
Lead traps	" —	—	—	6 3	8 9	—
Screw down bib valves	" 6 9	9 6	11 0	—	—	
Do. stop cocks	" 9 0	11 0	14 6	20 6	47 1	—

		s.	d.
4" cast-iron ½-rd. gutter and fixing	F.R.	1	0
Extra, only stop ends	Each	1	0
Do. angles	"	1	6
Do. outlets	"	2	9
4" dia. cast-iron rain-water pipe and fixing with ears cast on	F.R.	1	2
Extra, only for shoes	Each	1	3
Do. for plain heads	"	5	6

PLASTERER AND TILING		s.	d.
Expanded metal lathing, small mesh	Y.S.	2	3
Do. in n/w to beams, stanchions, etc.	"	3	6
Lathing with sawn laths to ceilings	"	1	4
½" screeding in Portland cement and sand for tiling, wood block floor, etc.	"	1	8
Do. vertical	"	2	1
Rough render on walls	"	1	3
Render, float and set in lime and hair	"	1	11
Render and set in Sirapite	"	2	1
Render, backing in cement and sand, and set in Keene's cement	"	2	10
Extra, only if on lathing	"		4
Keene's cement, angle and arris	F.R.		6
Arris	"		2
Rounded angle, small	"		3
Plain cornices in plaster, including dubbing out, per 1" girth	"		1½
1" granolithic pavings	Y.S.	3	6
1½" " "	"	4	6
6" × 6" white glazed wall tiling and fixing on prepared screed	"	17	6
9" × 3" " " " "	"	1	2	6
Extra, only for small quadrant angle	F.R.			8

GLAZIER		s.	d.
21 oz. sheet glass and glazing with putty	F.S.		7½
26 oz. do. and do.	"		8½
Arctic glass and glazing with putty	"	1	1
Cathedral glass and do.	"	1	2
Glazing only, British polished plate	"		7
Extra, only if in beads	"		2
Washleather	F.R.		4

PAINTER		s.	d.
Clearcolle and whiten ceilings	Y.S.		6½
Do. and distemper walls	"		9
Do. with washable distemper	"	1	1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	"	3	3
Do. on woodwork	"	3	6
Do. on steelwork	"	3	0
Do. and brush grain and twice varnish	"	5	6
Stain and twice varnish woodwork	"	1	11
Stain and wax-polish woodwork	"	4	6
French polishing	F.S.	1	2
Stripping off old paper	Piece	2	0
Hanging ordinary paper from	"	2	9

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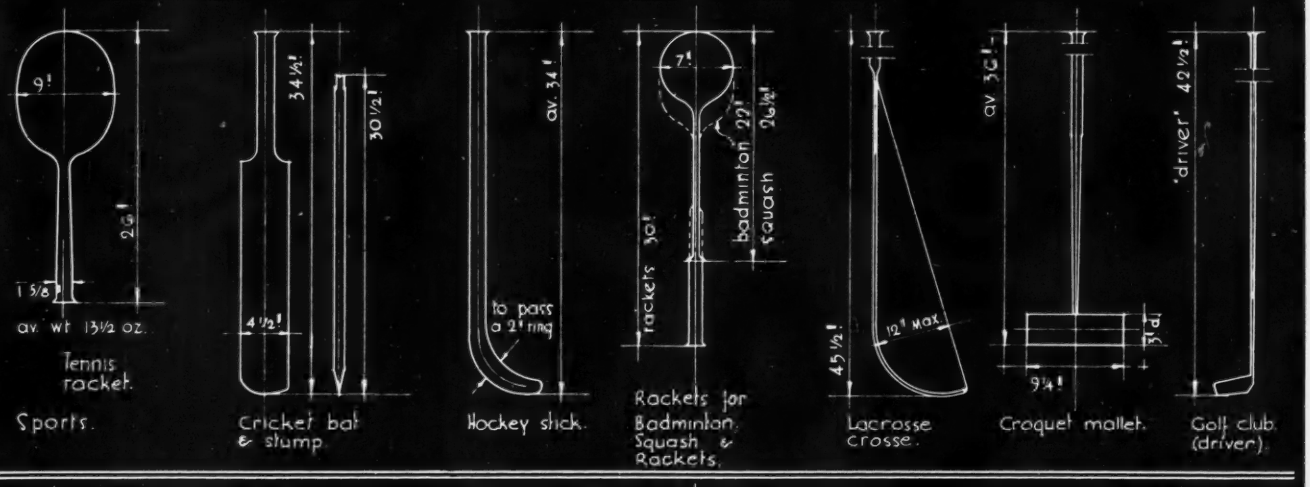

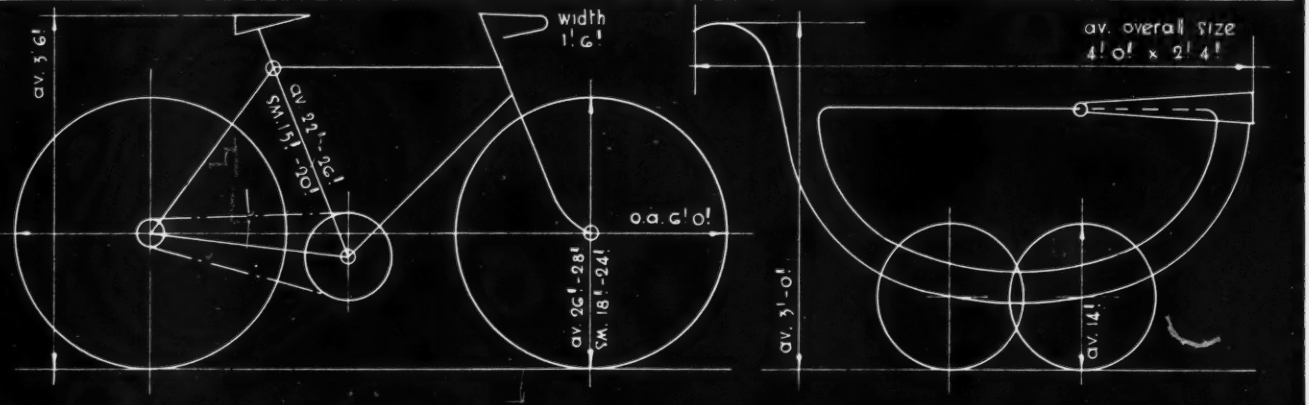

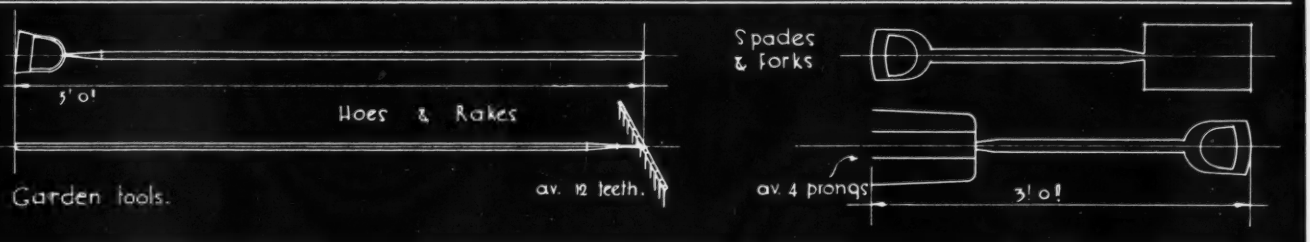

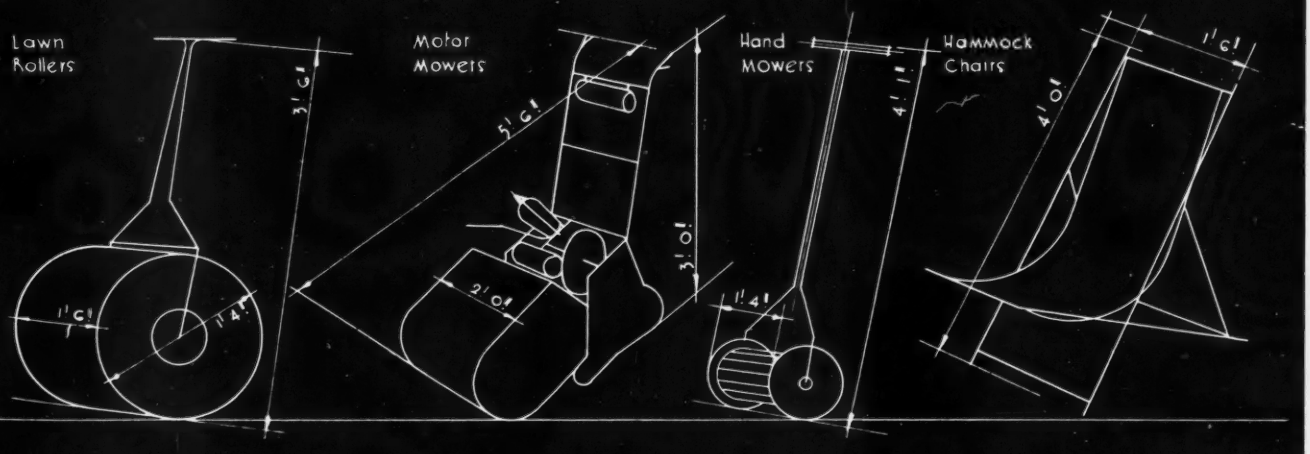

INFORMATION SHEET : COMMON SIZES OF VARIOUS ARTICLES.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQ LONDON WC1

INFORMATION SHEET • 95 • MISCELLANEOUS SIZES

Supplement to THE ARCHITECTS' JOURNAL for March 29, 1934

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

• 95 •

MISCELLANEOUS SIZES

ON this Sheet are shown the overall dimensions of the various common miscellanea for which storage space is generally required in cloak rooms, garages, or outbuildings. Some of the sizes are necessarily approximate but, when possible, the maximum figures or probable variations have been given.

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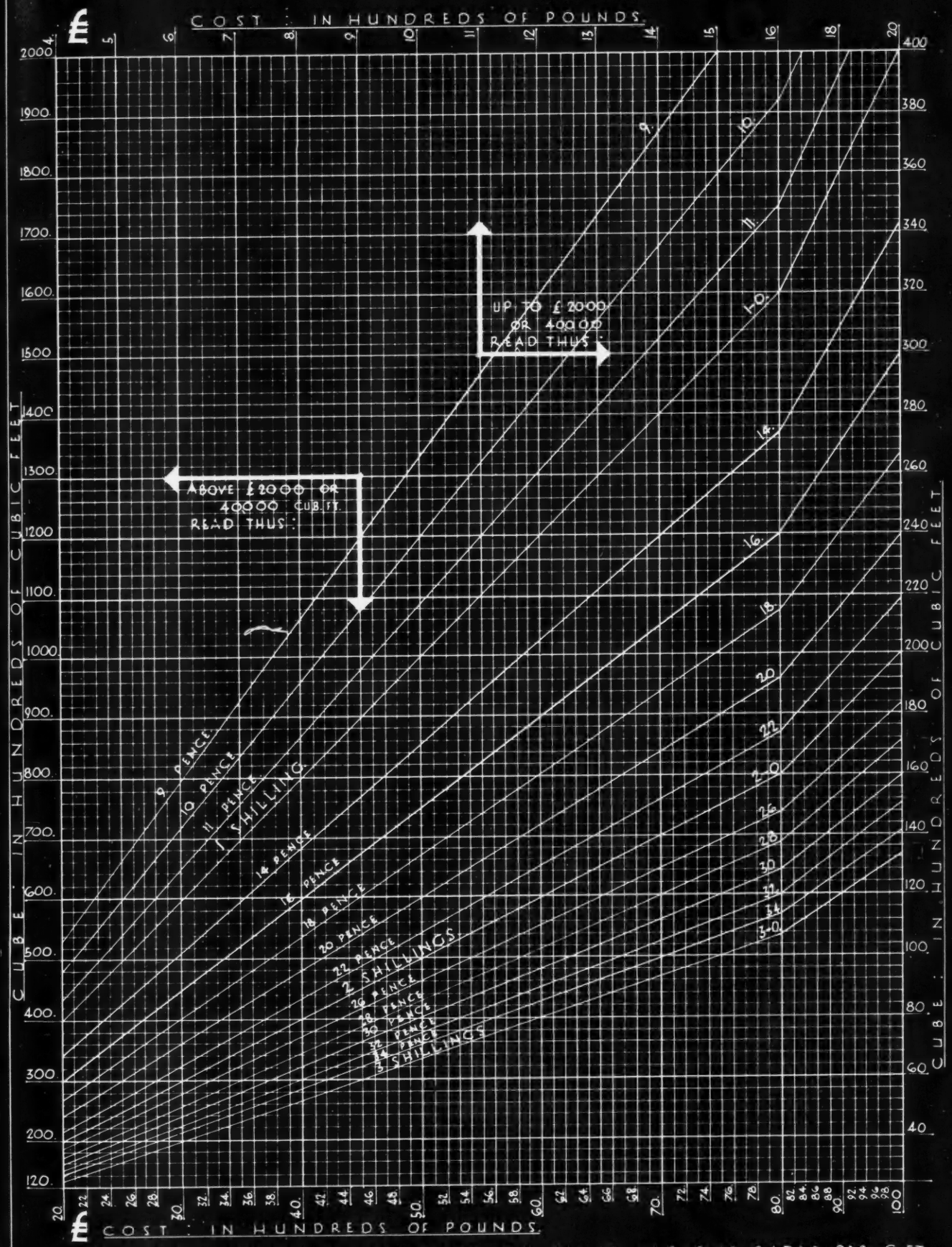

INFORMATION SHEET : CUBE COST GRAPH AT VARIOUS RATES PER C.FT.

SIR JOHN BURNET, TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.I.

Supplement to THE ARCHITECTS' JOURNAL for March 29, 1934

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

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CUBING OF BUILDINGS

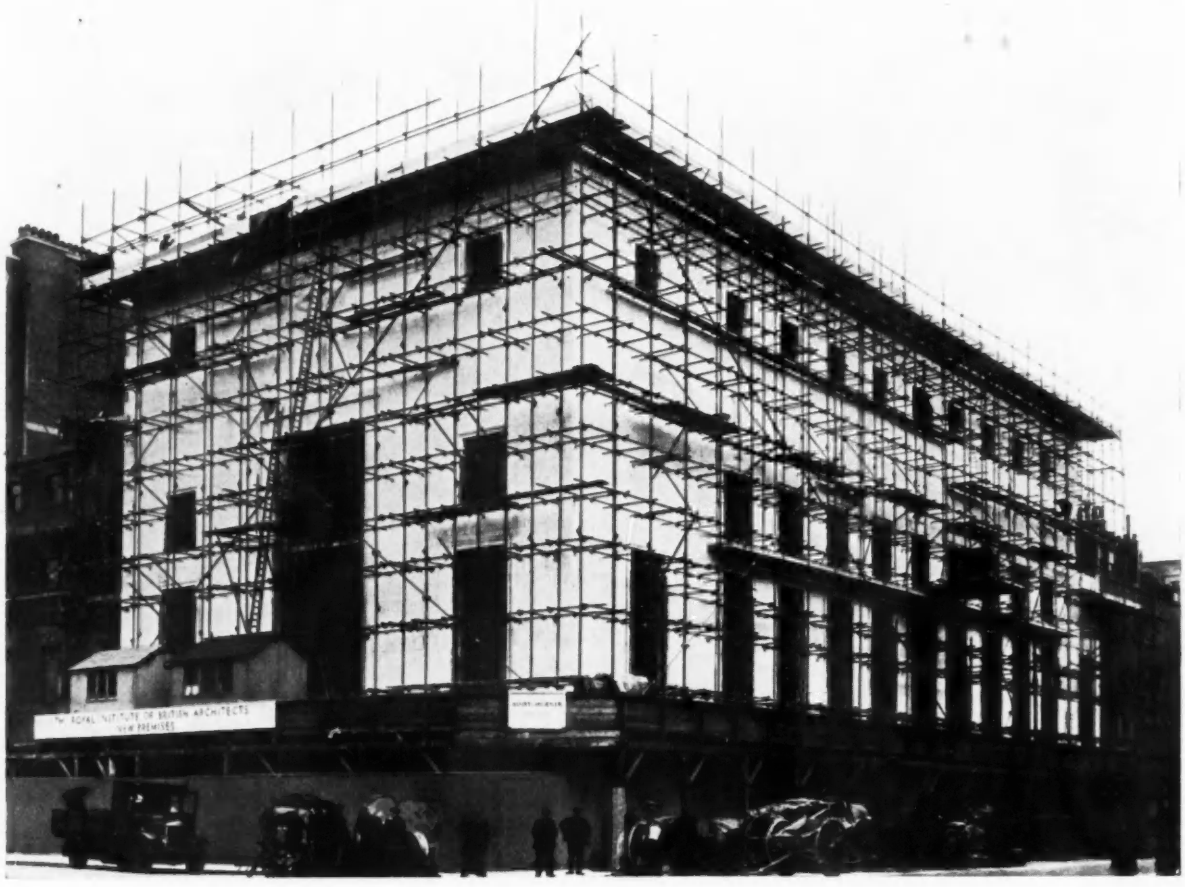
(ii)

WITH this graph, given the total cube of a building, it is possible to read off directly the approximate cost at various rates per cubic foot; or vice versa, if the total permissible cost is known, the maximum cube can readily be obtained for the various given rates. For intermediate rates an approximation may be made between the next higher and lower rates. A previous Sheet on the cubing of buildings (No. 66) gave cubes and rates for larger types of building. This Sheet applies to the smaller job, from £250 upwards.

THE NEW AND THE OLD

AT NEWCASTLE-ON-TYNE

THE new Northumberland County Council Offices, now nearing completion at Newcastle-on-Tyne, from the designs of Mr. R. Burns Dick. On the left are the ancient Moot Hall, and the Keep of the Norman Castle; on the right, the spire of St. Nicholas' Cathedral.



THE NEW R.I.B.A. BUILDING

A progress photograph of the new R.I.B.A. Building, Portland Place, W.1.

It is expected that the building, of which Mr. G. Grey Wornum is the architect, will be opened some time in November next.

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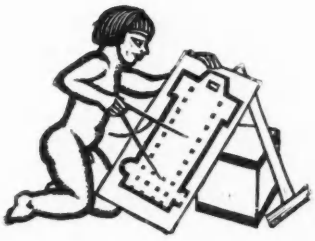
RIB
V.79 pt.2



DESIGN G.H.Q.

SINCE the excitement of the competition for the R.I.B.A. Building, and since the Institute's decision to go ahead with the selected design, people, as usual, have forgotten that a new building is about to occur. The building, in fact, is going up. Within a few months it will be opened. London will have acquired a representative expression of contemporary architectural thought; the Institute will have a home worthy of its dignity and standing; and, the building should become a focal point for all architectural interests; should become, to some extent, an exhibition ground and an authoritative headquarters for everything connected with architecture. At least, that is what we hope. There is no doubt about the authority it will house. There is some doubt as to whether it will be permitted to cover, if not every interest connected with architecture, at least those that are very closely associated.

If the R.I.B.A. building could really be G.H.Q. for all design; the place that represented and sheltered all those bodies and interests concerned with the varied facets of architectural activity, then the architectural profession would have gained, through the medium of its premises, what it has sometimes failed to secure by the excellent individual work of its members, it would gain the opportunity for accepting greater responsibilities to contemporary civilization, to industry and to commerce.

The R.I.B.A. building is spacious. It is designed to provide far more accommodation than can usefully be claimed by the office requirements of the Institute. There is an admirably planned meeting room and the library and exhibition rooms afford abundant space for their purposes. All these rooms and a number of offices will be used in the general conduct of the Institute's business; but there is space to spare; and from this fact springs "the tender leaves of hope." Hope for something that is perhaps a little alien to the English character; because it is hope for something logical, obviously desirable, intellectually tidy and practically and economically sound. There are several organizations whose activities are complementary to, or directly concerned with, architectural design. How logical and intelligent it would be for the R.I.B.A. to offer accommodation (not, of course, gratuitously) to those organizations; to give them advantageous terms for securing an appropriate home in Britain's G.H.Q. of design.

Two deserving organizations immediately come to mind, namely, The Council for the Preservation of Rural England, and The Design and Industries Association.

And what about the Architecture Club? All these bodies speak with independent voices; but if they had a common home in the Headquarters of Design, and if they were more closely associated with the Institute itself, the weapons they wield for betterment in civilization would be sharpened, their battle cries would have a better chance of being listened to by *those in authority*. This is not a question of amalgamation, but of accommodation. There have been many potently practical suggestions for the fusion of such bodies as The Royal Society of Arts, The Design and Industries Association, and the Society of Industrial Artists; but it is one of the manifestations of the English genius for compromise (or perhaps for muddling) that a multiplicity of organizations should exist with overlapping functions. In a civilization that had exorcised all traces of its barbaric heritage from commercial individualism, and which lived and worked by lucid planning, the control of all organizations connected with design would be vested in the only profession whose members are enlightened by a specific training in design. In such a dream civilization all these societies would be departments of one great Institute of Design, and this may come about when architects fully apprehend their obligations in the broadest sense to that potential patron of design: modern industry. The architect is by training and tradition a leader in every department of design; and the new R.I.B.A. building suggests an opportunity for an open resumption of that leadership.

Even if some of the most appropriate organizations are not accommodated in Portland Place, those in control of the exhibition rooms in the new building should be hospitable to their activities. Those exhibition rooms should be kept alive by an active sense of responsibility towards all branches of design. It is deeply important that the public, who are also the patrons of architecture, should be interested in the new building and what is going on in it. The functions of the exhibition rooms will, we hope, help to reinstate the architectural profession in the position it held a hundred and fifty years ago, when architects were responsible for designing everything used in civilization, from houses and furniture to lamp-standards and door knockers.

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NOTES & TOPICS

WATERLOO BRIDGE

THE triumph of the Labour Party in the L.C.C. elections, has, as was inevitable, reopened the controversy about Waterloo Bridge. If matters have not already gone too far, it may well be that the scheme for reconstruction and widening will be abandoned, as the present Administration strongly favours the building of a new bridge.

*

The Municipal Reform Party was by no means unanimously in favour of reconditioning, and it was really the House of Commons which decided the matter. What will it have to say now, in the face of almost united contrary opinion?

*

Meanwhile I have lost count of the various schemes which have been put forward by individuals. New bridges have been mentally erected every thirty yards from Greenwich to Maidenhead; Sir Owen Williams has "had words" with Mr. Herbert Morrison.

*

Few people, however, have voiced the argument of the Port of London Authority that Waterloo Bridge as it stands is a hopeless nuisance to river traffic, and that any bridge (especially at that point) should have wide spans.

*

The Romantics have forgotten that the harmony of Rennie's bridge with Somerset House is no longer of first importance, because, while everybody was talking about that, Shell-Mex House and Brettenham House arose to dominate the whole river front.

*

In short, the matter is once again in a state of flux.

*

I suggest that the entire L.C.C., together with the House of Commons, be taken forcibly to see William Walcot's Plan for London, to which I referred last week. It might then dawn upon them all that Waterloo Bridge in itself is the merest trifle; that discussion of its rebuilding or reconstruction, without consideration of the far broader issue of the Plan of London, is just childish fiddling.

*

Old bridge or new bridge—what are you going to do with the traffic at either end?

*

Someone has suggested Waterloo as a "south to north" traffic route, and a new bridge east of it for "north to south" traffic. Well, that begins to touch the fringe of sanity. But the problem is far, far greater than that.

*

The state of Waterloo Bridge, structurally, is a Heaven-sent opportunity to think largely about the improvement of London planning and amenity—to think for the future instead of perpetuating bad mistakes.

THE ARCHITECT AND THE FURNITURE TRADE

On Thursday of last week the final lecture in the L.C.C. series on furniture at the Geffrye Museum, London, was given on "Furnishing the Modern House," by Mr. John Gloag. He was at some pains to point out (and even to rub in) the dependance of the furniture industry upon external sources of inspiration for new design.

*

He gave to architects the credit for having stirred up the ideas of furniture-makers. Every "special" order made to an architect's instructions in a furniture factory was a piece of research work in design, undertaken without risk by the furniture industry. It was largely due to architects that the true character of such modern materials as tubular metal, plywood, etc., was conveyed in the design of furniture.

*

Apart from such exceptional men as Sir Ambrose Heal and Gordon Russell, who, asked the lecturer, was inventing and thinking creatively about furniture design in the industry itself? Here and there an enterprising firm of manufacturers accepted responsibility for leadership, but, until recently, the majority of furniture makers were lost in the Jacobean wood.

*

When architects of the calibre of Edward Maufe, Grey Wornum, Clough Williams-Ellis, Raymond McGrath and Wells Coates occasionally turned their attention to furniture their designs proved how vigorously and graciously they could out-think and surpass the tentative, "safety first," modernistic dabbling of the unenlightened bulk of the furniture trade.

*

Mr. Gloag suggested that the future of furniture design lay largely with the architectural profession. The slides he showed forcibly demonstrated the ability of a number of architects in this branch of design.

A VIENNESE INTERIOR—1934 STYLE

A friend sends me this photograph of a flat in the Goethehof at Florisdorf, a typical Viennese tenement block, taken just after the shelling on February 12.

*

It is interesting as showing the rather poor lighting, decidedly primitive heating and washing fixtures, and

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DETROIT MICH.

An interior of one of the tenement blocks, Vienna, after the shelling on February 12.

solid brick construction of these famous " model dwellings " —incidentally, very little concrete was used in the earlier blocks, which happened to be those shelled, although they were solemnly described as " modern concrete fortresses " by the evening papers.

*

Certainly the municipal energy with which thousands and thousands of tenements were built to rehouse a tenth of the population within a decade, and the spectacular decrease in infantile mortality this brought about, made Socialist Vienna a civic model for the whole world.

*

But the generous scale on which " outside " amenities were provided—the beautiful courtyard gardens with their children's paddling-pools and open-air kindergartens—has rather blinded our housing enthusiasts to the inferiority of their interior planning, constructional technique, and equipment compared with the big *Siedlungen* of the German municipalities and co-operative building associations.

*

Building costs were remarkably low in Vienna. They averaged 45-55 Austrian *Schillings* per cubic metre, which (as only 25-35 per cent. of the site area was built over) worked out at about 250 *Schillings* per square metre of the actual floor space. But it must not be forgotten that as the City of Vienna was in the fortunate position of owning most of the land it is built on, the acquisition of sites represented only 5-8 per cent. of the total cost.

*

About half the cost of new construction was covered by the *Wohnbausteuer*, a progressive municipal tax levied on all rents, which varied from $\frac{1}{15}$ to $\frac{9}{16}$ of the amount. The rents of the municipal tenements were only 9-20 Austrian *Schillings* a month, though in a few exceptional cases as much as 35 was paid. A standardized two-room flat with its own kitchen let at 15 *Schillings*.

*

With the exception of those designed by Peter Behrens, Frank, Strnad, Wlach, Popp, and (curiously enough) Josef Hoffmann, most of these blocks had highly romantic Neo-Rococo façades ; and it will be interesting to see whether their style will be revived in the tenements to be built by the new " Dollfuss " city council. The best planned and most structurally forthright of all were the work of Josef Frank.

*

I hear that this internationally eminent architect has now decided to settle in Stockholm, where he has recently been making furniture on the same lines as that sold by " Haus und Garten," the well-known shop he and Oskar Wlach founded some years ago in Vienna. The move is the result of increasing economic difficulties in Austria, and has no political significance one way or the other.

RICHMOND REBUILT

Richmond has always had an air about it ; a hint of aristocratic aloofness, possibly gained from the presence of a Royal Palace and the houses of various noblemen. It has never acquired the shoddiness of a suburb.

*

But it soon will. It is being rebuilt, piecemeal, of course, and, one suspects, largely without plan. Within the last few months some of its finest Georgian houses have been demolished, and while preservation, as such, should never stand in the way of intelligent planning, few people will be satisfied that the buildings that have replaced those old houses are an adequate architectural compensation for their removal.

*

Why is it that nobody ever thinks of pulling down a hideous mid-Victorian building ? They are always carefully preserved at the expense of civilized and gracious things.

*

Those adjoining villages, Petersham and Ham, are beginning to suffer from the speculative art of today. Nothing has yet been pulled down : only a few fields and gardens have been built over. Is there a proper development plan for this area, and is it being followed ?

LUCKY WIGAN

The Wigan Education Society has succeeded in persuading Sir Edwin Lutyens to accept the Presidency. Sir Edwin, in his charming way, will, we hope, make Wigan so conscious of its architectural shortcomings that an anti-beastly-building crusade will begin with fire, and, of course, the sword.

JUNKETINGS WITH JUNK

Mr. Beverley Nichols, having carefully charged his fountain pen with the most luscious and stickiest kind of honey, has written in the current issue of *My Garden* a nice little helpful article on " Garden Ornaments." To his mind, " the best garden ornaments are only to be obtained through that great, but far from universal provider, Luck."

*

He describes the process, tenderly. " You are motoring through a country village when suddenly, in a dusty yard, you see an old wall sundial, carelessly hung over a stable door. You pull up the car, and tiptoe in to examine it." (Now comes the thrill, and it deserves italics.) " *There is moss all over it, and the iron of the hand is rusting away, but you love it.*"

*

Then follows a charming, kittenish scene with the farmer : the haggling, in fact. Too sweet, my pets ! He has another thrill a few paragraphs further on about a garden wherein he saw " seats that seemed to be made of venerable stone, moulded round the trunks of ancient trees. Yet these seats were barely six months old ! "

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

How logical it would be for the R.I.B.A. to offer accommodation in their new building to the several organizations whose activities are complementary to, or directly concerned with, architectural design .. 485

The Association of Architects, Surveyors and Technical Assistants has decided that it must cease to be associated with the R.I.B.A. 495

The planning of a single flat unit (or rather the working parts of such a unit), becomes a matter of intricate scientific adjustment, since it is to be repeated hundreds of times without any essential alteration 499

65 officers of various grades in the Housing Division of the Ministry of Health are engaged wholly or partially on slum-clearance work under the Housing Act, 1930 .. 500

TOWER HILL IMPROVEMENT

In the illustrated booklet recently published on improving the amenities of Tower Hill, it is pointed out that the "main great object is to regain for London and for the Empire the ancient 'Park or Pleasance' of the City upon the north and west of the Tower of London." The value of a "Pleasance" upon Tower Hill both æsthetically and for the enjoyment of the public needs no emphasis.

The proposals, briefly summarized, are :—the removal of Myers' Warehouse ; the removal of an unsightly building obstructing the pavement in Byward Street ; a riverside beach for children ; a band for Moat and Tower Gardens ; a new garden east of Trinity Square ; a motor park outside Trinity Square ; the extension of the City Boundary to London Wall ; and the clearance of the old London Wall at Coopers Row, the finest section remaining.

Several years must, of necessity, elapse before the whole scheme can be carried through, and the approximate sum of £250,000 will be required. Towards it the City Corporation has voted £5,000 to be paid in annual instalments of £1,000. H.R.H. the Prince of Wales has consented to be the Patron, and Lord Wakefield is President. The principal originator and mover of the scheme is the Rev. P. B. Clayton.

THE ARCHITECTS' DIARY

Thursday, April 5

AUCTIONEERS' AND ESTATE AGENTS' INSTITUTE. *At 29 Lincoln's Inn Fields, W.C.2. "The Making of a Connoisseur. Part 13—Ancient Coloured, Painted and Stained Glass." By H. Mordaunt Rogers. 7 p.m.*

Sunday, April 8

VICTORIA AND ALBERT MUSEUM. *At Cromwell Road, S.W.7. William Morris Centenary Exhibition. Closing day.*

Monday, April 9

R.I.B.A. *At 9 Conduit Street. Presentation of the Royal Gold Medal. 8.30 p.m.*

CHARTERED SURVEYORS' INSTITUTION. *At 12 Great George Street, S.W.1. "Compensation and betterment under the Town and Country Planning Act, 1932." By J. A. Rosecear and D. M. Lawrence, B.A. 8 p.m.*

WATERLOO BRIDGE

By 77 votes to 33, the London County Council, at a meeting last week, decided that the existing Waterloo Bridge should be demolished and a new bridge erected in its place, provided that a grant of 60 per cent. of the cost is obtainable from the Road Fund. The new structure is estimated to cost £1,295,000.

WOMAN HOUSING MANAGER

The Croydon Borough Council, at a meeting held last week, decided to appoint a woman, at a salary of £200 a year, to manage two housing estates under the Octavia Hill system.

SOCIETY OF CHEMICAL INDUSTRY

The Society of Chemical Industry is to hold a conference on air-conditioning and an exhibition of apparatus at the Queen's Hotel, Leeds, on April 6.

MODEL HOUSE AT KING'S CROSS

A modern detached "show house," with three bedrooms, two reception rooms, kitchen, bathroom, garage and every modern convenience, has been erected in front of King's Cross L.N.E.R. Station.

This show house has been erected by Messrs. John Laing and Sons, building contractors, to draw attention to the actual type of house that can be bought for £775 freehold on various estates in the outer suburbs.

PRESENTATION TO F. J. WILLS

At the Trocadero Restaurant on March 26, Sir Isidore Salmon (Chairman of Messrs. J. Lyons & Co.) presented Mr. Frederick J. Wills, F.R.I.B.A., architect for the Cumberland Hotel, with an Illuminated Address and a specially designed cocktail cabinet on behalf of a number of chiefs of departments and various firms who had assisted in the erection of the building.

Sir Isidore, in making the presentation, recalled the long connection Mr. Wills had with his firm and the many important jobs he had carried out for them over a period of 25 years, and said that he looked forward to Mr. Wills's help and guidance in any future works. He remarked that however difficult the proposition put to his architect, he had never known him to turn it down on account of its difficulty.

Sir Isidore paid a high compliment to Mr. Wills's staff, and also to the builders Messrs. Holloway Bros., and the various separate contractors.

On the opposite page is a reproduction of the Illuminated Address, which was designed by Mr. H. E. Furse in collaboration with his sister, Miss R. T. Furse, who was responsible for the lettering.

WESTMINSTER HOSPITAL

An appeal to the building industry for funds for the rebuilding of Westminster Hospital has been issued by Mr. G. M. Burt (John Mowlem and Co., Ltd.), Mr. G. R. Holland (Holland and Hannen and Cubitts, Ltd.), Mr. G. Gee (Gee, Walker and Slater, Ltd.), and Mr. R. E. Holloway (Holloway Brothers (London), Ltd.).

A total sum of £350,000 is required for the new building, of which £100,000 must be secured immediately, to enable the Hospital to complete the purchase of the new site in St. John's Gardens, Westminster. Of this £100,000, approximately £88,000 have been received and promised to date, and the remainder is therefore most urgently required. Donations should be sent to the above, or the Treasurer of the Hospital.

R. I. B. A.

DRAMA AT THE R.I.B.A.

At the R.I.B.A. on Monday, April 23, there will be presented "The Bear," by Anton Tchekov ; "The Long Christmas Dinner," by Thornton Wilder ; and, after the interval, "Architect Errant," by I. M. Checkley and E. Meikle, with apologies to James Laver, Cole Porter and various eminent architects. The chorus will consist of "Nuns, Nautch Girls, Nazis, Nudists and Draughtswomen."

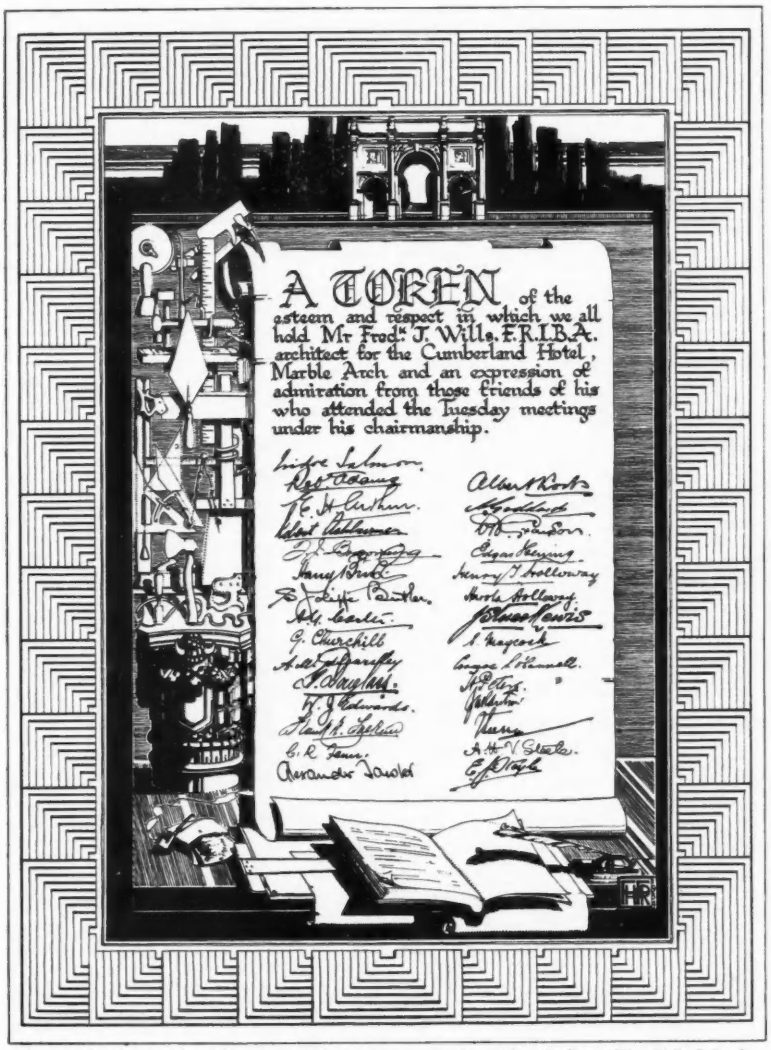
Programmes (5s. and 3s.) may be obtained from the R.I.B.A. ; accommodation is limited.

COUNCIL MEETING

Following are some notes from a recent meeting of the Council of the Institute :—

Proposed Exhibition of the Work of Professor W. Gropius : The Council approved the recommendation of the Art Standing Committee and Exhibition Sub-Committee that an exhibition of the work of Professor W. Gropius should be held at the R.I.B.A. in May.

Advertisements and Signs on Buildings : The Council, on the recommendation of the Art



A reproduction of the Illuminated Address presented to Mr. F. J. Wills, F.R.I.B.A., for his work in connection with the erection of the Cumberland Hotel. The Address was designed by Mr. H. E. Furse (in collaboration with Miss R. T. Furse).

Standing Committee, agreed to join with the Scapa Society and the London Society in making representations to the London County Council to amend its present bye-laws to allow it to take full advantage of its powers under the Advertisements Regulation Acts and thus enable more effective control to be exercised over advertisements in London.

Constitution of the Architects' Registration Council : The following members were appointed to serve on the Registration Council for the year ending March, 1935 :— Major Harry Barnes [*F.*], and Messrs. Sydney Tatchell [*F.*], E. Stanley Hall [*F.*], Henry V. Ashley [*F.*], A. H. Moberly [*F.*], W. H. Ansell [*F.*], Henry M. Fletcher [*F.*], J. Alan Slater [*F.*], Percy E. Thomas [*F.*], Hubert Lidbetter [*F.*], T. A. Darcy Braddell [*F.*], A. B. Knapp-Fisher [*F.*], and A. G. Henderson [*F.*].

Constitution of the Admission Committee of the Architects' Registration Council : The following members were appointed to serve on the Admission Committee for the year ending March, 1935 : Messrs. Thomas E. Scott [*F.*], J. Douglas Scott [*A.*], Kenneth M. B. Cross [*F.*], and Geoffrey C. Wilson [*F.*].

" The Hospital " and Panel of Consultants : Mr. E. Stanley Hall, M.A. [*F.*], was nominated to serve as honorary architectural consultant on a panel of consultants which is being set up by the Editorial Advisory Board of " The Hospital."

Standardization of Steel Sections for Welding Construction : Mr. R. B. Ling [*F.*] was appointed to represent the R.I.B.A. on a Sub-Committee set up by the British Standards Institution to consider the question of the standardization of steel sections suitable for welding construction.

Standardization of Plated Finishes for Fittings and Equipment : Mr. L. W. Thornton White [*A.*] was appointed to represent the R.I.B.A. at a conference called by the British Standards Institution to consider the desirability or otherwise of standardizing plated finishes for fittings and equipment, as well as to consider the measure of active support likely to be obtained in the event of a British Standard Specification being issued.

The National Schedule of Daywork Charges : The National Schedule of Daywork Charges recently agreed between the Chartered Surveyors' Institution, the National Federation of Building Trades' Employers and the London Master Builders' Association and submitted to the Practice Standing Committee by the Chartered Surveyors' Institution was considered and referred to the Allied Societies for their comments.

Memorandum on Architectural Competitions : A memorandum drawn up by the Competitions Committee explaining the competition system and advocating the adoption of architectural competitions for the design of public buildings was approved for publication and issue to the Allied Societies.

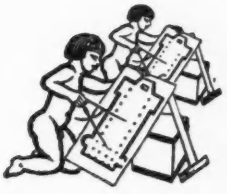
Reinstatement : The following ex-member was reinstated :

As Licentiate : Mr. G. B. Cobbett.

Transfer to the Retired Members Class : The following members were transferred to the Retired Members Class : As Retired Fellows : Messrs. A. H. Church, S. Denman, J. P. Osborne, and W. M. Weir. As Retired Associates : Messrs. G. Harvey and H. Ling.

Resignations : The following resignations were accepted with regret : Messrs. W. P. Major [*A.*], W. Symmonds [*A.*], F. Charles Dixon [*L.*], H. L. Etherington-Smith [*L.*], and H. L. Holman-Hunt [*L.*].

COMPETITION NEWS



CAMERA CLUB COMPETITION

" Counterpoint "—a photograph of the lodge house at " High and Over," Amersham—won for its author, Mr. E. Heimann, the first prize in the Camera Club Competition. The exhibition, in connection with the competition, is now being held at the Camera Club, John Street, W.C.2.

Competition Open

June 26.—Sending-in Day. Proposed Council Offices, Slough, for the Slough U.D.C. Assessor : H. S. Goodhart-Rendel, V-P.R.I.B.A. Premiums : £250, £150 and £100 for designs placed first, second and third, respectively. Conditions, etc., may be obtained from F. R. Duxbury, Clerk to the Council, Council Offices, Slough. (Deposit £1 1s.). Last day for sending in questions : April 23. Last day for submission of designs : June 26.

Competition Pending

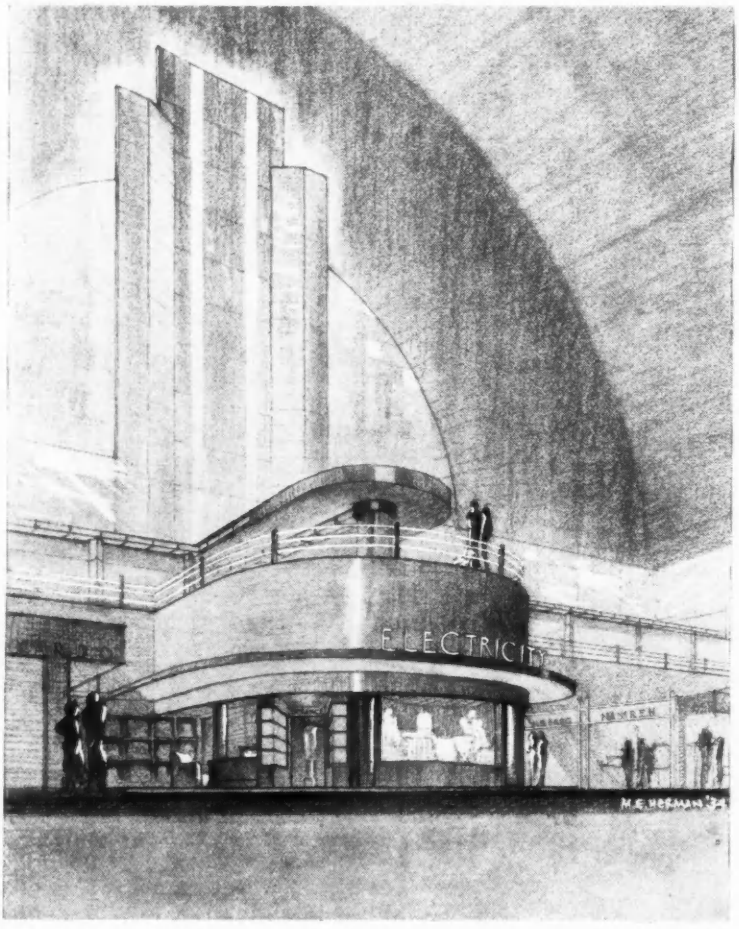
The Education Committee of the Borough of Bedford propose to hold a limited competition for the design of a new council school to be erected in London Road, Bedford. Mr. J. R. Leathart, F.R.I.B.A., has been appointed assessor. Conditions, etc., are not yet available.

THE IDEAL HOME EXHIBITION

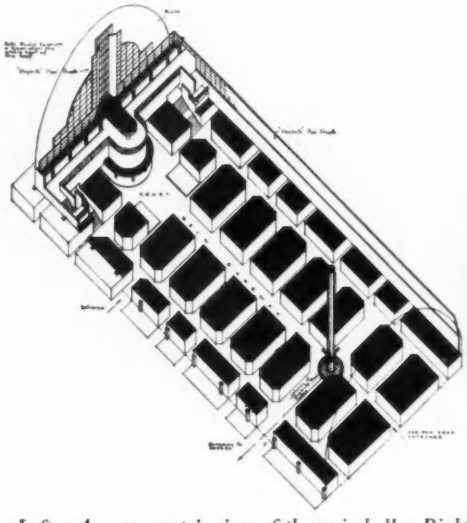
AT OLYMPIA, UNTIL APRIL 28

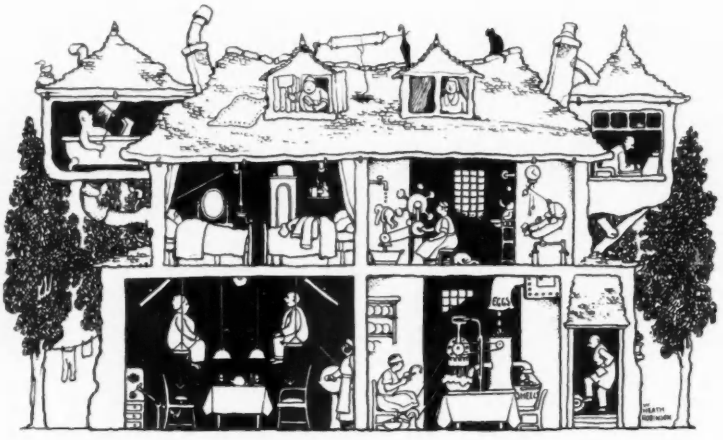
In this year's Exhibition Mr. Jeffcott has tried to avoid the rather "temporary" look of the average stand and its setting: hence his free use of stainless steel, both in sheets and tubes. Justifying the use of an apparently expensive material, he points out that the present lightly-built stand will not last for more than three or four exhibitions, whereas stainless steel may be re-used indefinitely. For the purpose of this Exhibition some £50,000 worth of material was loaned by the steel companies, it being stipulated that the sheets were not to be drilled or cut in any way. Since last year the most important planning change is the provision of a wide axial gangway running from the Addison Road entrance to the central Electricity Pavilion at the far end, and linking up with further gangways leading to the smaller hall and the "Village of To-morrow." This village contains houses which have been designed by various architects under the general supervision of Mr. R. A. Duncan, who has been acting as estate architect.

The Exhibition, which was opened last Tuesday by Mr. and Mrs. Cecil Harmsworth, will remain open (10 a.m. to 10 p.m.) until Saturday, April 28.



The Pavilion of Electricity: in the background is a stainless steel feature, the rectangular sheets being held in place by cover strips.





Left: An axonometric view of the main hall. Right: "Mechanismus" in excelsis or Mr. Heath Robinson in three dimensions. The house contains custard machinery, baby- and boot-polishing apparatus and further unlikely devices, all of which are shown in operation.

A CONCRETE CHURCH IN GERMANY

A general view of the Evangelical "Friedenskirche," Ludwigshafen-am-Rhein, Germany. The saucer-dome is screened externally by a blind well-head parapet, and internally by a flat false ceiling. The diameter of the building measures 35 metres. From ground level to the top of the belfry the height is 54.50 metres. Accommodation is provided for 1,000 persons.

BY KARL LATTEYER AND HANS SCHNEIDER

A CONCRETE CHURCH IN GERMANY:

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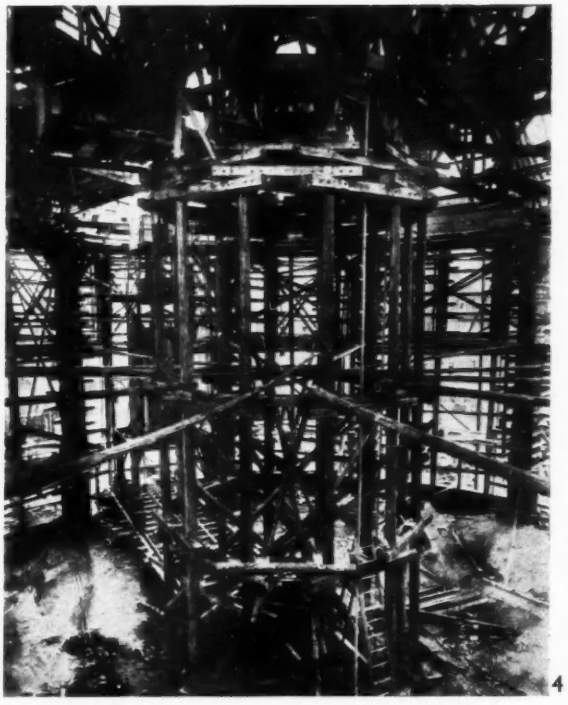

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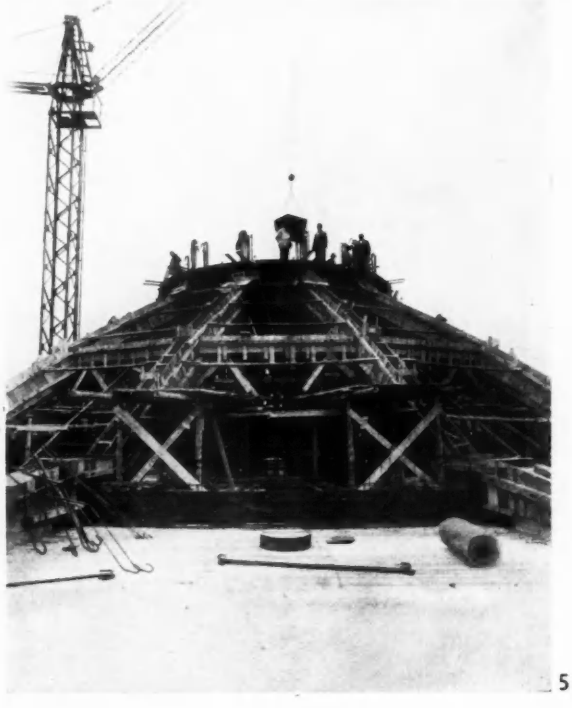

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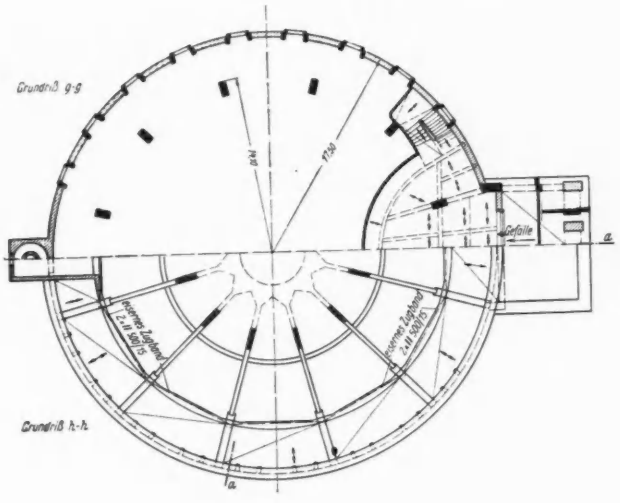
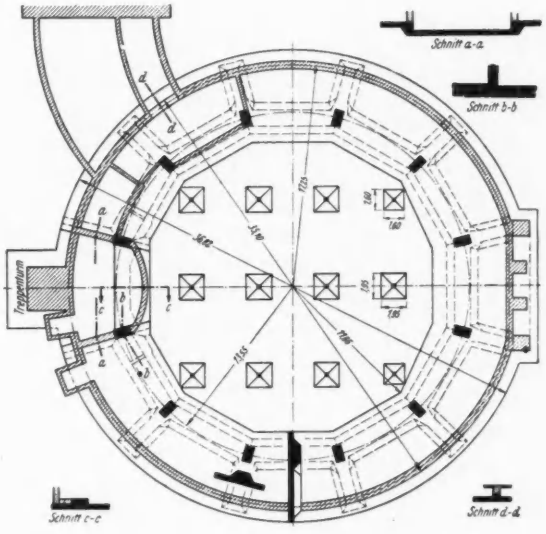
Five phases of construction: 1 and 2 show different stages of the foundations of the circular walls, giving a good idea of the intricacy of the reinforcement. 3: the raft of the ring completed. 4: an interior view, taken after the twelve slender supporting columns had been poured, while the shuttering of the ribs of the saucer dome was being built up. 5: one of the outer rims of flat roof behind the parapet finished, and the fixing of the reinforcement of the ribbing of the dome in progress.

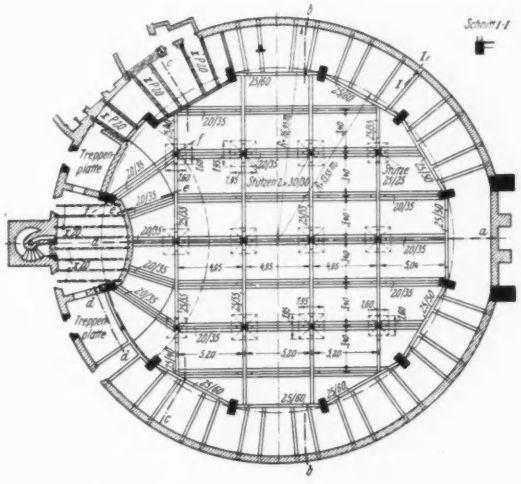
BY KARL LATTEYER AND HANS SCHNEIDER

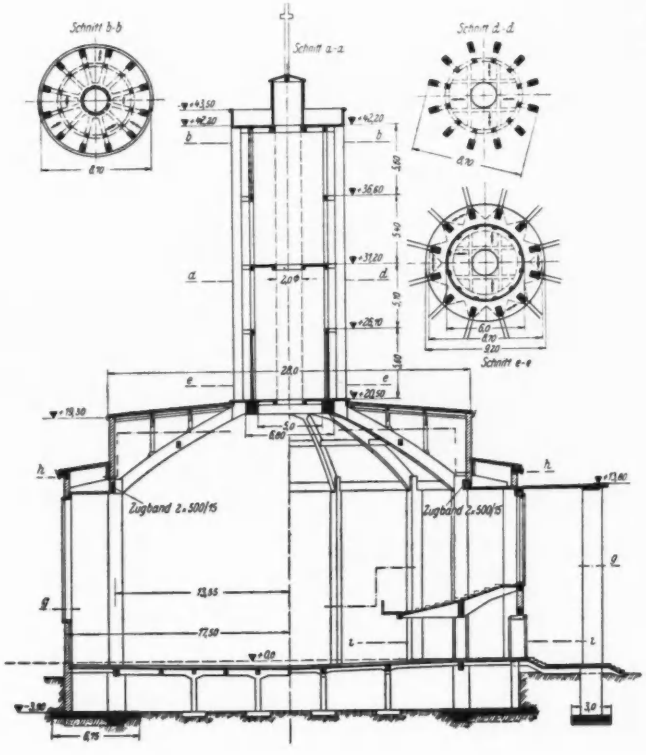


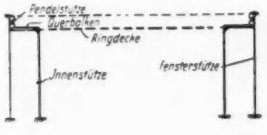


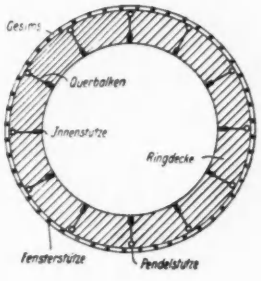
Above: The foundations and crypt (right), and (left) the framework of the dome in relation to the supporting members and the porch.

Right: The ground floor and (below) section through the church, with details of the rim of flat roof and belfry plans at three different levels.

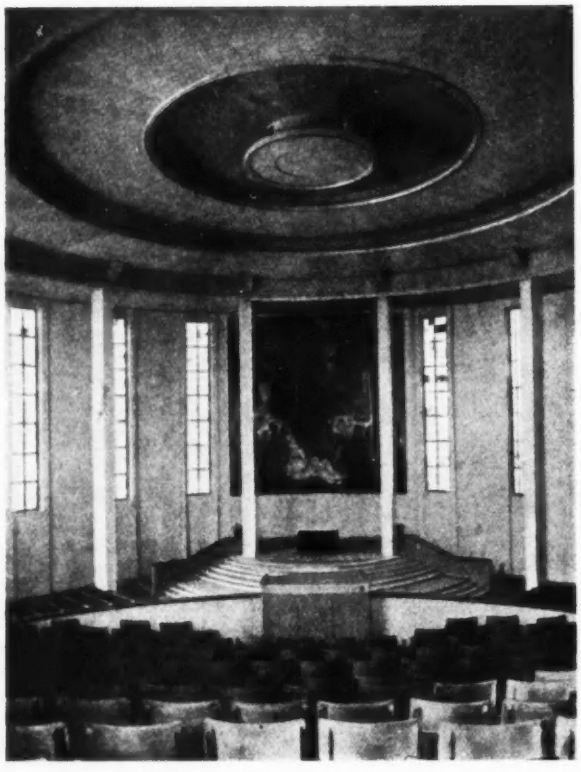








A CONCRETE CHURCH IN GERMANY



DESIGNED BY

KARL LATTEYER

AND

HANS SCHNEIDER

Above: A worm's-eye view of the 25-metre belfry showing the arrangement of the supporting ribs.
Left: The interior, showing the altar dais which faces the four-pillared porch.
The construction is monolithic throughout, the building being rendered externally in plain cream-coloured stucco.

LETTERS FROM READERS

M. H. BAILLIE SCOTT, F.R.I.B.A.

SIR WILLIAM RAY, M.P.
(Executive Chairman of the British Electrical Development Association)

A. SEYMOUR REEVES, L.R.I.B.A.
(Secretary, Association of Architects, Surveyors and Technical Assistants)

Modernismus

SIR,—"*Let me not live,*" *quoth he,* "*after my flame lacks oil, to be the snuff of younger spirits whose apprehension senses all but new things disdain.*"

There seems to be something peculiarly appropriate in the above quotation from "All's Well that Ends Well," as applied to those architects of riper years who view with dismay the new departures in modern building indulged in by the rising generation, although in respect of many of these rash experiments it may be questioned whether the movement they represent will not be more likely to end soon than to end well.

BAILLIE SCOTT

The Attack upon the Slums

SIR,—The White Paper issued recently by the Ministry of Health and the statement made by the Minister himself at the Housing Conference of the Association of Municipal Corporations on March 15, show that plans for an effective attack upon the slums are practically complete. The next stage to be tackled is the planning of the buildings to replace the slums, and for the next few years housing committees will be closely engaged upon the complex problems of design, construction and equipment.

In matters of this kind there is a natural tendency to adhere to traditional standards, but a great opportunity for social improvement will be missed if we do not recognize that the standard expected in working-class dwellings is higher than ever before, and that the progress of invention and production has brought within the economic range of the ordinary wage-earner many amenities which would have been regarded as impossible twenty years ago.

It should therefore be the aim of housing committees not merely to substitute tolerable for intolerable conditions, but to provide for the highest measure of health, labour-saving and comfort with full regard for economic limitations.

One of the important factors in this connection is the availability of cheap electricity. This is a comparatively new factor, consequently it is not surprising that the most efficient way of utilizing it is not universally understood. While the adoption of electricity for lighting is generally accepted, partly on account of the economy of costs in cleaning and redecoration, the extension of electrical service to cooking, heating and other purposes is less widely regarded as feasible. Yet it is only by multiplying the uses of electricity that the provision of the service in working-class houses can be placed on a sound economic basis. The capital cost of mains and wiring for full electrical service is not greatly in excess of that involved in lighting alone, and the additional consumption of current, which takes place mainly during non-lighting hours, enables electricity to be supplied much more cheaply than for the lighting demand. For example, tenants in St. Pancras flats obtain current at a running charge of ½d. per unit and use it for a cooker, fire and wash-boiler, which are hired out on a small weekly charge paid with the rent.

When electricity is used for cooking and heating, there is a material saving in the cost of buildings, through the absence of flues.

Housing committees are strongly recommended to study the examples of dwellings electrically equipped on these lines.

WILLIAM RAY

A.A.S.T.A. and the R.I.B.A.

SIR,—I am directed by the Council of the Association of Architects, Surveyors and Technical Assistants, to inform you that (for reasons stated below) it has decided that the A.A.S.T.A. must cease to be a body officially "associated" with the R.I.B.A.

1: At the beginning of last year, the A.A.S.T.A. requested the R.I.B.A. Council to consider some reduction in the number of new students entering the recognized schools of architecture in the ensuing session. It was pointed out that the number of men entering the profession could not be absorbed, and if a reduction was effected for one year, the position could be reviewed twelve months later. The Council of the R.I.B.A. referred the matter to the R.I.B.A. Board of Architectural Education and its Schools Committee. The proposal was rejected as the Board did not recognize any need for action.

2: The Salaried Members' Committee of the R.I.B.A. was brought into being through the efforts of the A.A.S.T.A. This Committee was instrumental in producing a scale of salaries for official and departmental offices, which was adopted and recommended by the Council of the R.I.B.A.

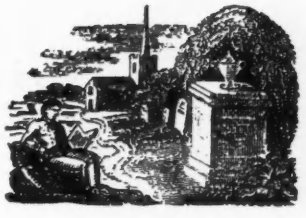
Recently the representatives of the Association again brought before the Council of the R.I.B.A. a proposal for a basis of guide to salaries of assistants in private offices. This proposal was rejected in principle. Since then the Council of the Association has communicated to the Council of the Institute the seriousness with which this decision is viewed. To this communication no satisfactory reply has been received.

This attitude is inconsistent with the R.I.B.A. maintaining a scale of charges for practising architects and equally inconsistent with the recommendation by the R.I.B.A. of a scale of salaries for official or departmental offices.

It has been established that the R.I.B.A. cannot negotiate the question of salaries, etc., with employing bodies. In the circumstances, therefore, the Association conceives that the continuance of the Salaried Members' Committee of the R.I.B.A. can serve no good purpose, and can only deceive members of the Institute as to the real position. In the view of the Association, the whole effect is to proclaim the R.I.B.A. an employers' organization. Accordingly, the members of the A.A.S.T.A. who were serving on the Salaried Members' Committee have resigned their seats, and the official representatives of the Association on the R.I.B.A. Council and the R.I.B.A. Board of Architectural Education have been withdrawn.

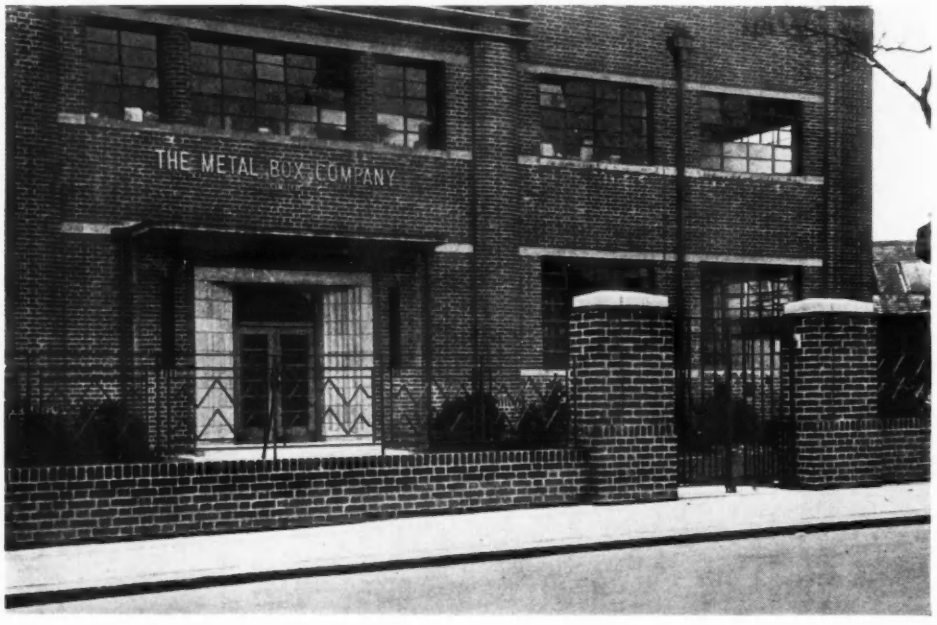
The A.A.S.T.A. will continue its work (recognized by Parliament) on the Architects' Registration Council and Registration Board of Architectural Education, and will represent the interests of the salaried group of the profession in all matters arising from this essential field.

A. SEYMOUR REEVES



FACTORY EXTENSIONS, PALMERS GREEN:

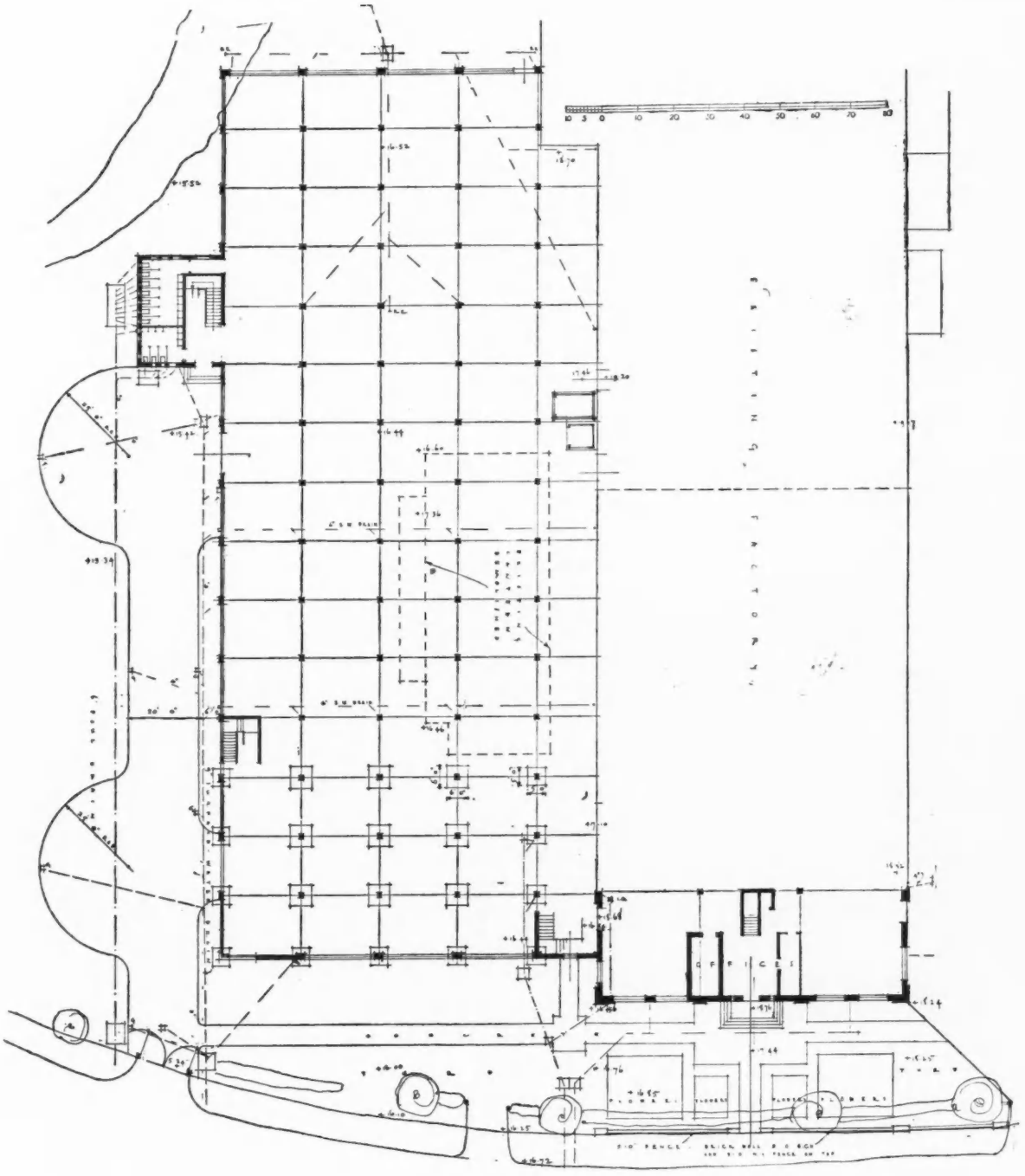
THE NORTH-EAST ELEVATION OF THE OFFICE BLOCK



The elevations of the extensions to the Metal Box Company's Factory at Palmers Green, N., are faced with hand-made multi-coloured bricks, with reconstructed stone dressings. Steel casements are used throughout.

Above are reproduced a drawing and photograph of the north-east (main) elevation of the office block, planned on the road side of the existing factory. The entrance hall is lined with Beech plywood.

DESIGNED BY S. N. COOKE

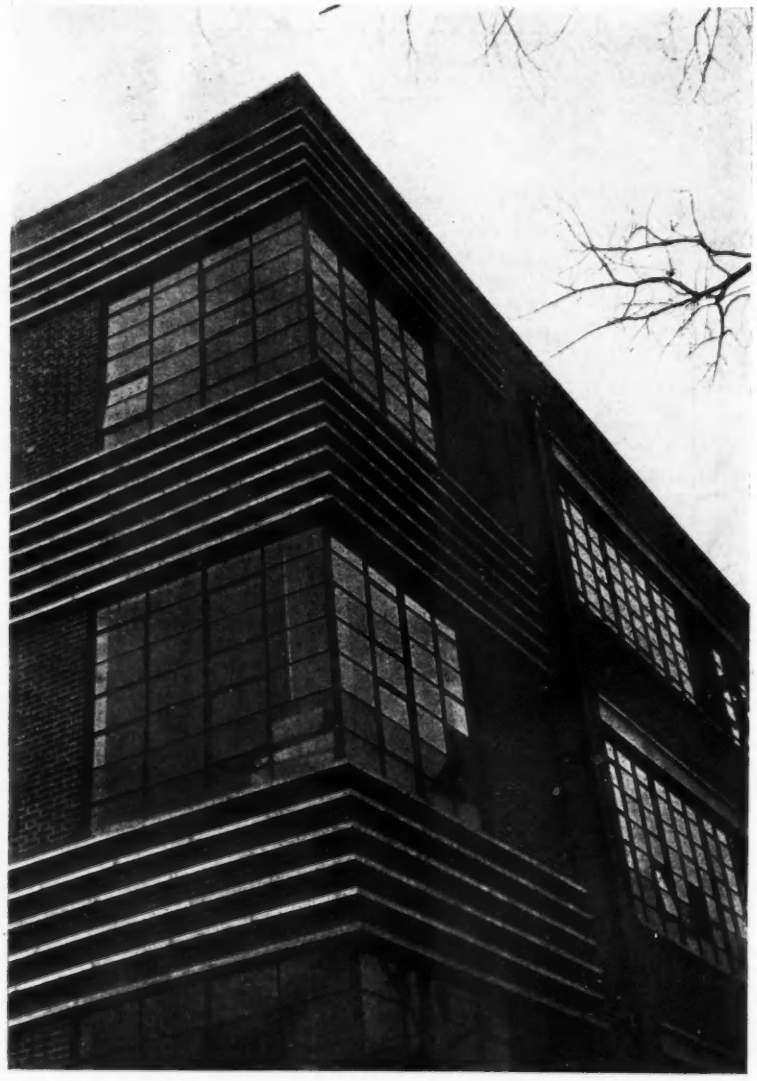


LAY-OUT PLAN

The building is constructed with a steel frame having stanchions spaced at regular intervals. The floors, of reinforced concrete, are calculated to carry 4 cwt. per foot super.

FACTORY EXTENSIONS, PALMERS GREEN

DESIGNED BY S. N. COOKE



Above: A general view of the factory, with the office block on the extreme right. Right: A detail of the corner treatment. The windows are of the steel casement type.

AN URGENT QUESTION TO THE MANUFACTURERS

[By E. MAXWELL FRY, B.ARCH., A.R.I.B.A.]

MANUFACTURERS of building material and equipment are realizing, no doubt, as they survey the prospect of an extended campaign of slum clearance, that their factories will be busy for some considerable time to come. There seems to be little doubt that the determination to rid ourselves of the menace of overcrowding is deep-seated, and will see the nation through a considerable programme of work. Exactly what form this programme will take is yet to be settled, and for a number of reasons it is undesirable that we should continue to build as we have done in the past.

URBAN RE-HOUSING

Looking back at the urban re-housing of the last 60 years or so, as carried out by statutory and voluntary bodies alike, the first thing that strikes one is its sporadic nature. Even where it has been pursued by the L.C.C., for instance, as a consciously adopted policy building has taken place when and where opportunity has occurred and over the very worst of condemned areas, for without a very large body of public consent both land and money have been hardly come by. The work of voluntary housing bodies has been even further broken up, and a mass of comparatively smallish undertakings have been carried out upon sites very often unfitted for such building.

These buildings have in the main been carried out by *habitual* methods of building, often at considerable expense, and in architectural styles whose ornamentation tended to absorb a not inconsiderable proportion of the total capital costs.

Further than this, the equipment of these buildings was very largely the equipment for normal house building, offered by manufacturers on the open market, it not being thought necessary to provide anything specially designed for workmen's dwellings. This equipment changed very little with time, and it must be said in fairness to manufacturers that the demand for something different was not importunate.

The position today has changed. The demand for cheaper flats, that without too great a burden can be let at rentals within the means of working-class incomes, has brought a new note of scientific enquiry into their planning and construction. This, combined with the necessity for larger scale planning, more clearly realized with every day that passes, puts an entirely new complexion on the situation. To meet it adequately the manufacturer of building materials and equipment must make himself aware of the terms of the problems which architects have before them to solve, and should, if he is to offer exactly what is wanted, in the right quantities and at the right price, identify himself with the movement as an active participant in the fight to replan the living conditions of the towns.

What we are out to do, by its very size and by the cramping conditions of finance, is an undertaking fraught with great responsibilities. These conditions force us to exert ourselves to the limit of our capabilities as technicians, in order to provide something better than was formerly provided at less cost, and we are led by our analysis of the programme to think of building in terms of an appreciably higher measure of standardization, mass production and scientific handling. This method of approach is now coming to be accepted as providing the only means of lowering costs while at the same time increasing the standards of accommodation; and if I am right in supposing that a long-sustained programme will increase the units of construction so that very large schemes of rebuilding will be undertaken, then without any doubt at all the small house and room units of which these schemes will be made up will be standardized to a degree not yet reached in this country.

PLANNING

The planning of a single flat unit, or rather the working parts of such a unit, becomes a matter of intricate scientific adjustment, since it is to be repeated hundreds, perhaps thousands of times without any essential alteration. Under such conditions the question of equipment becomes of first-rate importance, and what has sufficed for larger rooms under laxer circumstances may very well prove clumsy and inefficient when considered as the *type equipment* for large-scale standardization.

In a sense it may be said that the new conditions are factory conditions, where the pressure of production costs forces the exact study of function. So long as designs on paper have a dozen varying types of kitchen for a block of 100 flats, such study must be lacking. When a group of technicians carry out a work of research that will finally produce a *type-kitchen* for large-scale adoption it may very well be found that a working unit consisting of a sink and half a draining board, a tin copper and a black gas stove, all existing as separate units, falls far short of equipping a working kitchen. If mass production and standardization mean anything at all, they most certainly do not mean the perpetuation of such equipment. Somehow or other, there must be such collaboration of technician and manufacturer as will produce a much more highly organized unit that will offer a better standard of design, considered from the standard of function and from that of appearance.

The kitchen is only one such problem, but keeping always in mind the scale of operations, it will be realized that in the bathroom, the w.c., in the equipping of living rooms, balconies, staircases, etc., the manufacturer will be called upon to restudy the design of the products he makes if he is to offer them in any quantity and to the required standards.

The list is too long to quote. One has only to mention the question of refuse disposal, by no means satisfactorily solved in this country, to acknowledge how inadequately provided we are with equipment fit to serve large aggregations of dwelling units. The provision of hot water raises another problem which carries with it a large field open to new enquiry. And if we move to the still larger questions of building construction methods and systems it is apparent at once that here as never before are we in need of technical improvements of which the manufacturer must provide his quota.

A CLEARING-HOUSE OF INFORMATION

This argument carried forward logically would seem to suggest some pooling of information for the benefit of manufacturers generally, and it must be growing obvious to many people that the slum clearance movement does vitally require a clearing-house of

information, statistics, data and technicalities ; some central bureau where ideas meet and can be co-ordinated ; where the results of independent research can be analysed and presented clearly to everyone engaged in the work.

At this moment we are largely dependent upon out-of-date equipment. If we could cut short the lag between present production and present and future needs, we shall run fewer risks of building new slums.

IN PARLIAMENT

[BY OUR SPECIAL REPRESENTATIVE]

Building at Greenwich

Sir Austen Chamberlain asked the Prime Minister whether he had any information to give the House as to the steps taken to fulfil the undertaking given in 1927 that the range of buildings at Greenwich, which included the Queen's House, would be devoted to the purposes of a national maritime museum.

Mr. Ramsay MacDonald said that the matter had been under consideration since the buildings in question were vacated by the Greenwich Hospital School, and His Majesty's Government had recently received a generous offer from Sir James Caird of his magnificent collections, with a promise, in addition, to defray the cost, estimated at £29,000, of putting the buildings in order for their reception. The Government had expressed their warm appreciation of this offer, and they proposed to introduce into Parliament at an early date a Bill for the establishment of a National Maritime Museum. The contents of the Naval Museum at Greenwich would be transferred, as would the handsome gifts already made by Sir James Caird and others in anticipation of the establishment of the Museum.

Big Ben

Mr. Duncan asked the First Commissioner of Works, whether, in connection with the repairs to the Clock Tower, it was proposed to overhaul Big Ben and the Westminster chimes ; whether this would involve silencing the bells and, if so, for how long and from what date ; who would carry out the repairs if required ; and what was the estimated cost.

Mr. Ormsby-Gore said that the answer to the first part of the question was in the affirmative. It had been found necessary to overhaul and clean the great clock. The bells would be silenced for a period of approximately two months from April 30 next. The repairs to the clock would be carried out by Messrs. E. Dent & Co., of Cockspur Street, the manufacturers of the clock, under their current contract, but the bell mechanism would be overhauled by the same firm at a cost of £260, under a separate and special contract.

Slum

Mrs. Runge asked the Minister of Health whether he was considering the desirability of recommending to local authorities engaged in slum-clearance work in industrial districts the temporary use of public parks and open spaces for providing decanting accommodation.

Mr. Shakespeare, who replied, said that the circumstances of different towns varied greatly, but the Minister would give sympathetic consideration to any practicable proposals submitted by local authorities for the temporary use for decanting of parks and open spaces in their ownership.

Sir Wilfred Sugden asked the Minister of Health if he would state how many of the permanent staff of the housing division engaged upon slum-clearance work under the Housing Act, 1930, and also the number of such officers who, prior to April 1, 1933, had had any experience in the work of that division.

Sir Hilton Young said that 65 officers of various grades in the Housing Division of his Department were engaged wholly or partially on slum-clearance work under the Housing Act, 1930 ; 28 of these had experience of the work of that Division prior to April 1, 1933.

Building Materials

Mr. Graham White asked the Minister of Health if he had now received any further information from the Committee on the Prices of Building Materials with regard to the rise in the price of baths.

Mr. Shakespeare said that the Interdepartmental Committee on the Prices of Building Materials had conferred with representatives of the Trade Association concerned and were now considering the terms of their report.

Housing

Mr. Mabane asked the Minister of Health if he could indicate the nature of the evidence on which the conclusion was based that the supply of houses to be let at 10s. a week is adequate to the demand.

Mr. Shakespeare said that the evidence was briefly that, at the present time, local authorities were still engaged in completing subsidized houses while private enterprise was building small houses to let in increasing numbers.

The South Wales Institute of Architects

The annual general meeting of the South Wales Institute of Architects (Central Branch) was held at Cardiff recently.

The following officers and members of the Executive Committee were elected for the coming session : Chairman, Mr. J. Williamson, A.R.I.B.A. ; hon treasurer : Mr. H. Teather, F.R.I.B.A. ; hon. secretary : Mr. W. S. Purchon, M.A., A.R.I.B.A. ; Executive Committee : Messrs. H. Norman Edwards, Gordon Griffiths, L.R.I.B.A., A.M.T.P.I., Ivor Jones, A.R.I.B.A., T. Alwyn Lloyd, F.R.I.B.A., and Percy Thomas, F.R.I.B.A. Representatives of Associates and Students : Messrs. F. G. Allen, A.R.I.B.A., and Trevor Hill.

The following were elected as members of the Council for the South Wales Institute of Architects : Messrs. Percy Thomas, F.R.I.B.A., H. Norman Edwards, T. Alwyn Lloyd, F.R.I.B.A., Gordon Griffiths, L.R.I.B.A., A.M.T.P.I., T. Edgar Smith, A. J. Hayes, H. W. Fletcher, C. F. Jones, A.R.I.B.A., J. Williamson, A.R.I.B.A., A. J. Hallam, M.T.P.I., W. S. Purchon, M.A., A.R.I.B.A. Representatives of Associates and Students : Messrs. F. G. Allen, A.R.I.B.A., and Trevor Hill.

QUESTIONS THAT ARISE

Font Covers

¶ W. H. H. writes : "*Would your expert let me have his opinion regarding the methods of balanced suspension for heavy font covers ?*"

The most satisfactory method is by a perforated weight, through which the suspending chains pass to overhead pulleys over which they are conducted, being then brought down and fixed to the weight. If the counterweight is of cast and gilded bronze in any desired form, it can be balanced to the canopy weight by lead filling as requisite.

E. G.

Flues

¶ S. R. writes : "*A detached house standing on an exposed sea-front has two chimney stacks on the outer wall facing the sea, each containing two flues. The height of stacks (from roof intersection to top) was originally 9½ ft. Down-draught being experienced, the owner insisted on the stacks being raised 3¾ ft. Accordingly, this has been done with brickwork in cement mortar.*

"*The original stacks were built in 4½ in. brickwork, and the surrounding flues in the ordinary manner with lime mortar, and I am wondering if they can be considered safe. Can wind pressure be computed by some simple means ?*"

The chimney with a height above roof of 13 ft. 3 in. and a thickness of 1 ft. 6 in. is decidedly dangerous, or may readily become so, and even if the thickness is 1 ft. 10½ in., would be on the danger line in an exposed situation. Many districts have a bye-law prohibiting a height greater than six times the least width, and it is generally held that in positions of extreme exposure this ratio should be reduced to five or even four times the width. It may be possible to safeguard the chimneys by fitting iron stay rods secured to the roof structure. The danger will arise as soon as a stack becomes slightly distorted by the effect of expansion and contraction, or one of the horizontal joints fractures. Any of the handbooks on stresses and strains will give the ordinary formulæ for computation of wind pressures.

E. G.

ERESBY HOUSE, RUTLAND GATE, S.W.

Looking towards the main entrance.

DESIGNED BY

T. P. BENNETT AND SON

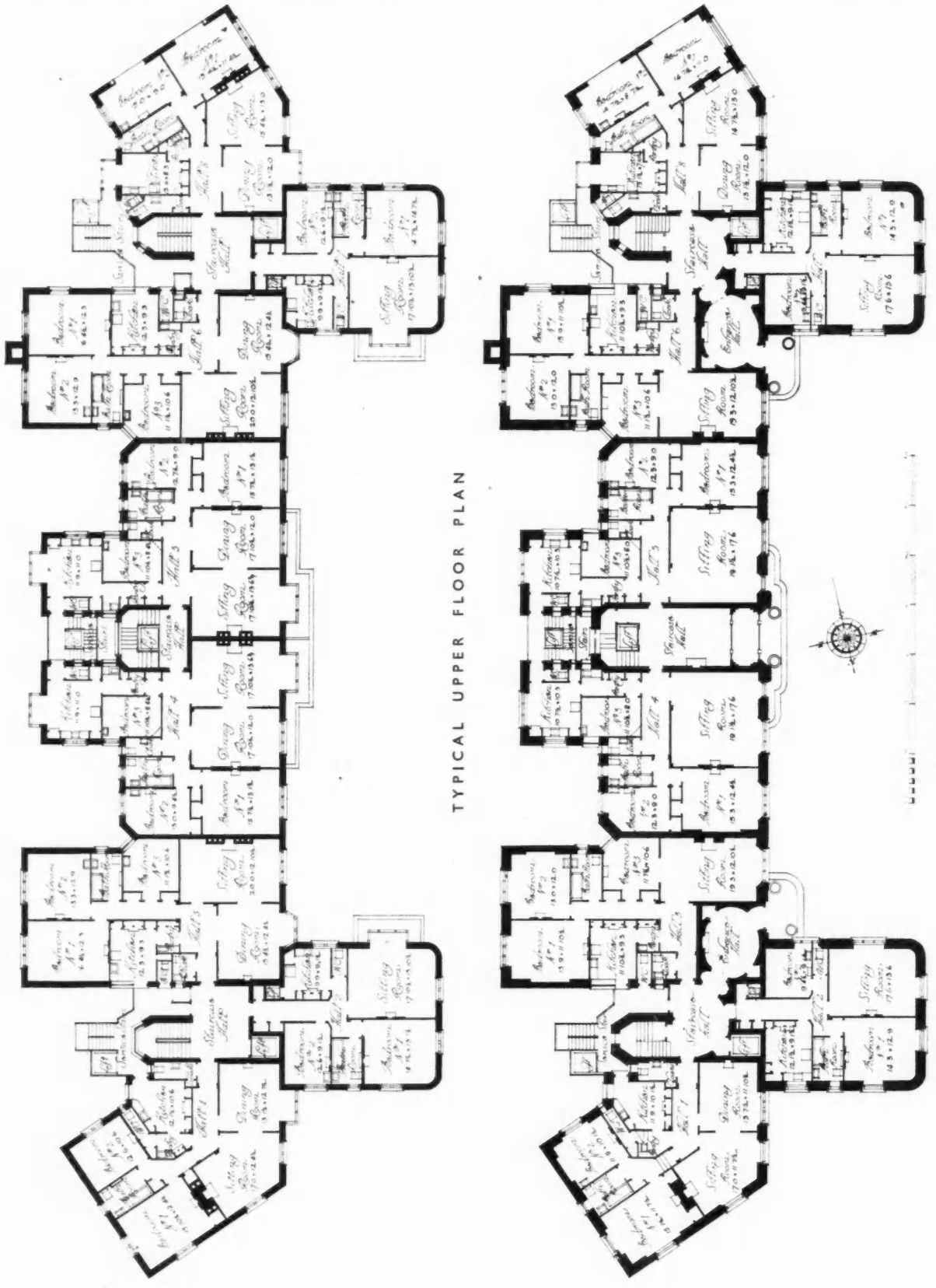
This building contains 56 flats at rents ranging from £275 to £400 per annum, inclusive of rates, central heating, hot water, etc. There are eight flats to each floor, the seventh floor being devoted to servants' bedrooms and bathrooms.

The flats have been so planned that all the reception rooms overlook Rutland Gate. The central heating is on the panel system. The temperature of each room is under separate control and (with the exception of bathrooms, which have heated towel rails) the system serves all rooms, including servants' bedrooms, and the public stairs and halls. Each flat has a heated linen cupboard. The hall floors in each flat are of hardwood, the bathrooms and cloakrooms have rubber floors, the pantries cork tile and the servants' w.c.'s quarry tile flooring.

Electric passenger lifts serve all flats; and there are separate lifts and staircases for the use of servants and tradesmen. The small flats have electric service lifts direct to their kitchens. Cooking in the kitchens is by gas or electricity, as preferred.

LAY-OUT PLAN

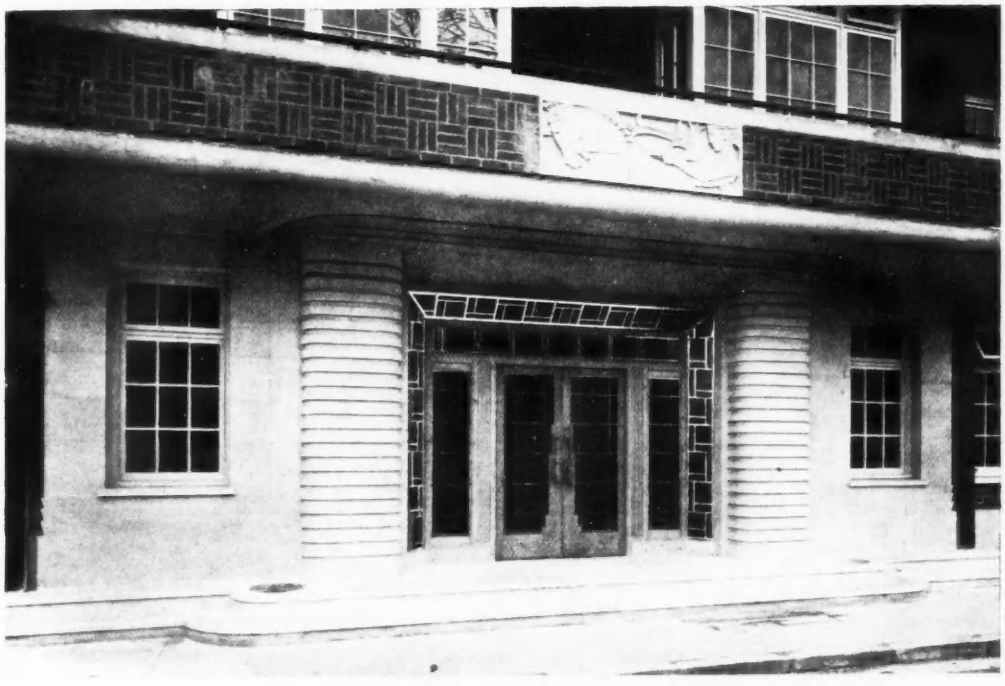
ERESBY HOUSE, RUTLAND GATE, S.W.:



TYPICAL UPPER FLOOR PLAN

GROUND FLOOR PLAN

BY T. P. BENNETT AND SON



The accommodation is as follows : Ground floor *: A : Two bedrooms, bathroom, two reception rooms, kitchen (£300 to £325). B : Two bedrooms, bathroom, large reception room, kitchen (£275 to £285). C : Two bedrooms, bathroom, two reception rooms, kitchen and pantry (£300). D : Three bedrooms, bathroom, large reception room, kitchen and pantry (£325).*

First to Sixth Floor (inc.) : *A : Two bedrooms, bathroom, two reception rooms, kitchen and pantry (£300 to £325). B : Two bedrooms, bathroom, large reception room, kitchen (£275 to £285). C : Three bedrooms, bathroom, two reception rooms, kitchen and pantry (£400). D : Three bedrooms, bathroom, two reception rooms, kitchen and pantry (£400).*

The seventh floor contains the following accommodation for servants : 13 single rooms at £25 per annum : four double rooms at £35 per annum. (Both types include use of bathroom.)

The photographs show : above, the main entrance. The panel over the doorway is the work of Eric Aumonier. Right, a worm's-eye view the main façade.

ECONOMY IN SMALL HOUSE CONSTRUCTION

[BY FRANK H. HEAVEN, A.R.I.B.A., P.A.S.I.]

This is the second of a short series of articles on small house construction, in which the author sets out to show how savings in building costs may be made through minor but cumulative economies, whilst departing little from normal building practice.

IV. BRICKLAYER

WITHIN comparatively recent years, brickmakers have produced several new types of bricks, not only in form but in texture, and in each case they have been received and used, wherever practicable, with alacrity. The cellular type of brick reduces the weight of walling appreciably and results in considerable economies in the sizes of supporting members, as steel and reinforced concrete beams with their columns and bases, in framed structures where walls have to be carried by artificial supports.

For general walling built directly off a natural foundation, little or no advantage is gained by their use. Any saving must come by way of reduced thickness in the wall itself, or in its mode of construction.

There can be no doubt that the present ordinary thicknesses for walling are far in excess of the actual requirements for weight bearing purposes. The extra thickness is usually necessitated to obviate the absorbtive qualities of the material used and to maintain a dry interior. From a "weathering" point of view, a brick-and-a-half thickness is the minimum applicable to solid walls, and two half-brick thicknesses with a central cavity of 2 in., 2½ in., or 3 in. for hollow walls, where the external surfaces are required to remain untreated.

For certain types of light construction, however, as bungalows or houses of small size, a definite saving in the number of bricks used can be effected by reducing the thickness of the solid or hollow walls to 9 in., but, in each case, the external surfaces would need to be treated with some other weather-resisting material as plain cement work or rough-cast.

In the case of walls built hollow and only 9 in. in width, two thicknesses of brick-on-edge, with a 3 in. central cavity, are set up and bonded across by means of header bricks in each course. No iron or other ties are used across the cavity. The bricks are laid as alternate stretchers and headers, or two, or three stretchers to each header, in every course, as shown in Fig. 6 (*a*) and (*b*).

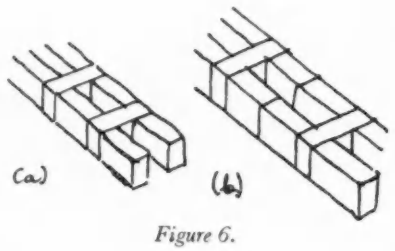


Figure 6.

It is essential that wire-cut bricks only shall be used, or pressed bricks with a single frogged face, and that placed in the thickness of the wall where it will not interfere with the key for the cement work or plastering and require a considerable amount of mortar to fill them up.

Compared with ordinary 11 in. cavity walling, the economies effected are in the number of bricks required, the amount of mortar used for jointing purposes, the omission of all ties, and in the weight of materials, and the cost of labour of erection. So far as the materials are concerned, assuming that standard bricks are used, these would approximate to the following table:—

TABLE I

Material	Amounts required per superficial yard of	
	11 in. cavity wall	9 in. cavity wall
1. Bricks	96 No.	72 No.
2. Maximum length of horizontal and vertical joint ..	96 ft. lin.	84 ft. lin.
3. Maximum amount of mortar to fill the last, if ⅜ in. thick in each case	1·12 ft. cube	0·65 ft. cube
4. Iron Ties	3 or 4	none

NOTE.—Numbers 2 and 3 are calculated for alternate stretcher and header in each course of the 9 in. cavity wall. Both would be reduced if two or three stretchers alternated with each header. The monetary savings will be dealt with later on.

Provided the external covering of cement or rough-cast is reasonably waterproof, there would seem to be no possible reason why cavity walls of such 9 in. width should not be adopted more generally for suitable types of building.

Several instances where similar walling has been employed have been kept under close observation for a number of years and have, so far, proved satisfactory in every way.

Honeycomb sleeper walls to wood ground floors, where the air space below does not exceed, say, a height of 18 in. to 24 in., can be modified from the usual, with safety and economy, by setting the bricks on edge instead of on their flats, and so reduce the width of such walls from 4½ in. to 3 in. Additional stability can be obtained, if considered necessary, by setting an open course of headers as footing to each wall, as in Fig. 7.

Calculated as follows, such a method of construction saves nine bricks per superficial yard of walling.

A section 3 ft. by 1½ ft. (½ yd. super) requires 19 bricks to construct it in the usual manner, but only 14½ bricks in the manner suggested, a difference of 4½ bricks which, multiplied by 2, =9 bricks per super yd., plus savings in mortar, labour, and ancillary charges.

Fender walls about hearths in wood ground floors are an anachronism. If trimmer joists and concrete slabs are satisfactory for upper floors of wood, why not for ground floors? The only possible objection which could be raised, perhaps, that the depth of the usual ground floor joist (4 in.) is not sufficient to give the requisite depth to the concrete of the hearth, but this is overcome if the use of deeper joists (7 in.), as suggested later on under "Carpenter," is arranged. There is no further constructional difficulty, and a considerable saving in brickwork will result.

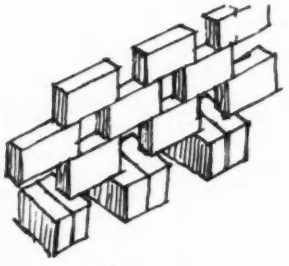


Figure 7.

There are other possibilities of economy in connection with the construction of fire breasts, but as these involve questions of plan, and should be settled in the preliminary stages of a design, they are omitted here.

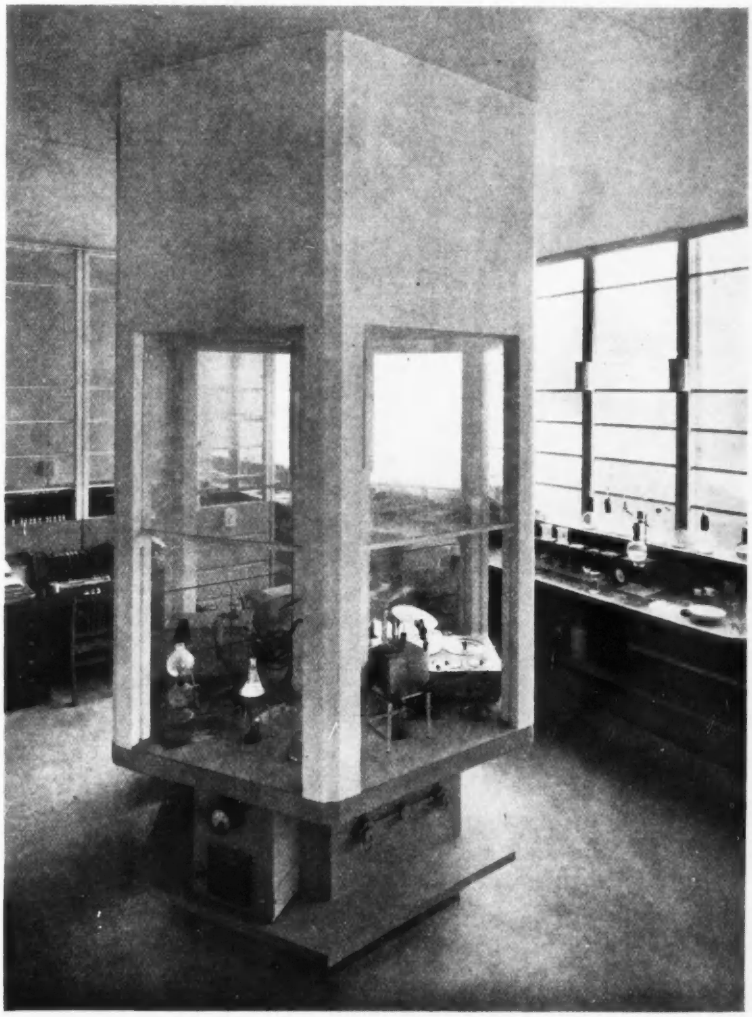
[*To be continued*]

To Clear Mold Slums

Mr. N. Fisher, A.R.I.B.A., architect and surveyor, has been appointed, at a salary of £250 per year, to supervize and execute the Mold (Flint) Urban District Council's five-year slum clearance programme.

WORKING DETAILS : 29

REINFORCED CONCRETE FUME CUPBOARD • LABORATORY AT THURROCK • SIR E. OWEN WILLIAMS

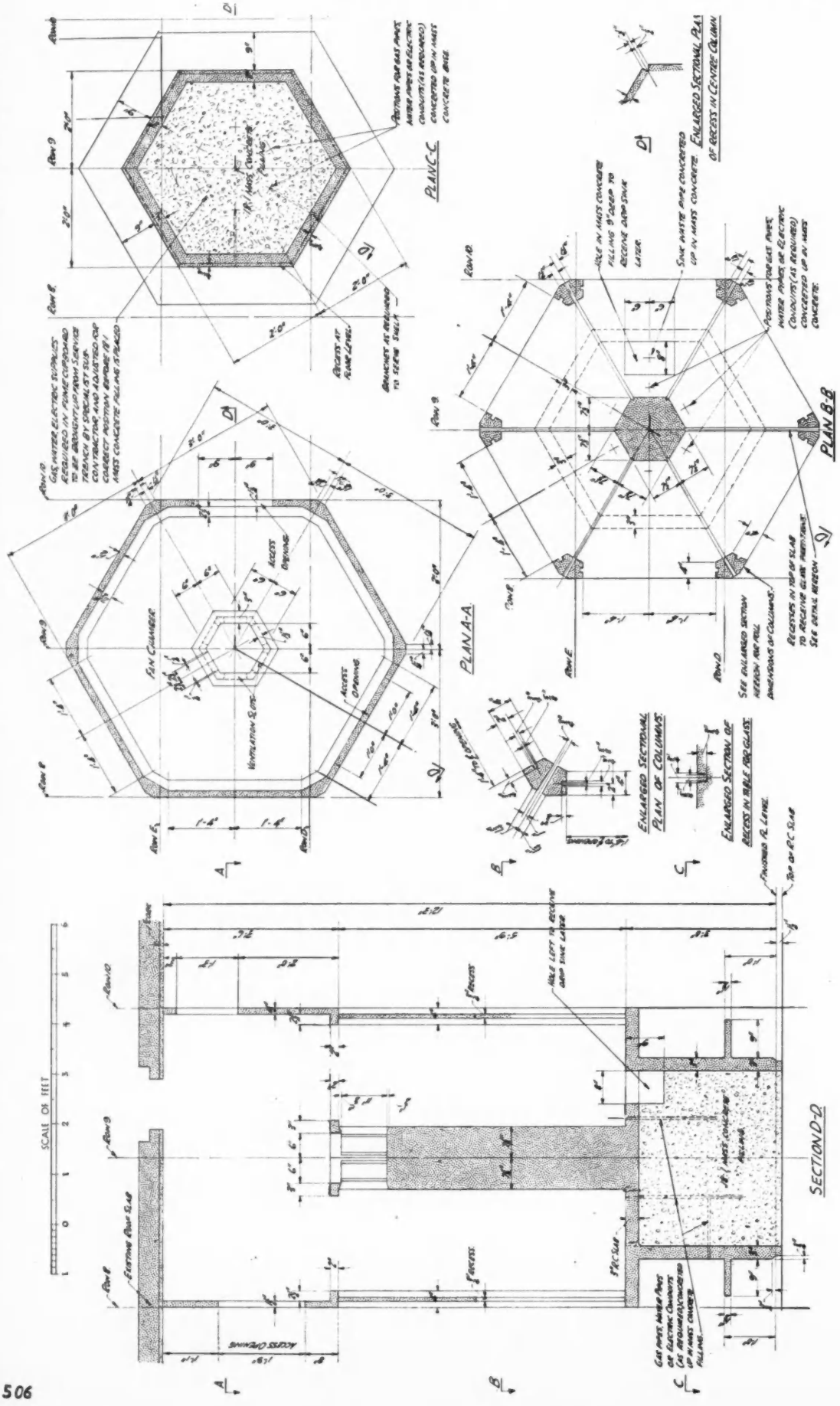


The fume cupboard is specially designed for experimental work where obnoxious fumes prevail. The central flue fixes its planned shape. The departments are divided off for different experiments, and the fumes are drawn from the top of each compartment by a fan and are discharged through a stack at roof level. The dividing partitions are of armourplate glass, glazed as the main glazing, directly into the concrete.

FILING REFERENCE:

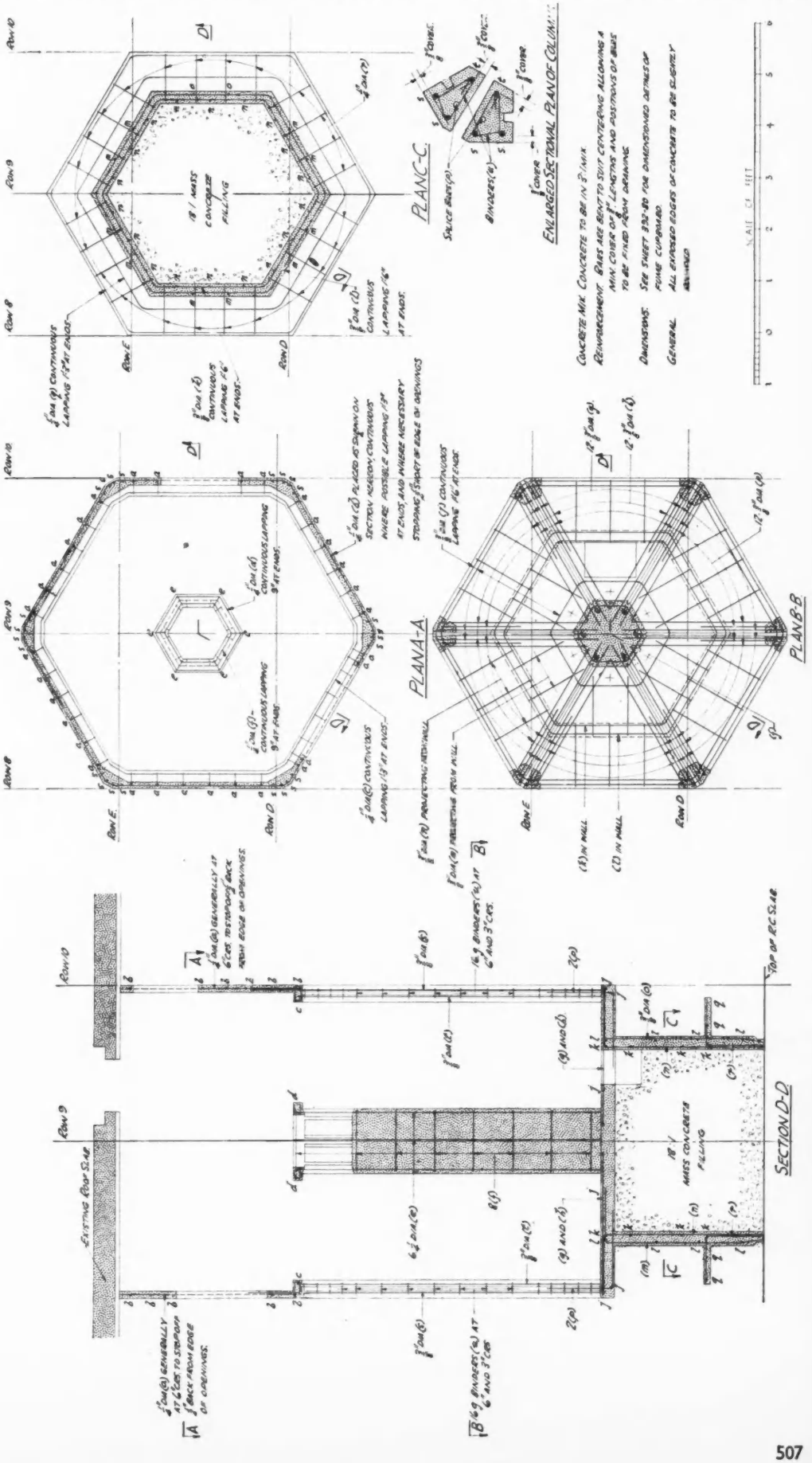
WORKING DETAILS : 30

REINFORCED CONCRETE FUME CUPBOARD • LABORATORY AT THURROCK • SIR E. OWEN WILLIAMS



WORKING DETAILS : 31

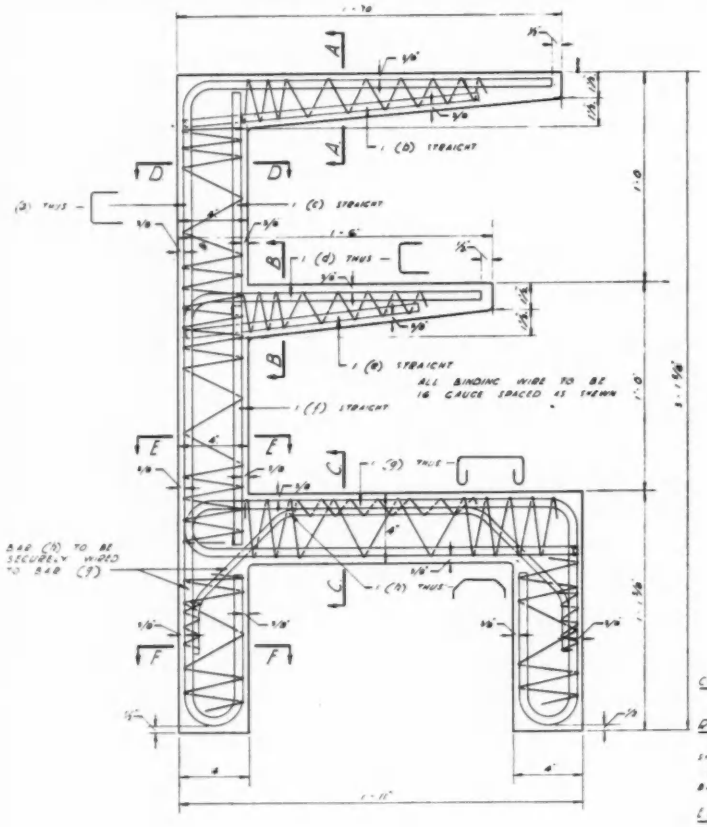
REINFORCED CONCRETE FUME CUPBOARD • LABORATORY AT THURROCK • SIR E. OWEN WILLIAMS

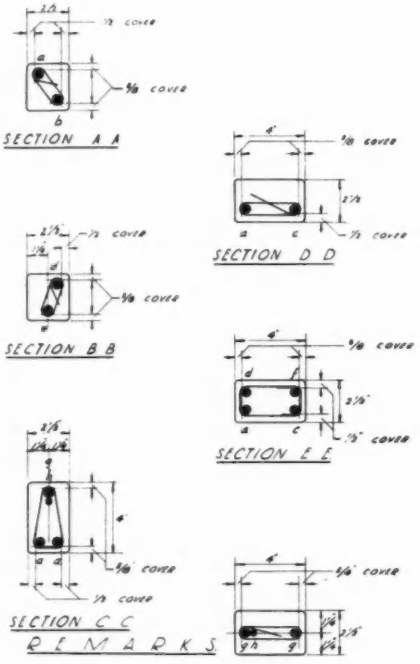


FILING REFERENCE:

WORKING DETAILS : 32

REINFORCED CONCRETE BENCHES AND SHELVING • LABORATORY AT THURROCK • SIR E. OWEN WILLIAMS





REMARKS

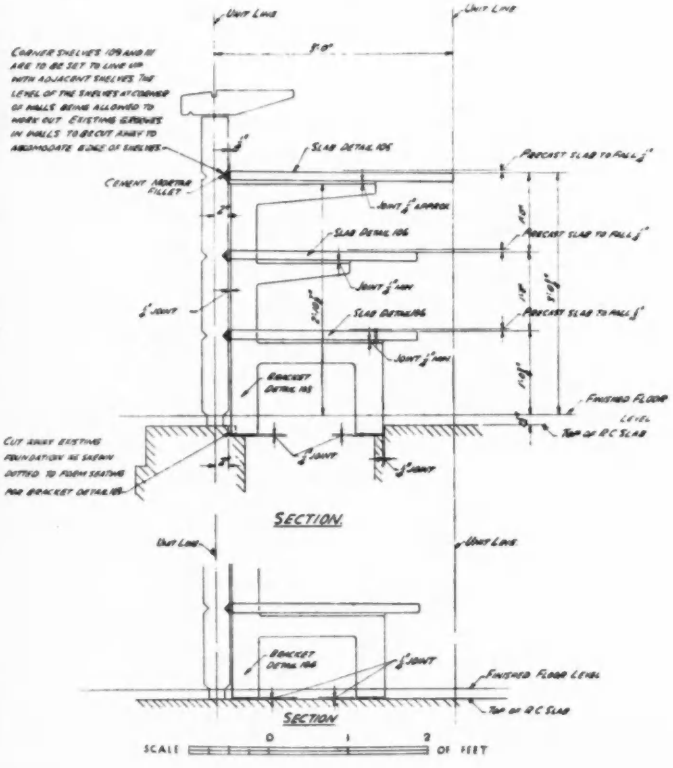
CONCRETE MIXTURE
ALL CONCRETE TO BE IN 3-1 MIXTURE

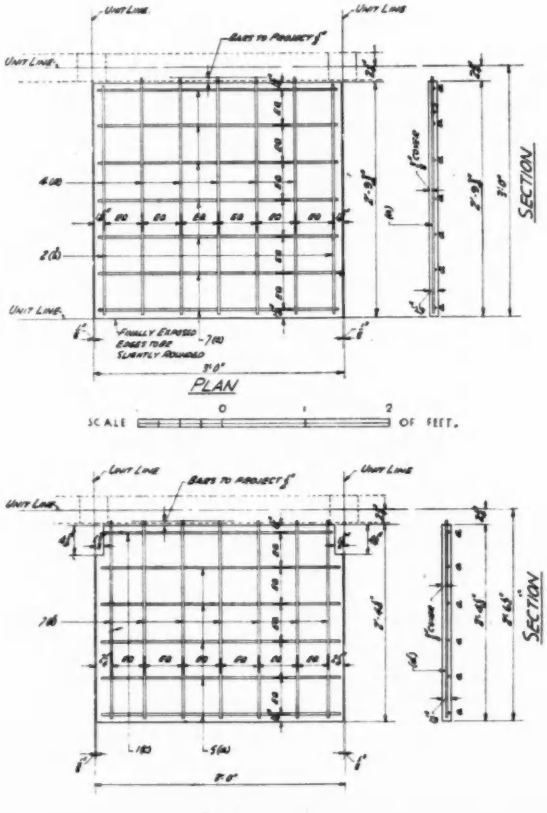
REINFORCEMENT
ALL BARS ARE 1/2" DIA BENT TO SUIT, COVER DIMENSIONS SHEWN ON DETAIL (EXCEPT FOR BAR (h) WHICH IS 3/8" DIA)
ALL BINDING WIRE TO BE 16 GAUGE PLACED AROUND THE MAIN BARS AS SHEWN

EXPOSED EDGES
EXPOSED EDGES TO BE SLIGHTLY ROUNDED

HANDLING
BRACKETS TO BE HANDLED WITH CARE

SCALE 1 0 1 2 OF FEET





LITERATURE

THE PAINTER AND THE PAINTED

[*By R. E. Colby*]

British Painting : By C. H. Collins Baker, with a chapter on the Mediæval Period by Montague R. James, LITT.D., Provost of Eton. Medici Society. Price 30s. net.

THE Provost of Eton, in the chapter on the mediæval period which he has contributed to Mr. C. H. Collins Baker's exhaustive study of British painting, points out that but for the troubles of the middle of the fifteenth century, England would have developed a school of portrait painters earlier than it did. He bases his assumption on the multitude of small heads which adorn the initials of the Bedford Psalter and Hours. Its date is *circa* 1430. The artist—he evidently drew from life—was the precursor of Sir Joshua Reynolds and Gainsborough.

Mr. Collins Baker now acts as our guide. He turns over the English Primitives of the sixteenth century. A school may have existed, but examples of it are rare. Indifference and neglect, the effects of the English climate on panels, may account for the scarcity. A more encouraging field for the art historian is offered by the school of British miniaturists which flourished under Elizabeth and the early Stuarts. Hilliard's portrait of his wife and his beautifully poised Elizabethan Gentleman, link up with the book illustrators of the fifteenth century, and hold out rich promises for the future.

The seventeenth century belonged to foreigners—Van Dyck, Lely and Kneller. Like Holbein, in the preceeding century, they founded no school, but they set up standards of craftsmanship which, allied with the native genius, prepared the way for the new portraiture of the second half of the following century.

Mr. Collins Baker very rightly refutes the common statement that Hogarth "founded" the English School. Hogarth stands as much alone in the apotheosis of English painting as William Blake or Wright of Derby. He was a violent individualist. Mr. Collins Baker pictures him, if he were alive today, continually writing letters to *The Times* airing his grievances and contrivances.

Individuality was a quality that the great portrait painters of the English School did not possess, or, if they possessed it, did not show. They were sensitive to the quality of those who sat to them and that, with their superlative technique, produced the series of portraits in which English womanhood, childhood and manhood were portrayed as they never had been before (not even by Van Dyck) and never have been since. Their modern counterpart are the expensive photographers which abound in Mayfair. A conspiracy existed between the painter and the painted—a conspiracy between gentlemen. Neither party was to express exactly what it felt. The painted presented himself or herself as decorum demanded, and the painter kept his side of the bargain. He was well paid for it.

But, under the mask of the painter was the soul of the artist. He very seldom revealed it. It was not required of him. If he reproduced the breeding, the mind of his sitter would take care of itself as it had done all along. In 1785, a lady sat to Gainsborough, who was neither descended from the finest stock in the land, nor did she want to be represented as such. Her profession was acting. Gainsborough's *Mrs. Siddons* was his finest achievement, the peak of the school. The artist in the actress called forth the artist in the painter. We can no longer talk of a conspiracy. They both took their masks off. It is a pity that in this otherwise so well illustrated book that there is no reproduction of *Mrs. Siddons*. But then, *Mrs. Siddons* is not typical of the school.

We grow tired of this long succession of portraits, especially when, in the case of Lawrence and his school poetry has degenerated into sentimentality and art has become academic. But there are pleasant by-ways along which we can escape. They lead us to the stables of Morland, the riding schools of Stubbs and the animated drawing rooms and gardens of Zoffany.

We return from these pleasant excursions to find that the gentlemen are painting perfect landscapes.

A HUNDRED NEW TOWNS

A Hundred New Towns for Britain. By Ex-Service Man, 47485. London : Simpkin Marshall. Price 1s. net.

THIS book announces the formation of a new fraternity of ex-Service men who have as their object the building of a hundred new towns for Britain. I had imagined that 100 was a sort of slogan figure before reading the book, and perhaps, even though the author clings to his faith in that number, it is so. For, if not, it is damaging.

The thesis, that we can look for no cure of our urban muddle through the agency of slum clearance, is not bettered by leaving the towns to rot another 10 years, while the nation takes up the job of building one hundred new, and therefore, beautiful and perfectly planned towns. I am not too hopeful of the towns being cured. No more hopeful than I am of human nature generally. But I cannot face the prospect of having to hope that 100 new towns would begin to ease the pressure on Bermondsey in course of time. Garden city ideals left the urban problem worsened. Here comes another ideal that can only find room to breathe on unspoilt sites in overcrowded England.

Now this scheme of the national planning of 100 new towns on new sites is definitely set against schemes of slum clearance, i.e., regeneration of existing urban centres, on the assumption that authorities can no longer afford to rebuild slums adequate to the demand for rebuilding. Had it proposed the building of new towns as part of a national scheme of replanning, one would have no cavil with it. It is to be hoped, indeed, that its author will take into account the extent of urbanization now existing, and remodel his scheme in order to make the 100 towns appear less disassociated from the problem to which so many forces are, and must be, directed.

With his financial provisions I cannot deal, having little knowledge of the question. They are very simple seemingly and provide plenty of money for the asking. Enough I should say, for both new towns and old slums rebuilt.

I understand that a second publication will enter more fully into questions of planning and town planning.

E. M. F.

RURAL PRESERVATION

Our County and Ourselves : Northamptonshire and Its Amenities. By W. Carey Wilson and H. R. Surridge. Kettering. Price 2s. net.

ALTHOUGH the application of this small book is entirely local—it is designed to interest Northamptonshire people in the character of their own countryside and in what can be done to prevent its destruction—it sets an example that could profitably be followed in every part of England.

The book rightly seeks for someone beyond the mere speculative builder or advertisement contractor on whom to lay the responsibility of rural desecration ; for these are only the agents of a faulty system—or rather lack of system. The basic cause is the absence of a sense of mutual responsibility among the mass of the people, and with it a tendency to place immediate material advantage before permanent good.

In the eighteenth century the educated minority were the natural arbiters of taste and source of unofficial guidance to the form that all developments should take. Now the spread of general education has entailed the loss of

educated control; and the only solution, as the authors of the book point out, is the wider spread of specific education on such subjects as planning and the relation of purpose to design, and the institution of some form of official or semi-official control.

The unhappy results of present conditions are amply demonstrated in this book by examples of preserved and mutilated Northamptonshire villages, ribbon development, bad advertisements and pretentious suburbs; and the authors make constructive suggestions for the earlier enlightenment of public opinion and control of private enterprise by such means as the adoption of regional planning schemes, the formation of a county branch of the C.P.R.E., and the examination of all plans by a panel of local architects.

REINFORCED CONCRETE ARCH DESIGN

Reinforced Concrete Arch Design. By G. P. Manning, M.ENG., A.M.INST.C.E. Lodonn: Pitman. 12s. 6d.

THIS book gives a detailed treatment of the somewhat difficult subject of reinforced concrete arch design and is intended as a manual for the designer, for whom the author puts forward "a definite method which, if followed step by step, will give the most economical shape and thickness of arch in any given case."

The general theory of the elastic arch is first given, followed by the consideration of two-hinged and fixed-ended arches and also the two-hinged tied arch. Later chapters give worked examples of these arches for various spans.

The cases treated are of bridges, but the methods given would, of course, apply equally well to large span roofs. In this connection it may be of interest to architects to note the author's conclusion that the most economical profile (which, by the way, is not the line of the soffit but of the arch axis, i.e., the line through the centre of gravity of the arch sections) never departs far from the parabolic form.

Various interesting photographs are included and the book is well illustrated by clearly drawn diagrams. To all interested in the detailed design of reinforced arches it should prove of great value.

Publications Received

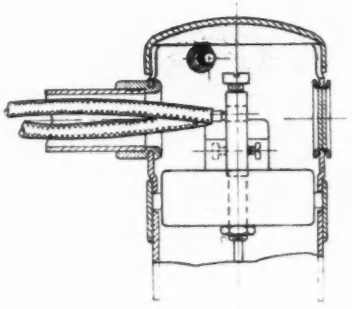
First Year of Building Mathematics. By R. C. SMITH, M.R.S.T. London: Sir Isaac Pitman and Sons, Ltd. Price 3s. 6d. net.

Brick upon Brick: Fifty Years of the Co-operative Permanent Building Society. By Dr. ALBERT MANSBRIDGE. London: J. M. Dent and Sons, Ltd. Price 5s. net.

Announcements

Mr. Arthur L. Hall. A.R.I.B.A., has removed his offices to 22 Old Buildings, Lincoln's Inn, W.C.2, where he is continuing his practice in association with Mr. H. Victor Kerr, F.R.I.B.A.

Messrs. Mewès and Davis have removed their offices to 1 Old Burlington Street, W.1. Telephone No.: Regent 2055-2056.



TRADE NOTES

[*BY F. R. S. YORKE, A.R.I.B.A.*]

Low Temperature Electric Heating

I BELIEVE it is generally known that Barker, Young & Co. has now become Unity Heating Limited; this firm having already succeeded Young Osmond and Young and Electro-Gas Development.

•

In 1925 Young Osmond and Young was a small firm of electrical and general engineers. During that year its directors foresaw considerable possibilities for a new electrical device known as the tubular electric heater, since the nature of this appliance involved minimum heat loss to the fabric of a building and provided a low operating temperature coupled with the ability to produce rapid temperature rises in a room or building.

•

Manufacture was begun almost immediately, and selling commenced in a field at that time dominated by solid, liquid or gas-fired central heating plant.

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In the next two years design was improved and the heater became known as the Unity Tubular electric heater. Progress was, however, difficult, owing partly to the scepticism of those used to employing central heating by hot water, and partly to the electricity tariffs then generally obtaining. At this point an important technical advance was made in the first Unity Thermostat. It had been recognized that thermostatic control, room by room, should be a normal part of electric heating installation, and such an arrangement now became a possibility.

•

During 1929-1930, the output rose rapidly as the installation of Unity Heating in schools, office buildings, places of amusement, and private houses, became more general. At this time The Morgan Crucible Company were developing a ceramic type, medium temperature panel radiator, embodying graphite resistor. Whilst this had certain disadvantages, when compared with the Unity Tubular Heater, in many types of building, it had characteristics which made it of particular value in highly ventilated enclosures, such as open-air schools.

•

Shortly after this the Electro-Gas Development Company placed their Electrorad, low-temperature panel radiator on the market. This again had certain advantages and disadvantages when compared with the Morganite and Unity Systems.

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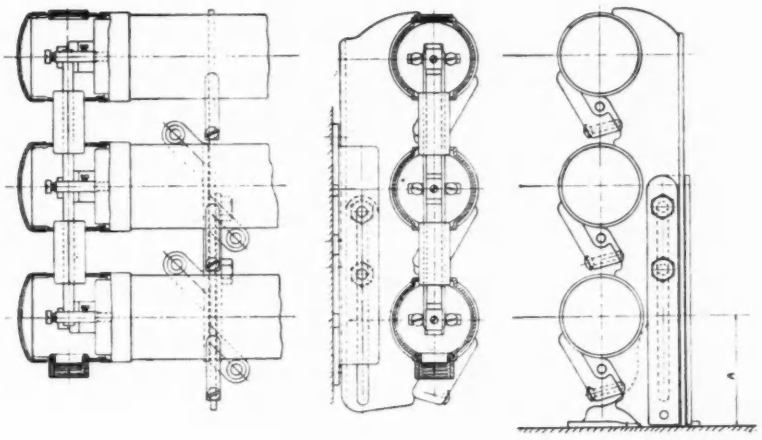
In 1931 arrangements were concluded whereby Barker, Young and Company was formed to handle, both technically and commercially, the sale of Unity, Morganite and Electrorad products. The formation of this company made possible a considerable advance in the technique of the automatic electric heating of buildings, since it was now possible, as it had not been previously, for a single company to recommend, without prejudice, the type of heating apparatus and thermostatic control gear best suited to any particular type of building.

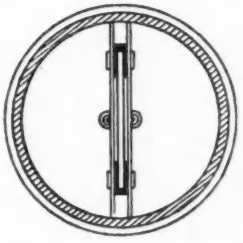
•

Barker, Young & Co., Ltd., has recently been succeeded by Unity Heating, who issue a comprehensive brochure describing the various electrical warming systems supplied by the company: tubular heaters, flood heat radiators, panel radiators, electric water heaters, and combined heating and lighting units.

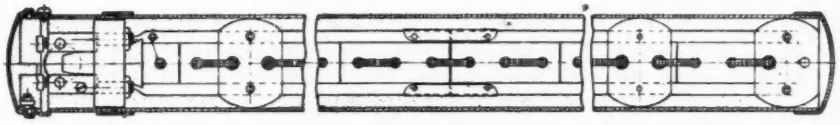
Tubular Electric Heaters

Unity tubular electric heaters are made of heavy gauge steel tubing, cleaned internally before assembly to ensure that the interior





Tubular electric heaters. Above : three tubular heaters mounted at foot of wall. Distance A is variable between 2¾ ins. and 5¾ ins. Right : cross-section through heater. Below : longitudinal section through heater.



is free from rust, scale and moisture. The element frames are flexible and unbreakable. They embody no refractory or other fragile material, but are constructed of hard mica, free from metallic veins, held in steel channels which are joined, where necessary, by special alloy bridges to ensure perfect electrical continuity. Only one nut is embodied in the element assembly, and this nut is carefully locked, because vibration arising from alternating current may cause unlocked nuts to become loose.

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The terminal base is made of porcelain ; its proportions are robust, and it is protected by a double thickness of steel tubing, so that breakage is virtually impossible. The heating element is of such a gauge that the operating temperature is well below a red heat, although the nickel chromium alloy used is of the grade normally employed at bright red temperatures, about three times as high as the operating temperature of the element in a Unity Tube. Element failure is therefore almost impossible.

The terminals are large and conveniently arranged, and will comfortably accommodate 7/044 cables or 7/029 cables when looping. The standard finish is selected to give as high a proportion of radiant heat as possible in relation to convected heat.

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The series U40 Unity Heater is fitted with end cap designed to provide access to terminal arrangements (illustrated at the head of these notes). The wiring is led in without difficulty and the end cap itself is provided with a simple type of bayonet catch locked by a screw at the side, so that the erection of heaters, even in confined places, is a reasonably simple matter. Furthermore, the terminal cap permits of the use of a simple busbar for connecting two or more heaters when the latter are fixed in banks.

Vitrolite

One of the best produced and most informative booklets I have seen comes from the British Vitrolite Company. It illustrates, clearly and in detail, by means of a series of notes, diagrams and photographs, the uses of Vitrolite, and the methods of fixing it as a utilitarian and decorative material in bathrooms, lavatories, kitchens, hospitals, cafés, restaurants, and so on. It is shown as a covering to walls, ceilings, etc., and on table tops, counter tops, fireplace surrounds and shop fronts, and in each case there is a brief specification, a photograph of a completed job, and a series of fixing details.

•

Vitrolite has less expansion than wood, masonry or metal, and should not, therefore, be fixed in direct contact with the material to which it is applied, or which surrounds it. A clearance space should be allowed between them, and this, filled with plastic cement, asphaltic tape, or felt strip—the choice of material depending on the locality. Vitrolite should not be required to support weight or take the thrust of any other material. Poor fixing and pressure on screwholes is often responsible for breakage. This can be eliminated if clearance for expansion and contraction is provided in the proper places.

•

Vitrolite can be cut to any reasonable size and drilled for pipes and fittings ; edges can be ground true for butt joints and polished at external angles.

The usual methods of fixing are :

(1) With mastic to prepared walls.

(2) With screws to a wood backing or plugs.

(3) With wood or metal fillets.

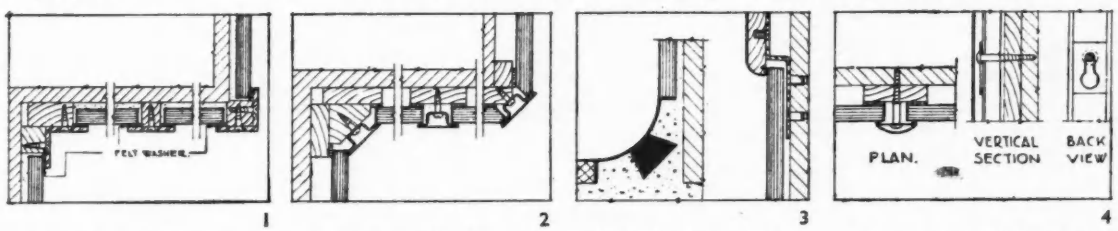
Mastic fixing has proved the most reliable, and only in exceptional cases should alternatives be used. A dry Portland cement screeded wall gives a firm backing for fixing with mastic, but as an alternative a hard plaster or other non-absorbent base is suitable.

The wall should first be treated with a coat of Gripon Sealer applied with a paint brush, after which the panels should be fixed in a ¼ in. thick bed of Gripon Mastic.

The Dangers of Imitation

Following are extracts from an article that appeared recently in *British Plastics* emphasizing the necessity for allowing new materials to take natural, instead of imitative, form :

" Moulders in the U.S.A. have found that it rarely, if ever, pays to produce mouldings in the so-called walnut and mahogany compounds designed to simulate wood. A writer in the *Durez Moulder* attributes this to a belief among consumers that articles made from such compounds are really cheap imitations of wood. In reality they may be more expensive and better



Fixing Vitrolite : ¼ F.S. diagrams from the British Vitrolite Co.'s booklet. (1) Metal strips. (2) Snap-on metal moulding specially designed for use with Vitrolite, to hide screw-heads. (3) Secret-fixed cover moulding for junctions between walls and ceilings, etc., to hide irregularities. (4) Secret-fixed slotted cover-strip, suitable for fixing access panels. Allowance, equal to length of slot, must be made for dropping into position. Removed by sliding up and pulling forward.

in every respect than wood, but the very fact that they are an imitation raises doubts in the mind of the consumer and leaves him sceptical concerning their real value. Imitation wood in moulded clock cases registered a failure so far as sales were concerned, but some of the most successful and artistic clock cases, from a sales standpoint, were, and still are, moulded from plastics. In such cases, however, the natural beauty of the plastic in solid black or other colours, sometimes relieved by metal trim, became a real asset. It was not made nor intended to look like wood, and consequently was not regarded as a cheap imitation. It appeared like the natural and beautiful material it is, and well suited to its purpose. Nobody questioned its value.

"American makers of radio (wireless) cases have made a similar mistake to that made by the clock manufacturers in attempting to mould cases that were supposed to look like wood. In reality, the cases were excellent so far as performing their function was concerned, but the handicap attaching to any article which gives the impression of being an imitation clung to them. Carved 'wood' effects were manifestly neither carved nor wood. On the other hand, cases moulded in natural plastic colours, when well designed, have enjoyed a wide sale. They look to be what they are and customers like them. There are no apologies to make. The material speaks for itself. It is genuine and not an imitation."

SOCIETIES AND INSTITUTIONS

YORK AND EAST YORK ARCHITECTURAL SOCIETY

Sir Giles Gilbert Scott, R.A., P.R.I.B.A., speaking at the annual dnner of the above Society, held on recently, said the neglect of architects in modern housing schemes was a matter on which he felt most strongly. It involved speculative building, which was ruining England to a large extent. One had thought it would come to an end, but it was getting worse.

Statistics in regard to building houses last year were staggering.

The Building Societies broke all records by advancing an aggregate sum of 95 millions for building, four millions more than the previous record in 1931.

In addition, the figures just issued by the Ministry of Labour showed that in 1933 building plans approved by 146 of the principal authorities in Great Britain involved an expenditure of 83½ millions, or approximately 18¾ millions more than in 1932.

The figures were growing larger and larger yet how much of that building did they estimate was controlled by qualified architects?

He hesitated to put a definite figure, but he should say that if they put it at 5 per cent. they would not be exaggerating.

The remainder was controlled by men who were not qualified to do anything except to keep the rain out, and not always that. The result was that England was being ruined from an æsthetic standpoint.

Other speakers included: Principal A. E. Morgan, Mr. H. Andrew, and F. J. Horth.

BUILDING IN IRELAND

Professor A. E. Richardson, F.R.I.B.A., lectured on "The Future of Building in Ireland," at a recent meeting of architectural students at University College, Dublin.

Knowing the Continent of Europe, said the lecturer, he was keenly alive to the regrettable facts of over-industrialization. He was aware of the utter degradation which had overtaken many of the once green places of his own country. It was, therefore, a relief to him to visit Ireland, and he hoped with all the fervour at his command that Ireland might be spared similar spoliation.

Speaking of "modernism" Professor Richardson said that in their eagerness to be in the movement they often disregarded national character, lost sight of fundamental truths, and became too anxious to make a brave show. The real message in all branches of building work was to be found in the genuine products of the hands and minds of the older schools of craftsmen; certainly not in the lure of foreign catalogues.

"A country with the possibilities of Ireland," the speaker went on, "has reached a stage of development calling for great skill on the part of architects. Up to a certain point a nation is apt to be influenced by the importation of ideas from abroad, but there is a limit to the acceptance of fashionable theories. Professor Lethaby once said: 'There is no advance, only return.' If I refer you," said the lecturer, "to the arts in Sweden as practised in this twentieth century, you will appreciate Lethaby's point of view. Swedish architecture is up to date because it does not ignore the great truths of the past. Swedish architects take a just pride in combining function with grace.

"That patriotism of a country must have a practical basis as well as sentimental colouring is also true. You have, therefore, to examine the reason why the architecture of the people today falls so far below your ideals as professional advisers. It is useless to indulge in hysterical platitudes or invectives against the people who have no say in such things. Nothing but praise is due to those whose foresight has resulted in the new housing schemes, especially those which embellish Dublin. Such things are a notable advance. There is, however, a lamentable lack of liaison between the architects and the speculative builders."

WEST YORKSHIRE SOCIETY OF ARCHITECTS

A meeting of the above Society was held at the Leeds College of Art on March 22, when Mr. B. R. Gribbon (president) occupied the chair. After formal business, which included the nomination of officers for the session 1934-35, a paper on "Gardens" was given by Mr. G. A. Jellicoe, who remarked that a great many people thought that the best way to deal with the countryside was simply to preserve it. In his opinion, a much better way was to develop it, for that would be a logical continuity of history, for at no period had the preservation of any large tract of country been attempted. The reasons for that were obvious; namely, that it was not possible to stifle the naturally æsthetic expressions of a whole people. At the same time, by development, he did not mean that this should be done indiscriminately, which process was, in fact, the cause of so much disfigurement at the present time. Considered development would not only enrich the natural landscape, but would be a true expression of the present age.

Mr. W. F. Dawson (Leeds) proposed, and Mr. R. A. Easdale (Castleford) seconded a vote of thanks to Mr. Jellicoe.

THE BUILDINGS ILLUSTRATED

Sub-Contractors' List

Following are the names of the general contractors and some of the sub-contractors for the buildings illustrated in this issue.

Extension to Factory, Palmer's Green (pages 496-498). General contractors, W. J. Whittall and Son, Ltd., Birmingham. Sub-contractors: Redpath Brown & Co., Ltd., steelwork; Henry Hope and Sons, Ltd., windows and patent glazing; Hope's Heating and Lighting, Ltd., heating installation; Waygood-Otis, Ltd., electric lift; Stuarts Granolithic Co., granolithic stairs; Haywards, Ltd., emergency stairs; A. L. Gibson & Co., Ltd., roller shutter; George Jennings (Lambeth) Ltd., sanitary fittings; Wolverhampton Corrugated Iron Co., Ltd., ventilators; Trussed Concrete Steel Co., Ltd., concrete floors; Empire Stone Co., Ltd., granolithic paving and stone cills; Diespeker & Co., Ltd., Terrazzo paving; W. B. Simpson and Sons, Ltd., wall tiling; Whitfields Safe and Door Co., strong-room door; H. B. Sale, Ltd., stainless steel letters; Thos. Parsons and Sons, Ltd., paint for offices; Docker Bros., Ltd., paint for factory; Postans Morley Bros. and Birtles, Ltd., distemper for factory; St. Albans Brick Co., Ltd., bricks; Hill and Smith, Ltd., W. I. Railings; Trussed Concrete Steel Co., Ltd., Reinforced Concrete Engineers, retaining wall.

Eresby House (pages 501-503). General contractors, J. Gerrard and Sons. Sub-contractors: R. G. Ward, Alfred Pratt, and Tondu Brick Co., brickwork; F. J. Barnes, Portland stonework; Empire Stone Co., artificial stone vases; Liverpool and Victoria Stone Co., artificial stone paving; Potter Rax Gate Co., ornamental iron balconies and railings, and metal lift enclosure; Morris Singer, metal grilles to main entrances; Hammond Bros. and Champness, electric passenger and service lifts; J. Whitehead and Sons, marble flooring; Bratt Colbran, fireplaces; Comyn Ching, door furniture; F. A. Norris, iron fire escape stairs; Doulton & Co., sanitary fittings; W. B. Simpson and Sons, wall tiling; Dunlop Rubber Floor Co., rubber flooring; Frigidaire, refrigerators; Crittall Manufacturing Co., metal windows; G. N. Haden and Sons, heating and hot water; Berkeley Electrical Engineering Co., Ltd., electrical installation; Geo. Jones, painting; Maple, furnishing; Wm. Bignell and Sons, gardening; Matthew T. Shaw, steelwork; Gas Light and Coke Co., gas installation; Smith's English Clocks, electric clocks in entrance halls; L. G. Hawkins & Co., electric fires in entrance halls; Eric Aumonier, sculptured panels.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILE RADIUS)

ACTON. *Houses.* The Corporation has approved plans for the erection of 54 houses on the Canada Road site.

BETHNAL GREEN. *Bridges.* The L.C.C. is to widen the Cricketers and Skew bridges, Old Ford Road, at an estimated cost of £45,500.

CHELSEA. *Fire Brigade Headquarters.* The L.C.C. has now prepared plans for the erection of new headquarters for the fire brigade on the Albert Embankment at a cost of £85,000.

CHELSEA. *Flats.* The Chelsea Housing Improvement Society, Ltd., is to erect three blocks of flats to plans prepared by Mr. Soutar at Worlds End Passage.

CROYDON. *Houses and Shops.* Plans passed by Corporation : 42 houses, South Norwood Hill, for Central Estates Co., Ltd. ; four maisonettes, Spring Park Road, for Mr. S. C. Williams; six houses, Canham Road, for Mr. J. P. Bugden ; stores, 116-120, North End, for Messrs. Marks and Spencer, Ltd. ; two houses, Duppas Hill Terrace, for Messrs. E. and H. Midmer ; three shops, Woodmere Avenue, for Mr. D. Q. Barker ; 17 houses, Lloyd Park Avenue, for Messrs. W. V. and L. A. Aston ; three houses, Crown Hill, for Mrs. L. Camebus ; 11 houses, Firsby Avenue, for Mr. P. Richardson ; two bungalows, Bywood Avenue, for Mr. E. C. Timblick ; three houses, Norbury Avenue, for Messrs. Truett and Steel ; 92 houses, Long Lane, for Corporation ; three houses, Rutland Gardens, for Mr. C. J. Doyle.

EALING. *Estate Development.* The Corporation has passed the following estate plans : Boston Manor Estate, for Mr. H. A. Steel ; Greystoke Park estate, for Messrs. B. Smith and Son (Builders), Ltd. ; Moat Farm estate, Northolt, for Messrs. Roper, Son and Chapman ; Hanger Hill estate, for Messrs. Haymills, Ltd.

HAMPSTEAD. *Dwellings.* The B.C. has obtained sanction to borrow £108,750 for the erection of 290 dwellings at West Croft Farm, Cricklewood Lane.

MORDEN. *Houses.* The L.C.C. recommends the development of further sections of the St. Helier estate, at a cost of £456,982, and proposes to entrust the work to Messrs. C. J. Wills and Sons, Ltd., who are developing other sections of the estate. About 1,357 houses are included in the new scheme.

POPLAR. *Dwellings.* The B.C. has approved plans for the erection of blocks of dwellings of four storeys, in Old Ford Road, at a cost of £9,469.

WATFORD. *Houses.* The Corporation is to inquire if the Ministry of Health will sanction a scheme for the erection of a further 200 houses on the Leavesden Green estate.

WOODFORD. *Houses.* Plans passed by the U.D.C. : Fifteen houses, Onslow Gardens ; 10 houses, Gaynes Hill Road ; eight houses, Princes Avenue.

SOUTHERN COUNTIES

BRIGHTON. *Schools.* The Education Committee has approved revised plans for the erection of an infants' school at Whitehawk estate, at a cost of £14,895.

The Education Committee has approved plans for extensions to the technical college, at a cost of £18,600.

BROOKWOOD. *Hospital Extensions.* The Surrey C.C. is to reconstruct the kitchen and stores department and erect staff cottages at Brookwood Mental Hospital at a cost of £21,500.

PORTSMOUTH. *Houses and Shops, etc.* Plans passed by the Corporation : Five houses, Telford Road, for Mr. V. Dye ; hotel, Havant Road, Farlington, for Messrs. Brickwood & Co., Ltd. ; four houses, Kenilworth Road, for Mrs. B. P. Crocker ; two bungalows, Carshalton Avenue, for Mr. E. W. Payne ; five houses, Villiers Road, for Mr. A. Pitassi ; two houses, Abercrombie Street, for Mr. J. E. Rose ; six houses, Station Road, Drayton, for Messrs. Price Bros. ; shop and garages, Havant Road, Park Lane, for Mr. E. E. Wilson ; two houses and 24 garages, Rugby Road, for Mr. A. W. Stevenson ; two houses, Central Road, Drayton, for Mr. H. Peace.

SOUTH-WESTERN COUNTIES

BOURNEMOUTH. *Developments.* The Corporation has approved the following development plans : Land, Wimborne Road, Ensbury, for Messrs. Tomlinson and Matley ; land, Ringwood Road, for Mr. E. de Wilde Holding ; land, Hengistbury Head estate, for Mr. H. I. Cundy ; shop sites, Hill View Road, revised lay-out, Ilford estate, for Messrs. Fox and Sons.

PAIGNTON. *Houses.* Plans passed by the U.D.C. : Two houses, Brixham Road, for Messrs. Willcocks and Barnes ; four bungalows, Redburn Road, for Mr. A. Chippindale ; two bungalows, Pines Road, for Messrs. F. and A. C. Drew ; four houses, Eden Vale Grove, for Mr. P. D. Cananna ; 65 houses, Colley End Road, for Messrs. Eastley & Co. ; 82 houses, off Ailscombe Road, for Mr. W. S. Coates ; 57 houses, off Marldon Road, for Mr. A. Langer ; two bungalows, Saltern Road, for Mr. E. Isaac ; two bungalows, Pines Road, for Messrs. Lewis and Wills, 151 houses, King's Ash Road, etc., for Paignton Co-operative Society, Ltd.; five shops, Manor Road, for Mr. F. Binmore.

EASTERN COUNTIES

YARMOUTH. *Houses.* Plans passed by the Corporation : Two houses, Hawkins Avenue, for Messrs. H. R. Middleton & Co., Ltd. ; four houses, Blake Road, for Mr. J. G. Chase ; four houses, Collingwood Road, for Mr. G. W. Woods ; six houses, Salisbury Road, for Messrs. J. Balls and Son ; four houses, Jellicoe Road, and four houses, Collingwood Road, for Mr. H. A. Holmes ; two houses, Blake Road, for Messrs. C. L. Leach and Son ; two houses, Collingwood Road, for Messrs. R. H. Carter and Son ; four houses, Blake Road, for Messrs. H. Bedwell and Son ; two houses, Collingwood Road, for Mr. C. Mumford.

MIDLAND COUNTIES

COVENTRY. *Houses.* The Corporation has prepared a scheme for the erection of 240 houses at a cost of £81,205.

FENTON. *Land development.* Mr. Adams, on behalf of Mr. G. F. Whitaker, has prepared plans for the development of land at Heron Cross.

MANSFIELD. *Houses and Streets.* Plans passed by the Corporation : nine houses, Woodland Crescent, for Mr. F. Fowler ; four houses, Balmoral Drive, for Messrs. Thos. Smith and Sons, Ltd. ; two bungalows, Peck's Hill, for Mr. F. C. Uphill ; two houses, Cranmer Grove, for Mr. J. Jeffery ; 13 houses, Lichfield Avenue, for Messrs. H. Baggaley, Ltd. ; 12 houses, Smith Street, for Mr. C. H. Hill ; three houses, Abbott Road, for Messrs. Read and Layton ; four houses, Robin Down Lane, for Mr. J. P. Smith ; two houses, Eakring Road, for Mr. G. E. Taylor ; seven new streets, off Redmanthwaite Road, for Mr. A. Farnsworth.

STOKE-ON-TRENT. *Houses.* Mr. A. W. Moss, on behalf of Messrs. Leeke & Co., is to erect 14 houses in Leek New Road.

NORTHERN COUNTIES

BARROW-IN-FURNESS. *Garage.* The Corporation is considering the erection of a bus garage on the jute works site, at a cost of £18,000.

CARLISLE. *Sewers, Schools and Library.* A special Committee of the Corporation recommends proceeding with the following schemes : The construction of new main sewers for Denton Holme and Currock districts, at a cost of £68,000 ; the erection of new schools, at a cost of £50,300 ; and extensions to public library, at a cost of £8,850.

DEWSBURY. *Houses.* The Corporation is to erect 32 houses at Pilgrim Farm, and 22 at Heckmondwike Road, and is to prepare further schemes for the erection of 56 houses on the Dawgreen Area No. 2 and 19 at Lees Moor. The Corporation has approved the plans for the erection of 16 houses on the Conyers Pit site.

KEIGHLEY. *Houses and Shops.* Plans passed by the Corporation : Two houses, Oakworth Road, for Mr. David Fortune ; four houses, View Road, for Mr. Fred Waterhouse ; two stores, Mornington Street, for Mr. Robert Gill ; four houses, South Street, for Mr. James Wharton ; shop and five houses, Caledonia Road, for Messrs. H. V. Robinson, Ltd. ; two houses, Raglan Street, for Messrs. Waddington ; two houses, Exley Crescent, for Messrs. Hird Bros. & Co., Ltd.

LANCASTER. *Houses.* The Corporation has, with the sanction of the Ministry of Health, decided to invite tenders for 50 further houses to be erected on the Ryelands housing estate.

LEEDS. *Housing.* The Corporation Housing Committee is to invite tenders for the erection of 118 houses on the Gipton estate. The Corporation has received sanction to borrow £7,421 for the acquisition of land at Wyke Beck Valley Road for housing purposes.

MANCHESTER. *Conveniences.* The Corporation is to construct conveniences at All Saints, at a cost of £8,500.

MORECAMBE. *Houses and Shops.* Plans passed by the Corporation : Six houses, Albert Road, for Messrs. Wm. Gardner & Co., Ltd. ; three houses, Balmoral Road, for Messrs. Taylor and Vollens ; four shops and houses, Heysham Road, for Strawberry Gardens (Heysham), Ltd. ; four houses, Broadway, for Messrs. F. W. and F. R. Hartley ; 50 houses, Orchard Grove, for Mr. A. Heathcote ; two houses, The Cliffs, for Messrs. Swithenbank and Ladell ; two houses, Michaelson Avenue, for Mr. H. Allen ; two houses, Michaelson Avenue, for Mr. J. H. Carleton ; six houses, West End Lane, for Mr. F. Fisher ; two houses, Woodhill Lane, for Mr. R. T. Savage.

PATRICROFT. *Nurses' Home.* The Lancashire C.C. is to erect a nurses' home at the Green Lane Institution, Patricroft, at a cost of £13,750.

ROTHERHAM. *Swimming Baths.* The Corporation has approved the preliminary plans for the erection of new swimming baths.

SHIPLEY. *Houses, Bungalows, Works, etc.* Plans passed by the U.D.C. : Eight houses, Bradford Road, for Mr. A. Woodhead ; three houses, Bromley Road, for Mr. A. E. Hardy ; eight houses, Wrose Road, for Messrs. Walton Bros. ; 32 bungalows, Claremont Grove, for Mr. F. Dalby ; warehouse and works, Otley Road, for Messrs. Carter Bros. ; 24 houses, Marion Drive, for Mr. G. W. Neville.

TYNEMOUTH. *Houses.* Plans passed by the Corporation : Eight houses, Roxby Gardens, for Mr. W. Moore ; six houses, Bolingbroke Road, for Mr. S. Pye ; eight houses, Mast Lane estate, for Mr. J. R. Wallace ; 12 houses, Seacrest Avenue, for Messrs. A. and E. Brannen; 12 houses, Spring Gardens, for Mr. W. Stockdale.

WALLASEY. *Houses.* The Corporation is to erect 18 houses at Gorsey Lane.

WALES

SWANSEA. *Houses.* Plans passed by the Corporation : Shop, Chemical Road, for Mrs. G. Thornton ; two houses, Llangyfelach Road, for Mr. L. A. Rosser ; conversion Mumbles police station to two houses, for Mr. R. J. Haines ; six houses, Lon Coed Bran, for Mr. D. Griffiths ; two houses, Derwen Fawr Road, for Mr. Geo. Symons ; shop, Pen-y-Graig Road, for Mr. M. A. Pollson ; two houses, Glanmor Road, for Modern Builders, Ltd. ; two houses, Lon Coed Bran, for Messrs. Rogers and Davies.

SWANSEA. *Swimming Bath.* The Corporation Parks Committee recommends the allocation of £29,606 in estimates, for the construction of an open air swimming bath on the foreshore.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I	II
			s. d.	s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A_1	Abergavenny ..	S Wales & M.	1 5	1 0½
A_3	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1½
A_3	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1½
A	Airdrie ..	Scotland	*1 5½	1 1½
C	Aldeburgh ..	E. Counties	1 1½	10½
A	Altrincham ..	N.W. Counties	1 5½	1 1½
B_3	Appleby ..	N.W. Counties	1 2	10½
A	Ashton-under-Lyne	N.W. Counties	1 5½	1 1½
A_3	Atherstone ..	Mid. Counties	1 4	1 0
B_3	Aylesbury ..	S. Counties	1 2½	11
B_1	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_3	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1½
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow ..	N.W. Counties	1 5½	1 1½
A	Barry ..	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke ..	S.W. Counties	1 3	11½
A_2	Bath	S.W. Counties	1 4½	1 0½
A	Batley ..	Yorkshire	1 5½	1 1½
A_2	Bedford ..	E. Counties	1 4½	1 0½
A_2	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_3	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	*1 7	1 2½
A	Birmingham	Mid. Counties	1 5½	1 1½
A_1	Bishop Auckland	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1½
A	Blackpool ..	N.W. Counties	1 5½	1 1½
A	Blyth ..	N.E. Coast	1 5½	1 1½
B_1	Bognor ..	S. Counties	1 3	11½
A	Bolton ..	N.W. Counties	1 5½	1 1½
A_3	Boston ..	Mid. Counties	1 4	1 0
A_3	Bournemouth ..	S. Counties	1 4	1 0
B_3	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1½
A_1	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M.	1 5½	1 1½
B_1	Bridgwater ..	S.W. Counties	1 3	11½
A_1	Bridlington ..	Yorkshire	1 5	1 0½
A	Brighouse ..	Yorkshire	1 5½	1 1½
A_3	Brighton ..	S. Counties	1 4	1 0
A	Bristol ..	S.W. Counties	1 5½	1 1½
B_3	Brixham ..	S.W. Counties	1 2½	11
A_2	Bromsgrove ..	Mid. Counties	1 4½	1 0½
B_3	Bromyard ..	Mid. Counties	1 2	10½
A	Burnley ..	N.W. Counties	1 5½	1 1½
A	Bursiem ..	Mid. Counties	1 5½	1 1½
A	Burton-on-Trent	Mid. Counties	1 5½	1 1½
A	Bury ..	N.W. Counties	1 5½	1 1½
A_1	Buxton ..	N.W. Counties	1 5	1 0½
A_1	CAMBRIDGE	E. Counties	1 5	1 0½
B_1	Canterbury ..	S. Counties	1 3	11½
A	Cardiff ..	S. Wales & M.	1 5½	1 1½
A	Carlisle ..	N.W. Counties	1 5½	1 1½
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Carnforth ..	N.W. Counties	1 5½	1 1½
A	Castleford ..	Yorkshire	1 5½	1 1½
B	Chatham ..	S. Counties	1 3½	11½
A_3	Chelmsford ..	E. Counties	1 4	1 0
A_3	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester ..	N.W. Counties	1 5½	1 1½
A	Chesterfield ..	Mid. Counties	1 5½	1 1½
B_3	Chichester ..	S. Counties	1 3	11½
A	Chorley ..	N.W. Counties	1 5½	1 1½
B_1	Cirencester ..	S. Counties	1 3	11½
A	Clitheroe ..	N.W. Counties	1 5½	1 1½
A	Clydebank ..	Scotland	1 5½	1 1½
A	Coalville ..	Mid. Counties	1 5½	1 1½
A_3	Colchester ..	E. Counties	1 4	1 0
A	Colne ..	N.W. Counties	1 5½	1 1½
A_3	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_1	Consett ..	N.E. Coast	1 5	1 0½
A_3	Conway ..	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1½
A_3	Crewe ..	N.W. Counties	1 4½	1 0½
A	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1½
A	Darwen ..	N.W. Counties	1 5½	1 1½
B_1	Deal ..	S. Counties	1 3	11½
A_3	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby ..	Mid. Counties	1 5½	1 1½
A	Dewsbury ..	Yorkshire	1 5½	1 1½
B	Didcot ..	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1½
B_3	Dorchester ..	S.W. Counties	1 2½	11
A_3	Driffield ..	Yorkshire	1 4	1 0
A_3	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley ..	Mid. Counties	1 5½	1 1½
A	Dundee ..	Scotland	1 5½	1 1½
A	Durham ..	N.E. Coast	1 5½	1 1½
A_2	EASTBOURNE	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1½
A_1	E. Glamorganshire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter ..	S.W. Counties	*1 4½	1 0½
B	Exmouth ..	S.W. Counties	1 3½	11½
A_3	FELIXSTOWE	E. Counties	1 4	1 0
A_2	Filey ..	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1½
B_1	Folkestone ..	S. Counties	1 3	11½
A	Frodsham ..	N.W. Counties	1 5½	1 1½
B_2	Frome	S.W. Counties	1 2½	11
A	GATESHEAD	N.E. Coast	1 5½	1 1½
B	Gillingham ..	S. Counties	1 3½	11½
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole ..	Yorkshire	1 4½	1 0½
A_2	Gosport ..	S. Counties	1 4½	1 0½
A_3	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0½
A	Greenock ..	Scotland	*1 5½	1 1½
A	Grimsby ..	Yorkshire	1 5½	1 1½
B	Guildford ..	S. Counties	1 3½	11½
A	HALIFAX ..	Yorkshire	1 5½	1 1½
A	Hanley ..	Mid. Counties	1 5½	1 1½
A	Harrogate ..	Yorkshire	1 5½	1 1½
A	Hartlepools ..	N.E. Coast	1 5½	1 1½
B	Harwich ..	E. Counties	1 3½	11½
B_1	Hastings ..	S. Counties	1 3	11½
A_2	Hatfield ..	S. Counties	1 4½	1 0½
B	Hereford ..	S.W. Counties	1 3½	11½
A_2	Hertford ..	E. Counties	1 4½	1 0½
A	Heysham ..	N.W. Counties	1 5½	1 1½
A	Howden ..	N.E. Coast	1 5½	1 1½
A	Huddersfield ..	Yorkshire	1 5½	1 1½
A	Hull ..	Yorkshire	1 5½	1 1½
A	ILKLEY ..	Yorkshire	1 5½	1 1½
A	Immingham ..	Mid. Counties	1 5½	1 1½
A_3	Ipswich ..	E. Counties	1 4½	1 0½
B_3	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1½
A	KEIGHLEY ..	Yorkshire	1 5½	1 1½
B	Kendal ..	N.W. Counties	1 3½	11½
B	Keswick ..	N.W. Counties	1 3½	11½
A_2	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster	Mid. Counties	1 4½	1 0½
B_1	King's Lynn ..	E. Counties	1 3	11½
A	LANCASTER ..	N.W. Counties	1 5½	1 1½
A_1	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester ..	Mid. Counties	1 5½	1 1½
A	Leigh	N.W. Counties	1 5½	1 1½
B_2	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln ..	Mid. Counties	1 5½	1 1½
	Liverpool ..	N.W. Counties	*1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly ..	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12-15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1½
A	Loughborough ..	Mid. Counties	1 5½	1 1½
A_3	Luton	E. Counties	1 4	1 0
A	Lytham ..	N.W. Counties	1 5½	1 1½
A_1	MACCLESFIELD	N.W. Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11½
A_3	Malvern ..	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1½
A	Mansfield ..	Mid. Counties	1 5½	1 1½
B_1	Margate ..	S. Counties	1 3	11½
A	Matlock ..	Mid. Counties	1 4	1 0
A_1	Merthyr ..	S. Wales & M.	1 5	1 0½
A	Middesbrough	N.E. Coast	1 5½	1 1½
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth .. & S. and E. Glamorganshire	S. Wales & M.	1 2½	11
A	Morecambe ..	N.W. Counties	1 5½	1 1½
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson ..	N.W. Counties	1 5½	1 1½
A	Newcastle ..	N.E. Coast	1 5½	1 1½
A	Newport ..	S. Wales & M.	1 5½	1 1½
A	Normanton ..	Yorkshire	1 5½	1 1½
A	Northampton	Mid. Counties	1 5½	1 1½
A	North Staffs ..	Mid. Counties	1 5½	1 1½
A	North Shields ..	N.E. Coast	1 5½	1 1½
A_1	Norwich ..	E. Counties	1 5	1 0½
A	Nottingham ..	Mid. Counties	1 5½	1 1½
A	Nuneaton ..	Mid. Counties	1 5½	1 1½
A_3	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham ..	N.W. Counties	1 5½	1 1½
A_3	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford ..	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	*1 5½	1 1½
B_2	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth ..	Scotland	*1 5½	1 1½
A_2	Peterborough ..	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	*1 5½	1 1½
A	Pontefract ..	Yorkshire	1 5½	1 1½
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_2	Portsmouth ..	S. Counties	1 4½	1 0½
A	Preston ..	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate ..	S. Counties	1 3½	11½
A_3	Retford ..	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A_3	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1½
B	Rochester ..	S. Counties	1 3½	11½
A_1	Ruabon ..	N.W. Counties	1 5	1 0½
A	Rugby ..	Mid. Counties	1 5½	1 1½
A_2	Rugeley ..	Mid. Counties	1 4½	1 0½
A	Runcorn ..	N.W. Counties	1 5½	1 1½
A_1	ST. ALBANS ..	E. Counties	1 5	1 0½
A	St. Helens ..	N.W. Counties	1 5½	1 1½
B_2	Salisbury ..	S.W. Counties	1 2½	11
A_1	Scarborough ..	Yorkshire	1 5	1 0½
A	Scunthorpe ..	Mid. Counties	1 5½	1 1½
A	Sheffield ..	Yorkshire	1 5½	1 1½
A	Shipley ..	Yorkshire	1 5½	1 1½
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton ..	Yorkshire	1 4½	1 0½
A_2	Slough ..	S. Counties	1 4½	1 0½
A_1	Solihull ..	Mid. Counties	1 5	1 0½
A_2	Southampton ..	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport ..	N.W. Counties	1 5½	1 1½
A	S. Shields ..	N.E. Coast	1 5½	1 1½
A_1	Stafford ..	Mid. Counties	1 5	1 0½
A	Stockport ..	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud ..	S.W. Counties	1 3½	11½
A	Sunderland ..	N.E. Coast	1 5½	1 1½
A	Swadlincote ..	Mid. Counties	1 5½	1 1½
A	Swansea ..	S. Wales & M.	1 5½	1 1½
A_3	Swindon ..	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton ..	S.W. Counties	1 3½	11½
A	Teesside Dist. ..	N.E. Coast	1 5½	1 1½
A_3	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1½
A_1	Torquay ..	S.W. Counties	1 5	1 0½
B_2	Truro	S.W. Counties	1 2½	11
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall ..	Mid. Counties	1 5½	1 1½
A	Tyne District ..	N.E. Coast	1 5½	1 1½
A	WAKEFIELD	Yorkshire	1 5½	1 1½
A	Walsall ..	Mid. Counties	1 5½	1 1½
A	Warrington ..	N.W. Counties	1 5½	1 1½
A_1	Warwick ..	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid. Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby ..	Yorkshire	1 4½	1 0½
A	Widnes ..	N.W. Counties	1 5½	1 1½
A	Wigan	N.W. Counties	1 5½	1 1½
B	Winchester ..	S. Counties	1 3½	11½
A_2	Windsor ..	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_3	Worksop ..	Yorkshire	1 4	1 0
A_1	Wrexham ..	N.W. Counties	1 5	1 0½
A_3	Wycombe ..	S. Counties	1 4	1 0
B_1	YARMOUTH ..	E. Counties	1 3	11½
B_1	Yeovil	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	1 1½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	£ s. d.
Bricklayer . . . . . per hour	1 7
Carpenter . . . . . ,,	1 7
Joiner . . . . . ,,	1 7
Machinist . . . . . ,,	1 8
Mason (Banker) . . . . . ,,	1 7
,, (Fixer) . . . . . ,,	1 8
Plumber . . . . . ,,	1 7
Painter . . . . . ,,	1 6
Paperhanger . . . . . ,,	1 6
Glazier . . . . . ,,	1 7
Slater . . . . . ,,	1 7
Scaffolder . . . . . ,,	1 3
Timberman . . . . . ,,	1 3
Navvy . . . . . ,,	1 2½
General Labourer . . . . . ,,	1 2½
Lorryman . . . . . ,,	1 5
Crane Driver . . . . . ,,	1 6
Watchman . . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£ s. d.
Grey Stone Lime . . . . per ton	2 2 0
Blue Lias Lime . . . . ,,	1 16 6
Hydrated Lime . . . . ,,	3 0 9
Portland Cement . . . . ,,	2 6 0
Rapid Hardening Cement . . . ,,	2 13 6
White Portland Cement . . . ,,	8 15 0
Thames Ballast . . . . per Y.C.	6 3
¾" Crushed Ballast . . . ,,	6 9
Building Sand . . . . ,,	7 3
Washed Sand . . . . ,,	8 3
2" Broken Brick . . . . ,,	8 0
¾" ,, ,, ... ,,	10 3
Pan Breeze . . . . ,,	6 6
Coke Breeze . . . . ,,	8 9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

	4" s. d.	6" s. d.
Straight Pipes . . per F.R	0 9	1 1
Bends . . . each	1 9	2 6
Taper Bends . . ,,	3 6	5 3
Rest Bends . . ,,	4 3	6 3
Single junctions . . ,,	3 6	5 3
Double . . . ,,	4 9	6 6
Straight channels . . per F.R.	1 6	2 6
¾" Channel bends . . each	2 9	4 0
Channel junctions . . ,,	4 6	6 6
Channel tapers . . ,,	2 9	4 0
Yard gullies . . ,,	6 9	8 9
Interceptors . . ,,	16 0	19 6

IRON DRAINS:

	£ s. d.
Iron drain pipe . . per F.R.	1 6 4 6
Bends . . each	5 0 10 6
Inspection bends . . ,,	9 0 15 0
Single junctions . . ,,	8 9 18 0
Double junctions . . ,,	13 6 30 0
Lead wool . . lb.	6 —
Gaskin . . ,,	5 —

BRICKLAYER

	£ s. d.
Flettons . . . . . per M.	2 18 0
Grooved do. . . . . ,,	3 0 0
Phorpres bricks . . . . ,,	2 17 3
Phorpres Cellular bricks . . ,,	2 17 3
Stocks, 1st quality . . . ,,	4 11 0
,, 2nd ,, . . . ,,	4 2 6
Blue Bricks, Pressed . . . ,,	8 17 6
,, Wirecuts . . ,,	7 17 6
,, Brindles . . ,,	7 0 0
,, Bullnose . . ,,	9 0 0
Red Sand-faced Facings . . ,,	6 18 6
Red Rubbers for Arches . . ,,	12 0 0
Multicoloured Facings . . ,,	7 10 0
Luton Facings . . . ,,	7 10 0
Phorpres White Facings . . ,,	3 17 3
Phorpres Rustic Facings . . ,,	3 12 3
Midhurst White Facings . . ,,	5 0 0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:	
Stretchers . . . . ,,	21 0 0
Headers . . . . ,,	20 10 0
Bullnose . . . . ,,	27 10 0
Double Stretchers . . . ,,	29 10 0
Double Headers . . . ,,	26 10 0
Glazed Second Quality, *Less* . . ,,	1 5 0
,, Buffs and Creams, *Add* . ,,	2 0 0
,, Other Colours . . ,,	5 10 0
2" Breeze Partition Blocks . . per Y.S.	1 7
2½" ,, ,, ,, . . ,,	1 10
3" ,, ,, ,, . . ,,	2 1
4" ,, ,, ,, . . ,,	2 6

MASON

	s. d.
The following d/d F.O.R. at Nine Elms:	
Portland stone, Whitbed . . F.C.	4 4½
,, ,, Basebed . . ,,	4 9
Bath stone . . . . ,,	2 11
York stone . . . . ,,	6 6
,, ,, Sawn templates . . ,,	7 6
,, ,, Paving, 2" . . F.S.	1 8
,, ,, ,, 3" . .	2 6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£ s. d.
24" × 12" Duchesses . . . per M.	28 17 6
22" × 12" Marchionesses . . ,,	24 10 0
20" × 10" Countesses . . ,,	19 5 0
18" × 10" Viscountesses . . ,,	15 10 0
18" × 9" Ladies . . . ,,	13 17 6
Westmorland green (random sizes) . per ton	8 10 0
Old Delabole slates d/d in full truck loads to Nine Elms Station:	
20" × 10" medium grey per 1,000 (actual)	21 11 6
,, green ,, ,,	24 7 4
Best machine roofing tiles . . ,,	4 10 0
Best hand-made do. . . . ,,	5 0 0
Hips and valleys . . . each	9½
,, hand-made . . . ,,	10
Nails, compo . . . . lb.	1 4
,, copper . . . . ,,	1 6

CARPENTER AND JOINER

	s. d.
Good carcassing timber . . F.C.	2 2
Birch . . . . as 1" F.S.	9
Deal, Joiner's . . . ,, ,,	5
,, 2nds . . . ,, ,,	4
Mahogany, Honduras . . ,, ,,	1 3
,, African . . ,, ,,	1 1
,, Cuban . . ,, ,,	2 6
Oak, plain American . . ,, ,,	1 0
,, Figured ,, . . ,, ,,	1 3
,, Plain Japanese . . ,, ,,	1 2
,, Figured ,, . . ,, ,,	1 5
,, Austrian wainscot . . ,, ,,	1 6
,, English . . . ,, ,,	1 11
Pine, Yellow . . . ,, ,,	1 0
,, Oregon . . . ,, ,,	4
,, British Columbian . . ,, ,,	4
Teak, Moulmein . . . ,, ,,	1 3
,, Burma . . . ,, ,,	1 2
Walnut, American . . . ,, ,,	2 3
,, French . . . ,, ,,	2 3
Whitewood, American . . ,, ,,	1 1
Deal floorings, ½" . . Sq.	18 6
,, ¾" . . ,,	1 1 6
,, 1" . . ,,	1 2 0
,, 1½" . . ,,	1 5 0
,, 1¾" . . ,,	1 10 0
Deal matchings ½" . . ,,	14 0
,, ¾" . . ,,	15 6
,, 1" . . ,,	1 4 0
Rough boarding ½" . . ,,	16 0
,, 1" . . ,,	18 0
,, 1½" . . ,,	1 6 0

Plywood, per ft. sup.

Thickness	⅛"	¼"	⅜"	½"
Qualities	AA. A. B.	AA. A. B.	AA. A. B.	AA. A. B.
	d. d. d.	d. d. d.	d. d. d.	d. d. d.
Birch	4 3 2	5 4 3	7½ 6 4½	8½ 7 6
Alder	3½ 3 2	5 4 3	6½ 5½ 4½	8 7 6
Gaboon Mahogany	4 3 3	6½ 5½ 4½	9½ 7½ –	1/0½ 10 –
Figured Oak 1 side	8½ 7 –	10 8 –	11½ – –	1/6 – –
Plain Oak 1 side	6½ 6 –	7½ 7 –	9½ – –	1/– – –
Oregon Pine	5 4 –	5½ 5 –	6 – –	– – –

	d.
Scotch glue . . . . . lb.	8

SMITH AND FOUNDER

Tubes and Fittings:

(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	½"	¾"	1"	1½"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9
,, 3"-11½" long ,,	7	9	1/3	1/8	3/–
Long screws, 12"-23½" long ,,	11	1/3	2/2	2/10	5/3
,, ,, 3"M-½" long ,,	8	10	1/5	1/11	3/6
Bends . . . ,,	8	11	1/7½	2/7½	5/2
Springs not socketed . ,,	5	7	1/1½	1/11½	3/11
Socket unions . . ,,	2/–	3/–	5/6	6/9	10/–
Elbows, square . . ,,	10	1/1	1/6	2/2	4/3
Tees . . . ,,	1/–	1/3	1/10	2/6	5/1
Crosses . . . ,,	2/2	2/9	4/1	5/6	10/6
Plain Sockets and nipples ,,	3	4	6	8	1/3
Diminished sockets . ,,	4	6	9	1/–	2/–
Flanges . . . ,,	9	1/–	1/4	1/9	2/9
Caps . . . ,,	3½	5	8	1/–	2/–
Backnuts . . . ,,	2	3	5	6	1/1
Iron main cocks . . ,,	1/6	2/3	4/2	5/4	11/6
,, ,, with brass plugs ,,	—	4/–	7/6	10/–	21/–

Discounts:

TUBES.

Per cent.		Per cent.
Gas . . . 65	Galvanized gas .	52½
Water . . . 61½	,, water	47½
Steam . . . 57½	,, steam	42½

FITTINGS.

Per cent.		Per cent.
Gas . . . 57½	Galvanized gas .	47½
Water . . . 52½	,, water	42½
Steam . . . 47½	,, steam	37½

SMITH AND FOUNDER—*continued*

	s. d.
Rolled steel joists cut to length . . cwt.	10 9
Mild steel reinforcing rods, ½" . . ,,	8 6
,, ,, ⅝" . . ,,	8 3
,, ,, ¾" . . ,,	8 0
,, ,, ⅞" . . ,,	7 6
,, ,, 1" . . ,,	7 6
,, ,, 1¼" . . ,,	7 6
,, ,, 1½" . . ,,	7 6

	3" s. d.	4" s. d.
Cast-iron rain-water pipes of ordinary thickness metal . . F.R	8	10
Shoes . . . . each	2 0	3 0
Anti-splash shoes . . ,,	4 6	8 0
Boots . . . ,,	3 0	4 0
Bends . . . ,,	2 7	3 9
,, with access door . . ,,	—	6 3
Heads . . . ,,	4 0	5 0
Swan-necks up to 9" offsets . ,,	3 9	6 0
Plinth bends, 4½" to 6" . ,,	3 9	5 3

	5" s. d.	6" s. d.
Half-round rain-water gutters of ordinary thickness metal . . F.R.	5	6
Stop ends . . . . each	6	6
Angles . . . ,,	1 7	1 11
Obtuse angles . . ,,	2 0	2 6
Outlets . . . ,,	1 9	2 3

PLUMBER

	£ s. d.
Lead, milled sheets . . . cwt.	1 0 0
,, drawn pipes . . . ,,	17 0
,, soil pipe . . . ,,	1 0 0
,, scrap . . . ,,	10 6
Solder, plumbers' . . . lb.	9½
,, fine do. . . . ,,	1 0
Copper, sheet . . . ,,	8½
,, tubes . . . ,,	11

L.C.C soil and waste pipes:	3" £ s. d.	4" £ s. d.	6" £ s. d.
Plain cast . . F.R.	1 0	1 2	2 6
Coated . . ,,	1 1	1 3	2 8
Galvanized . . ,,	2 0	2 6	4 5
Holderbats . . each	3 10	4 0	4 9
Bends . . . ,,	3 9	5 3	10 3
Shoes . . . ,,	2 10	4 4	9 6
Heads . . . ,,	4 8	8 5	12 9

PLASTERER

	£ s. d.
Lime, chalk . . . per ton	2 5 0
Plaster, coarse . . . ,,	2 10 0
,, fine . . . ,,	4 15 0
Hydrated lime . . . ,,	3 0 9
Sirapite . . . ,,	3 6 0
Keene's cement . . . ,,	5 0 0
Sand, washed . . . Y.C.	11 6
Hair . . . . lb.	6
Laths, sawn . . . bundle	2 4
,, rent . . . ,,	3 9
Lath nails . . . lb.	3½

GLAZIER

	s. d.
Sheet glass, 21 oz., squares n/e 2 ft. s. F.S.	2
,, ,, 26 oz. ,, ,, ,, ,,	3½
Arctic glass, white . . . ,,	7
Cathedral glass, white, dbl.-rolled, plain, hammered, rimpled, waterwite,,	6½
,, ,,	7
¼" Hartley's rough rolled . ,,	10
,, ,, wired cast . ,,	11
¼" Georgian wired cast . ,,	11
¼" Polished plate, n/e 1 ft. . ,,	†10 to‡1 1
,, ,, 2 . ,,	†1 2 ,, ‡1 4
,, ,, 3 . ,,	†1 8 ,, ‡1 11
,, ,, 4 . ,,	†2 3 ,, ‡2 6
,, ,, 6 . ,,	†2 7 ,, ‡2 9
,, ,, 8 . ,,	†2 9 ,, ‡3 2
,, ,, 12 . ,,	†3 1 ,, ‡3 7
,, ,, 20 . ,,	†3 7 ,, ‡4 2
,, ,, 45 . ,,	†3 11 ,, ‡4 7
,, ,, 65 . ,,	†4 4 ,, ‡4 11
,, ,, 90 . ,,	†4 9 ,, ‡5 3
,, ,, 100 . ,,	†5 ● ,, ‡5 7
Vita glass, sheet, n/e 1 ft. . ,,	1 0
,, ,, ,, ,, 2 . ,,	1 3
,, ,, ,, over 2 . ,,	1 9
,, ,, plate, n/e 1 ft. . ,,	1 6
,, ,, ,, 2 . ,,	3 0
,, ,, ,, 5 . ,,	4 0
,, ,, ,, 7 . ,,	5 0
,, ,, ,, 15 . ,,	6 0
,, ,, ,, over 15 . ,,	7 6
Putty, linseed oil . . . lb.	3

†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

	£ s. d.
White lead in 1 cwt. casks . . cwt.	2 6 0
Linseed oil . . . . gall.	2 2½
Boiled oil . . . . ,,	2 4½
Turpentine . . . . ,,	4 1½
Patent knotting . . . ,,	14 0
Distemper, washable . . . cwt.	2 6 0
,, ordinary . . . ,,	2 0 0
Whitening . . . . ,,	4 0
Size, double . . . firkin	3 0
Copal varnish . . . gall.	13 0
Flat varnish . . . ,,	14 0
Outside varnish . . . ,,	16 0
White enamel . . . ,,	1 15 0
Ready-mixed paint . . ,,	13 6
Brunswick black . . . ,,	7 6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR		£	s.	d.
Digging over surface n/e 12" deep and cart away	Y.S.		2	9
" to reduce levels n/e 5' 0" deep and cart away	Y.C.		8	6
" to form basement n/e 5' 0" deep and cart away	"		9	0
" " 10' 0" deep and cart away	"		9	6
" " 15' 0" deep and cart away	"		10	0
If in stiff clay	add "		2	6
If in underpinning	" "		4	0
Planking and strutting to sides of excavation	F.S.		1	0
" " to pier holes	"			5
" " to trenches	"			5
" " extra, only if left in	"			3
Hardcore, filled in and rammed	Y.C.		10	0
Portland cement concrete in foundations (6-1)	"	1	6	0
" " (4-2-1)	"	1	12	6
" " underpinning	"	1	16	0
Finishing surface of concrete, spade face	Y.S.			7

DRAINLAYER		4" s.	d.	6" s.	d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	2	6	2	3
Extra, only for bends	Each	2	8	3	9
" junctions	"	3	9	4	6
Gullies and gratings	"	16	6	18	0
Cast iron drains, and laying and jointing	F.R.	4	9	6	9
Extra, only for bends	Each	10	6	15	6

BRICKLAYER		£	s.	d.
Brickwork, Flettons in lime mortar	Per Rod	27	10	0
" " in cement	"	28	15	0
" Stocks in cement	"	35	0	0
" Blues in cement	"	52	0	0
Extra only for circular on plan	"	2	0	0
" backing to masonry	"	1	10	0
" raising on old walls	"	2	0	0
" underpinning	"	5	10	0
Fair Face and pointing internally	F.S.			1½
Extra over fletton brickwork for picked stock facings and pointing	"			8½
" " " red brick facings and pointing	"			11
" " " blue brick facings and pointing	"		1	4
" " " glazed brick facings and pointing	"		3	6
Tuck pointing	"			7
Weather pointing in cement	"			3½
Slate dampcourse	"			10
Vertical dampcourse	"		1	1

ASPHALTER		s.	d.
½" Horizontal dampcourse	Y.S.	4	6
½" Vertical dampcourse	"	6	9
½" paving or flat	"	4	0
1" paving or flat	"	5	6
1" × 6" skirting	F.R.	1	0
Angle fillet	"		2
Rounded angle	"		2
Cesspools	Each	5	0

MASON		s.	d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C.	17	9
Bath stone and do., all as last	"	13	6
Artificial stone and do.	"	13	0
York stone templates, fixed complete	"	10	6
" thresholds	"	13	6
" sills	"	1	0	6

SLATER AND TILER		£	s.	d.
Slating, Bangor or equal, laid to a 3" lap, and fixing with compo nails, 20" × 10"	Sqr.	3	10	0
Do., 18" × 9"	"	3	7	0
Do., 24" × 12"	"	3	17	0
Westmorland slating, laid with diminished courses	"	6	0	0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course	"	3	0	0
Do., all as last, but of machine-made tiles	"	2	16	0
20" × 10" medium Old Delabole slating, laid to a 3" lap (grey)	"	4	6	0
" " " " " " (green)	"	4	15	0

CARPENTER AND JOINER		£	s.	d.
Flat boarded centering to concrete floors, including all strutting	Sqr.	2	5	0
Shuttering to sides and soffits of beams	F.S.			8
" to stanchions	"			8
" to staircases	"		1	8
Fir and fixing in wall plates, lintols, etc.	F.C.		3	9
Fir framed in floors	"		4	6
" " roofs	"		6	6
" " trusses	"		7	6
" " partitions	"		8	6
½" deal sawn boarding and fixing to joists	Sqr.	1	14	6
1" " " " "	"	1	17	6
1½" " " " "	"	2	3	0
2" × 2" fir battening for Countess slating	"		9	6
Do. for 4" gauge tiling	"		12	0
Stout feather-edged tilting fillet	F.R.			4½
Patent inodorous felt, 1 ply	Y.S.		2	3
" " " 2 "	"		2	9
" " " 3 "	"		3	3
Stout herringbone strutting to 9" joists	F.R.			10½
1" deal gutter boards and bearers	F.S.		1	2
1½" " " "	"		1	6
2" deal wrought rounded roll	F.R.			8
1" deal grooved and tongued flooring, laid complete, including cleaning off	Sqr.	2	1	0
1½" do.	"	2	10	0
1¾" do.	"	2	17	0
1" deal moulded skirting, fixed on, and including grounds plugged to wall	F.S.		1	6
1½" do.	"		1	9

CARPENTER AND JOINER—*continued*		s.	d.
1½" deal moulded sashes of average size	F.S.	1	9½
2" " " " "	"	1	11½
1½" deal cased frames double hung, of 6" × 3" oak sills, 1¼" pulley stiles, 1¼" heads, 1" inside and outside linings, ⅝" parting beads, and with brass faced axle pulleys, etc., fixed complete	"	3	7
2" " " " "	"	3	10
Extra only for moulded horns	Each		6
1½" deal four-panel square, both sides, door	F.S.	2	0
2" " " " "	"	2	8
1½" " but moulded both sides	"	2	4
2" " " " "	"	3	0
4" × 3" deal, rebated and moulded frames	F.R.	1	0
4½" × 3½" " " " "	"	1	4
1½" deal tongued and moulded window board, on and including deal bearers	F.S.	1	9
1½" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	"	2	6
1½" deal moulded wall strings	"	2	1
1½" " outer strings	"	2	4
Ends of treads and risers housed to string	Each	1	9
3" × 2" deal moulded handrail	F.R.	1	3
1" × 1" deal balusters and housing each end	Each	2	0
1½" × 1½" " " " "	"	2	9
3" × 3" deal wrought framed newels " "	F.R.	1	3
Extra only for newel caps	Each	6	0
Do., pendants	"	6	6

SMITH AND FOUNDER		£	s.	d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt.		15	6
Riveted plate or compound girders, and hoisting and fixing in position	"		19	6
Do. stanchions with riveted caps and bases and do.	"		19	0
Mild steel bar reinforcement, ½" and up, bent and fixed complete	"		17	6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S.			11
Wrot-iron caulked and cambered chimney bars	Per cwt.	1	10	0

PLUMBER		£	s.	d.
Milled lead and labour in flats	cwt.	1	13	6
Do. in flashings	"	1	17	0
Do. in covering to turrets	"	2	3	0
Do. in soakers	"	1	9	0
Labour to welted edge	F.R.			3½
Open copper nailing	"			3½
Close " "	"			4½

Lead service pipe and fixing with pipe hooks	F.R.	½" s.	d.	¾" s.	d.	1" s.	d.	1¼" s.	d.	2" s.	d.	4" s.	d.
		1	0	1	2	1	5	2	1	3	0	—	
Do. soil pipe and fixing with cast lead tacks	"	—		—		—		—		—		5	9
Extra, only to bends	Each	—		—		—		—		2	3	6	3
Do. to stop ends	"	6½		8		9		11		1	0	—	
Boiler screws and unions	"	3	3	3	9	5	0	8	0	—		—	
Lead traps	"	—		—		—		6	3	8	9	—	
Screw down bib valves	"	6	9	9	6	11	0	—		—			
Do. stop cocks	"	9	0	11	0	14	6	20	6	47	0	—	

		s.	d.
4" cast-iron ½-rd. gutter and fixing	F.R.	1	0
Extra, only stop ends	Each	1	0
Do. angles	"	1	6
Do. outlets	"	2	9
4" dia. cast-iron rain-water pipe and fixing with ears cast on	F.R.	1	2
Extra, only for shoes	Each	1	3
Do. for plain heads	"	5	6

PLASTERER AND TILING		s.	d.
Expanded metal lathing, small mesh	Y.S.	2	3
Do. in n/w to beams, stanchions, etc.	"	3	6
Lathing with sawn laths to ceilings	"	1	4
½" screeding in Portland cement and sand for tiling, wood block floor, etc.	"	1	8
Do. vertical	"	2	1
Rough render on walls	"	1	3
Render, float and set in lime and hair	"	1	11
Render and set in Sirapite	"	2	1
Render, backing in cement and sand, and set in Keene's cement	"	2	10
Extra, only if on lathing	"		4
Keene's cement, angle and arris	F.R.		6
Arris	"		2
Rounded angle, small	"		3
Plain cornices in plaster, including dubbing out, per 1" girth	"		1½
1" granolithic pavings	Y.S.	3	6
1½" " "	"	4	6
6" × 6" white glazed wall tiling and fixing on prepared screed	"	17	6
9" × 3" " " " "	"	1	2	6
Extra, only for small quadrant angle	F.R.			8

GLAZIER		s.	d.
21 oz. sheet glass and glazing with putty	F.S.		7½
26 oz. do. and do.	"		8½
Arctic glass and glazing with putty	"	1	1
Cathedral glass and do.	"	1	2
Glazing only, British polished plate	"		7
Extra, only if in beads	"		2
Washleather	F.R.		4

PAINTER		s.	d.
Clearcolle and whiten ceilings	Y.S.		6½
Do. and distemper walls	"		9
Do. with washable distemper	"	1	1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	"	3	3
Do. on woodwork	"	3	6
Do. on steelwork	"	3	0
Do. and brush grain and twice varnish	"	5	6
Stain and twice varnish woodwork	"	1	11
Stain and wax-polish woodwork	"	4	6
French polishing	F.S.	1	2
Stripping off old paper	Piece	2	0
Hanging ordinary paper from	"	2	9

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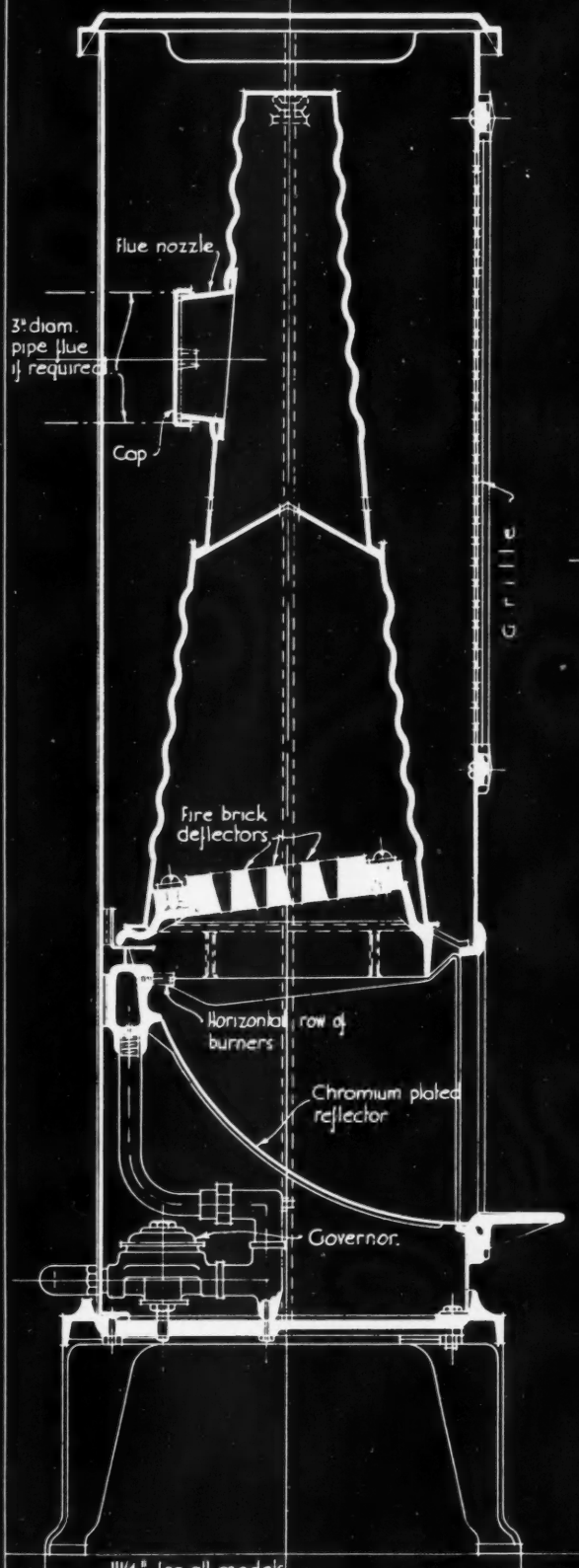
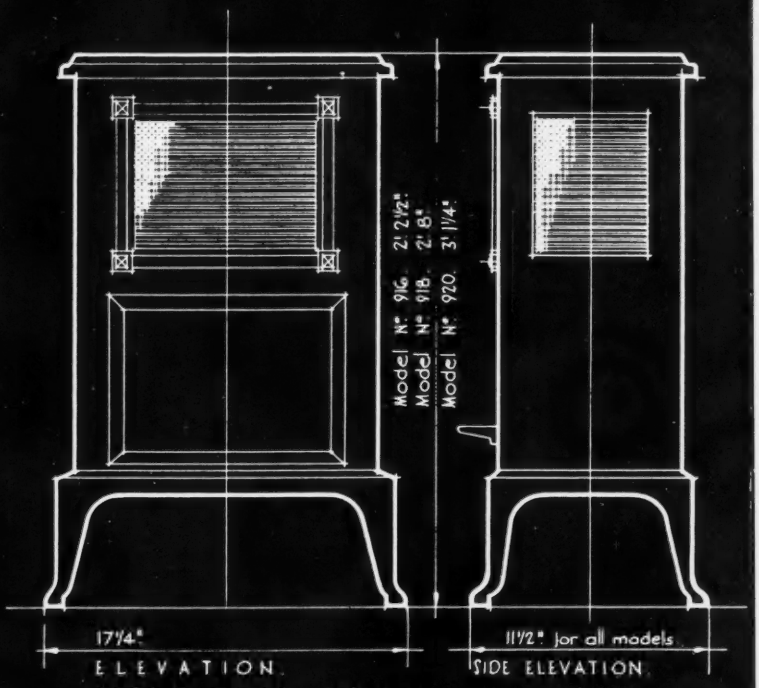
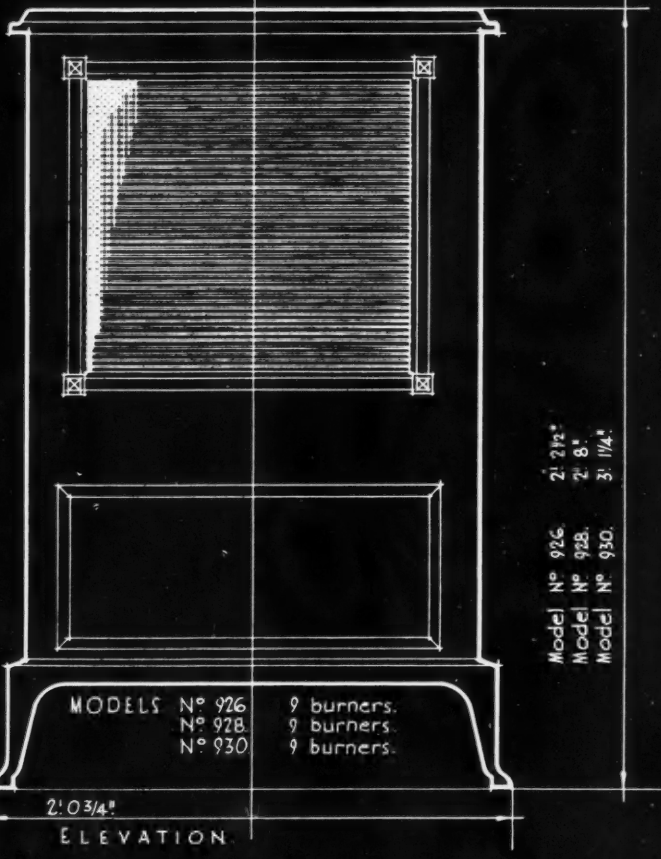


QUARTER FULL SIZE SECTION THROUGH MODELS Nos 920 & 930.

O.M.B.



MODELS N° 916. 6 burners.
N° 918. 6 burners.
N° 920. 6 burners.



MODELS N° 926 9 burners.
N° 928 9 burners.
N° 930 9 burners.

Information from John Wright & Co. Ltd.

INFORMATION SHEET : CONSOLE CABINET GAS RADIATORS.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.1

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INFORMATION SHEET

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HEATING

Name of Product : John Wright & Co.'s Radiators

Type Illustrated : Console Cabinet Radiator

Description :

The Console radiator consists of a combination of luminous-flame burners arranged beneath brick deflectors ; the radiated energy from the heated bricks and the luminous energy of the flames being deflected into the room by a chromium plated reflector. Above the brick deflectors are two chambers which break down the concentration of the products of combustion in two stages, ensuring, as far as is practicable, uniform heating of the outer case. This outer case is provided with perforated panels at the front and sides, and beneath the cover plate are openings through which the products of combustion and convected air are freely distributed. On the upper interior box a flue nozzle is arranged so that all the combustion products may be collected and delivered into a flue pipe, when necessary. The luminous-flame burners are specially designed to ensure maximum luminosity consistent with good combustion, and the gas consumption is kept constant by a pressure governor incorporated with the gas inlet connection.

Approximate Heating Capacities :
(See table below.)

Gas Consumption :

No. 916	.. ..	8 c.f. per hour
,, 918	.. ..	10 c.f. ,, ,,
,, 920	.. ..	12 c.f. ,, ,,
,, 926	.. ..	12 c.f. ,, ,,
,, 928	.. ..	15 c.f. ,, ,,
,, 930	.. ..	18 c.f. ,, ,,

Sizes and Finishes :

The radiator is available in six sizes and several finishes, including old Brass, old Copper, Moorland Green with the meshwork panels in old gold, and also two wood grain finishes, Mahogany and Walnut.

Name of Manufacturers :
John Wright & Co., Ltd.

Address : Essex Works, Aston, Birmingham, 6

Telephone : (Birmingham) Central 2169 (5 lines)

London Office : 19 and 21 Queen Victoria Street, E.C.

Telephone : City 6313

APPROXIMATE HEATING CAPACITIES

Type of Building	Temperature usually obtained	No. 916	No. 918	No. 920	No. 926	No. 928	No. 930
		c.f.	c.f.	c.f.	c.f.	c.f.	c.f.
Churches, Public Halls, Sale Shops, etc.	55–56° F.	1770	2210	2660	2660	3320	3990
Schools, Stairways, Entrance Halls, etc.	58–59° F.	1560	1950	2340	2340	2920	3510
Offices, etc.	60–61° F.	1460	1830	2200	2200	2740	3300

ALLOWANCES FOR SPECIAL CONDITIONS

The heating capacities of these radiators are based upon average conditions, but in certain cases there may be special conditions which require additional radiators :

1. Rooms or Shops exposed to the North or East . . . . . Add 10% to the size of the heating installation.
2. Rooms or shops having more than one outside wall, for each outside wall in excess of one . . . . . Add 10% to the size of the heating installation.
   Note.—This applies to rooms or offices in buildings made up of apartments, but does not apply to large open interiors, such as Churches, Halls and Factories.
3. Rooms or Shops having an unusual area of glass (windows, etc.) : add the equivalent of one No. 916 Radiator for each 80 sq. ft. of glass more than the normal. The normal average is 20 sq. ft. of glass per 1,000 cu. ft. capacity.
4. Corrugated Iron Walls, if well lined with matchboarding or similar material Add 10% to the size of the heating installation.
5. Corrugated Iron Roof, if well lined . . . . . Add 10% to the size of the heating installation.
6. When the ceiling of the room or shop is the roof, well boarded and plastered Add 10% to the size of the heating installation.
7. When the ceiling is a visible roof, not wood-lined, but with felt beneath the slates or tiles . . . . . Add 20% to the size of the heating installation.

   Note.—Unlined Corrugated Iron Walls or Roofs require such a high allowance of additional heating that it is cheaper to provide a lining than to instal the extra Radiators. It is also cheaper in the case where the ceiling of the room or shop to be heated is the roof, with visible slates or tiles, to have the roof well lined.

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CHECK LIST FOR WORKING DRAWINGS : PLANS.

DRWG Nº	DRWG Nº	
		GENERAL.
		Title of Job
		Title of Drawing
		Number of Drawing
		Date
		Scale
		Points of Compass
		Street Names
		Section Lines
		Fire Hydrants
		Fire Extinguishers
		MATERIALS.
		Sectional indications on:
		Stone
		Brick
		Concrete
		Partition Material
		Elevational indication on:
		Stonework
		Concrete
		Stucco
		Glass
		Metalwork
		Marble
		Terrazze
		LEVELS.
		Each Floor
		Intermediate Levels
		Stair Landings
		Pavements
		DIMENSIONS
		Column Centres
		Widths of Openings
		Reveals
		Centre Lines
		Axis Lines
		Angles
		Closing Dimensions
		Projections beyond building line
		Other Projections
		Spacings of Interior Openings

DRWG Nº	DRWG Nº	
		DIMENSIONS (Continued)
		Centres of all Partitions
		External Wall Thickness
		Walls to Stairs
		Walls to Lifts
		Partitions
		Furring Position
		Furring Thickness
		Size of Ducts
		STAIRS.
		Head Room
		Newels
		Handrails
		Wall Rails
		Materials
		Number of Risers
		EXTERNAL STEPS.
		Number of Risers
		Railings
		Handrails
		Materials
		CEILINGS.
		Indication of furred Ceilings
		Furring for Plumbing
		Ceiling Lights
		Lighting Troughs
		Coves
		Beams
		ROOFS.
		Direction of Grade
		Level of High Point
		Amount of Falls
		Pitch of Gutters
		R.W.H.S.
		Ventilators
		Roof Lights
		Ladders
		Railings
		Parapets

INFORMATION SHEET : GENERAL CHECK LIST FOR DRAWINGS. I.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1.

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INFORMATION SHEET

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CHECK LIST FOR DRAWINGS

(i)

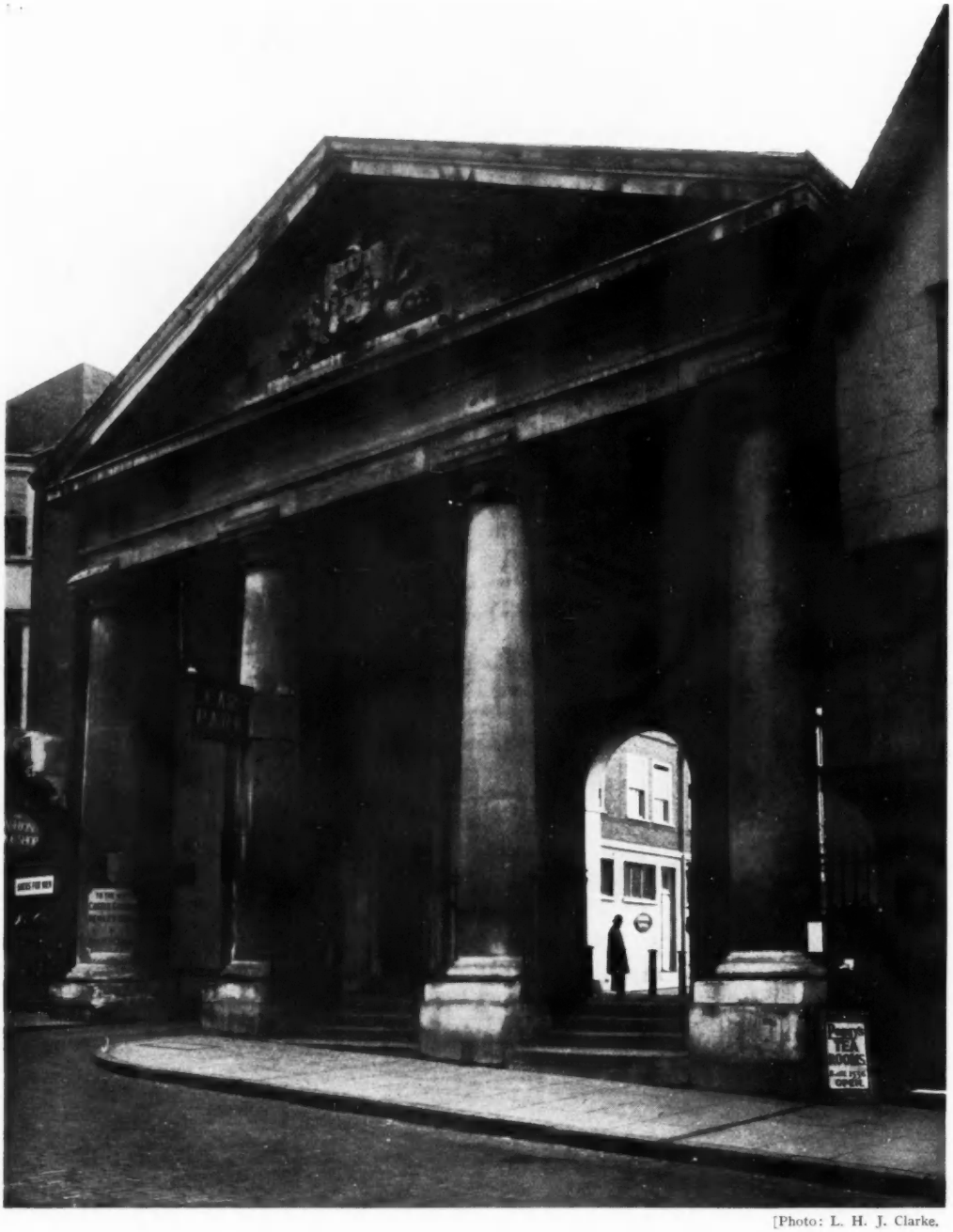
The check list given on this sheet is intended as a guide to the series of small items which require checking in any set of working drawings. It is generally preferable to prepare an individual check list for each job, as only in this way can the items peculiar to the job be included. Separate check lists are generally used for elevational details and sections, and a further schedule will be published in a future issue.

COPENHAGEN ZOO

THE NEW BIRDS' HOUSE

PROFESSOR EDWARD THOMSEN, who is Professor of Architecture at the Danish Academy of Fine Arts, first began to make animal-architectural history some ten years ago with his now famous open-air Monkey Pit: a charming little amphitheatre of reddish concrete like a tropical version of the Giants' Causeway in miniature. He has just completed, in collaboration with Fritz Schegel, another equally revolutionary "housing block" for the Copenhagen Zoo, an interior view of which is illustrated above. This new Birds' House, which is built on a sloping site, is a simple, but elegantly proportioned, reinforced-concrete gallery, supported on twin rows of plain circular columns; with a flat roof cantilevered out over the cages forming the side walls. A wide corridor runs along the middle, each end of which is closed by a larger cage; the entrances being at the side, half way down. The cages, which are electrically heated and top lit, have plate-glass fronts protected by fine metal netting. They have been designed as microcosmic reproductions of the flora and geology characteristic of the habitat of each species, instead of on the artificial human scale of the familar "Crystal Palace" model. Thus, as in nature, the eye picks out branches before birds; since a tree to perch on is the primary physical need for most kinds of bird life.

An interesting incidental feature is the neat and unobtrusive design of the low tubular-steel public seats.

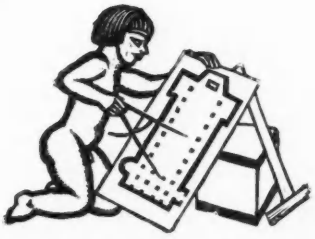


[Photo: L. H. J. Clarke.

GUILDFORD CORN EXCHANGE

A new competition has just been announced by the Guildford Town Council, for the development of the Tuns Gate site. The entrance to the site is through the portico of the old Corn Exchange, of which the above is a photograph ; and competitors are to be given the choice of incorporating the existing front or planning for its removal.

Three years ago a proposal came before the Council for the demolition of the Exchange ; but owing to public protest the scheme was abandoned.



HOUSING SUPPLEMENTS: AN ANNOUNCEMENT

THE most urgent of our contemporary problems, architectural and social—and, so far as internal affairs are concerned, political—is undoubtedly housing. The insufficiency of the shelter with which our working classes are provided is at the same time symptomatic of the unplanned nature of our economic structure and one of the major causes of social discontent.

These facts are now recognized by all parties and all interests, and this generation appears at last determined to tackle the problem for the first time on a scale comparable with its actual extent. That a determined attack has been postponed until now is a reflection on our forerunners' sense of social responsibility, but this compensation is left to us : that the extent of the previous generations' shortcomings is also the extent of the present generation's opportunity. Accumulated delay has at least provided us with a chance of treating the gigantic problem as a whole.

During recent months the policy of the Government, emboldened to more drastic measures by the clamour of public opinion and by the promptings of the Press (of which this JOURNAL has tried to supply its share), has made rapid and praiseworthy advances. The Minister of Health's original slum-clearance programme (which even the Minister himself has admitted to have been inadequate) has been progressively increased in scope and augmented by a concurrent attack on overcrowding. The Minister, in a recent White Paper, indicated his appreciation of the interdependence of these two—that it is primarily overcrowding that produces slums, and that sufficient housing is the most necessary foundation to good housing. The Minister also expressed the opinion—an encouraging reversion from that reluctance to undertake responsibilities that has been characteristic of previous governments—that the whole problem of housing was no longer possible of solution by private enterprise alone.

There is every reason to hope in the face of all these declarations, that the problem is to be tackled officially and comprehensively ; perhaps by a National Housing Corporation, perhaps by restitution of the Wheatley subsidies ; at any rate under the direct supervision of Whitehall. It is probable indeed that the improvement of the nation's housing will be recorded by posterity as this generation's contribution to the evolution of civilized living.

It is going to be done ; of that we are assured by our rulers. *How* it is done will rest with the architectural profession. It is important, therefore, that the profession, with this huge task on the horizon, shall be thoroughly equipped with practical knowledge of every aspect of the subject. In order that there shall be no uncertainty of approach, the profession must be familiar with the efforts that other people have made so as to benefit from their experience. It must be aware of every possible line of attack, and competent to make without hesitation all the decisions with which it will be faced ; from choosing between alternative principles of planning or construction to choosing between alternative methods in the smallest details of equipment.

Now is the time. While preparations for launching a great housing campaign are in progress, a comprehensive study should be made of all the available information on the subject—a compilation of methods and examples, that shall serve as an authoritative source of information when the business of building actually begins.

We are able to announce that we have made plans for providing this information, in the form of a series of special supplements and special issues of this JOURNAL, designed to cover in time all the requisite ground. The first part of our programme was covered by the Slum Survey published last year, in which was examined the degree and distribution of overcrowding in this country. In this issue we begin the second part of the programme with, by way of introduction, an historical survey of housing in Europe since the war. These, together with material published elsewhere (such as the " new Charles Booth "—the New Survey of London Life and Labour—of the London School of Economics) provide a fairly complete survey of the existing position and of previous attempts to solve similar problems. In these the social background has been analysed and the general nature of the present problems stated.

Those aspects of the subject having been dealt with, we come to the more practical or technical aspects. Henceforward our housing supplements will be published at regular intervals and will concentrate on the technical questions and the technical information with which the housing architect is concerned. The next one, to be published in about a fortnight's time, will consist of a complete analysis of cost, compiled by the architect, of a block of working-class dwellings, designed on an economic " unit " system, now being erected in London.

The architect has had far too little opportunity of taking his place as one of the skilled technicians of society. Now that it seems that this opportunity is to be given him, we hope that in presenting our housing supplements we shall enable him to ensure that his technical equipment is really sufficient for him to take full and immediate advantage of it.

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NOTES & TOPICS

TO-MORROW'S IDEAL

THE light-hearted way in which people get together and say "Let's go modern!" is responsible for nearly everything that deserves the label: *modernistic*. The Ideal Home Exhibition at Olympia has a "modern" village; but nearly all of it is "modernistic."

*

This isn't highbrow carping. The Ideal Home Exhibition is the best thing *The Daily Mail*, or any other popular newspaper, has ever done for England. Even the gallant attempt first to change the headgear of Englishmen and then to make them keep their hats permanently raised to France (or was it to the Empire? anyway, it was years ago, and all is forgotten and forgiven now), cannot be compared with this annual attempt to make the public conscious of what their homes might be like.

*

Unfortunately, in a really praiseworthy attempt to bring the minds of Mr. and Mrs. Everyman up to date, the exhibition organizers have fastened upon the superficial stigmata of young modernism: angles and chevrons and things, and have (except in one or two instances) completely missed the point that the modern movement is a logical attitude of mind towards the use of modern materials, and not a childish horror of curves.

*

The best examples of intelligent design are to be found on stands that are displaying either building materials or sanitary appliances, bathroom equipment and so forth. The "show" pieces of furnishing are disappointing.

*

Incidentally, one notices that some firms in the furnishing trade that used to be pioneers are resting on rather dusty laurels, or (worse) making insincere concessions to contemporary taste, and not taking the trouble to understand either the materials or the ideas of the age they live in.

*

The gay "" almost-but-not-quite-Georgian" note that went with cottagey interiors, frequent visits to *The Beggar's Opera*, and the felicities of the late Claude Lovat Fraser's technique of stagecraft and decoration, are twelve-year-old memories; but at Olympia their haggard resurrection "dates" several firms that ought to know better.

ARCHITECTS' FEES

A correspondent to *The Times* who, to my great delight, signs himself "Dissatisfied," has been raising very forcibly the thorny question of whether an architect's fees should include everything necessary to building erection or not.

*

This correspondent, like a lot of other clients of building, objects to these extra fees for quantity surveyors and consultants, which in a manner thoroughly English have got themselves tacked on to the architect's fees.

*

Of course, the whole thing is in a frightful mess, and it is completely ridiculous that the brainwork of building design should be split up into men called engineers and men called architects. Some way out of this will have to be found. But as a matter of equity there is not much in it.

*

Building has become enormously complicated in the last 25 years, and the erection of a modern building involves a great deal more calculation and brain-work than it ever did before. Somebody has to pay for this, and so far as the engineer is concerned, he can either pay it separately and make the engineer a gentleman, or he can have it wrapped up in the steelwork and never see the size of it. Whichever method he uses he will still have to pay, because the work has to be done.

*

Similarly with the quantity surveyor, except that he stands in a rather peculiar position as between client and architect and builder.

A.A.S.T.A.

The unfortunate rift between the R.I.B.A. and the A.A.S.T.A. is the more to be regretted as it comes in the former body's centenary year.

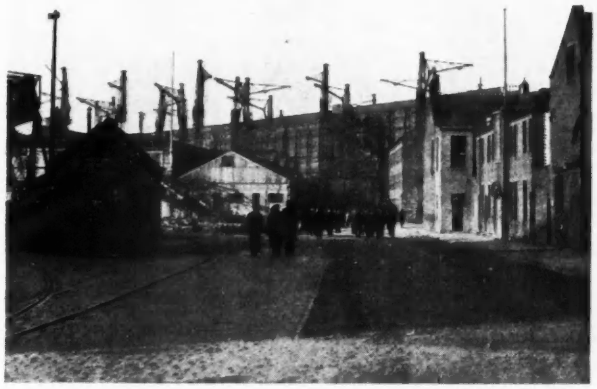
*

As usual in such matters, each side can bring arguments to support its point of view.

*

The A.A.S.T.A. feels that as the Institute fixes (and works to maintain) a scale of professional fees, and, in addition, lays down a scale of pay for assistants in public offices, it

Owing to pressure of space caused by the publication of the first of our series of housing supplements in this issue, we have been compelled to omit the third of the articles on Building Economy in Small House Construction. The series will be resumed next week.



[Photo: *The Times.*

Men returning to work last week on the new Cunarder number 534. The hull of the ship is seen in the background. See Astragal's note on this page.

should logically fix a similar scale for *all* salaried architects. Failure to do so is regarded as unfair.

*

The R.I.B.A. is not a trades union. But, says the other body, how then justify interference in the matter of departmental assistants ?

*

The A.A.S.T.A. has determined to make itself felt as a trades union devoting itself to the protection of *all* salaried architects, since the R.I.B.A. has refused to do so.

534

Work on the new Cunarder has now actually been resumed. I give a photograph showing the men being piped down to the stocks to start work.

*

Underneath my satisfaction I have a lurking doubt. What are these men to build ? What will the interior of this new ship be like ?

*

I am not the only person who is interested; a very large section of the public is dying to know what we are to expect. Can we have some assurance from those responsible that the decorations are not to be " Louis " or " Tudor " ?

*

Can we rest assured that the matter will not virtually be left to the upholsterers ?

THE PAVILION SITE

Since my last reference to the site of the London Pavilion I have learned that Mr. Frank Matcham is the architect for the new building.

*

I look forward to seeing his design for this most important site. Mr. Matcham is well known as a theatre designer. Some of his more striking designs are the Coliseum, the Victoria Palace, and the Empire in Leicester Square.

*

There seems to be a growing body of opinion that the Pavilion site should not be built on at all. In fact, I have actually seen one or two schemes showing the development of that area, whereby the Haymarket runs up to Shaftesbury Avenue and Piccadilly Circus is balanced by the removal of the Pavilion, which at present encroaches on its symmetry.

*

Such a scheme is, from a town planning point of view, highly desirable. It is also highly expensive.

WESTMINSTER HOSPITAL

Talking of important sites, what is going to replace Westminster Hospital ?

*

This is one of the most important plots in the whole of London, facing, as it does, the Abbey, Saint Margaret's Church, and the Central Hall.

*

Recently an outcry about inappropriate buildings in Parliament Square and Abingdon Street scotched two ambitious schemes. It is to be hoped that something similar, but more vigorous, will be done about Westminster Hospital.

A TOWN PLAN FOR LONDON

Major Harry Barnes recently announced that a sub-committee of the L.C.C. had been set up to consider the advisability of preparing a town plan for London.

*

It will be remembered that one of the first proposals of the Socialist majority was to conduct an extensive survey into overcrowding and housing conditions in London, and if from these two announcements we may hope that slum clearance in London is to proceed by way of Town Planning and reconstruction, then the outlook is brighter than it has been this long while since.

*

The outlook is brighter because no former majority has made any serious attempt to grapple with the major problems of planning in Central London and, as we well know, these same problems have magnified themselves in a period of official inactivity.

*

The St. James's Park planning scheme is non-active like many other London schemes. A town plan for London, if it is to be of any use, must be made with the intention of translating it into terms of construction : a plan for building.

*

But what a pity Mr. Morrison could not wait for the first findings of the plan survey before pulling down Waterloo Bridge.

*

It seems on the face of it that Waterloo Bridge is linked with the larger problem of cross-river traffic in this reach of the river, and all the planners associated with Charing Cross Bridge were certain that it was being tackled in comparative ignorance of the planning needs of London generally.

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

" Does the R.I.B.A. realize that it is in a very grave danger of becoming defunct? " 532

" There is a danger that the British public might be led to imagine that the exhibits shown in it (the Austrian Exhibition) were chosen by the Austrian " Werkbund," and represent the work of Austrian architects and designers of the modern school identified with its aims " 532

A font-cover in wood, made for £30 535

The first of a series of Housing Supplements, presenting the essential data concerning the post-war low-cost housing and slum clearance policies and activities of six European countries 537

THE GROWTH OF THE GRID

Still further demand for domestic electrificating in rural areas is expected. By the end of last year about 45 per cent. of the homes in Great Britain were taking a supply of electricity for domestic purposes, as compared with 23 per cent. in 1923.

At the beginning of this month a second line from the grid came into operation in Northamptonshire. This was in order to supply electricity to the new national workshop that has been built at Corby; the original supply planned three years ago being quite inadequate in view of this industrial development, which will require almost twice as much electricity as the whole town of Kettering.

CONFERENCE OF BUILDERS

Mr. Frank Lord, of Oldham, was elected president of the National Federation of Housebuilders, at the annual conference in London on Monday last.

Mr. Lord said there was talk of a movement to put higher tariffs on foreign bricks, and added: " I am a believer in protecting our home industries and acknowledge that the tariffs have been helpful in certain directions, and I certainly do not advocate the use of foreign bricks if British can be got. But I know that in certain parts of London where these foreign bricks are accessible they helped during the brick shortage last year to keep many building operatives employed who would otherwise have been out of work.

" Certainly at this moment, when there is every likelihood of this year setting up a record in house building, we cannot afford to have the work interfered with by a famine in bricks if we are to solve the housing problem."

THE ARCHITECTS' DIARY

Thursday, April 12

THE ARCHITECTURE CLUB. *At 36 Bedford Square, W.C.1. Supper-Discussion on " Street Furniture and Street Advertising."* 7.30 *p.m.*

INSTITUTION OF CIVIL ENGINEERS (*Yorkshire Branch*). *At the Hotel Metropole, Leeds. " Some Aspects of Roads and Bridge Work in the West Riding." By G. T. Carpenter, M.C.* 7.30 *p.m.*

INSTITUTION OF STRUCTURAL ENGINEERS. *At 10 Upper Belgrave Street, S.W.1. " Lightweight Concrete Construction." By J. Singleton-Green* 6.30 *p.m.*

Friday, April 13

ROYAL SANITARY INSTITUTE. *At the Town Hall, Bolton, Lancs. Discussion on " Public Baths in Relation to Health and Disease " to be opened by R. M. Galloway, M.D., D.Ph., and on " The Technique of Rehousing etc., from Slum Areas " to be opened by Cyril H. Walker, F.S.I., A.M. Inst. M. & Cy.E.* 5 *p.m.*

Tuesday, April 17

INSTITUTION OF STRUCTURAL ENGINEERS. *At 10 Upper Belgrave Street, S.W.1. Lecture on Welding by C. Helsby.* 6.30 *p.m.*

SLUM

Slum Clearance was discussed in the House of Commons on Monday last. Sir Hilton Young, in reply to the question, " How are things going?" said the new effort was not yet at the peak. It was still accelerating. Already there had been such an increase as to ensure that if the effort was continued the clearance programme would be achieved in the promised five years.

ECCLESIASTICAL COMMISSIONERS AND LONDON HOUSING

The Ecclesiastical Commissioners, in their eighty-fifth annual report, just issued, covering the year preceding November 1 last, refer to their various housing schemes. The report states:

" The Commissioners have an estate in Lambeth (near Waterloo) which came into their possession during the war by the expiration of leases under which it was held. The redevelopment of this area was, at the request of the London County Council, held up pending the consideration of proposals for building the new Charing Cross bridge. Now that this scheme has been abandoned, the Commissioners have prepared plans for rehousing the occupants of this area in blocks of tenement houses, and the proposals are under consideration by the London County Council.

" The Commissioners have also submitted plans to the London County Council for a housing scheme in Union Street, Southwark, and they hope to proceed with the rebuilding at an early date. The rebuilding of an area in Woolwich has been commenced. It is estimated that the cost of the working-class housing schemes which the Commissioners have thus recently initiated or have in contemplation will exceed £500,000, and the return is not expected to be more than 3 per cent."

AUSTRIAN EXHIBITION IN LONDON

The Austrian Exhibition, arranged under the auspices of the Austrian Government, is to be opened at Dorland Hall, Regent Street, W.1, on Monday next, April 16.

ROYAL SOCIETY OF ARTS

Mr. Hanslip Fletcher, in the course of a paper entitled " London from the Pavement," read at a meeting of the Royal Society of Arts on April 11, said: " The rumours of a new Charing Cross bridge and approaches, the possible sale of Adelphi Terrace, and the very recent demolition of South Africa House, Trafalgar Square, have afforded subject for my pictures. Few would put the clock back and retain everything merely on account of antiquity and convert a live city into a museum of the dead, but we look for a continuity with the past in great cities. What should we say if the vistas of Notre Dame, Paris, were obscured. The French would allow no such thing, but we suffer disgrace that high buildings are closing in the views of St. Paul's Cathedral, because the Englishman pays little heed. The Fine Art Commission and the London Society have called public attention to this and the unsightly backs of some of our new buildings.

" Let us hope there will be more care in the placing of the taller buildings of the future lest they encroach and hide the priceless heritage of dome and city spires bequeathed to us by Sir Christopher Wren."

NEW SWIMMING STADIUM AT BRIGHTON

The opening date of Brighton's new swimming stadium, in West Street, has been fixed for June 29.

ROYAL SOCIETY OF BRITISH SCULPTORS

At a general meeting of the Royal Society of British Sculptors held recently, Mr. W. Reid Dick, R.A., was re-elected President, Mr. Gilbert Bayes Vice-President, and Mr. C. L. Hartwell, R.A., Treasurer.

INTERNATIONAL CONGRESS OF SURVEYORS

The fifth International Congress of Surveyors is to be held at the Chartered Surveyors' Institution, 12 Gt. George Street, S.W.1, from July 18 to July 21 next.

GARDEN CITIES AND TOWN PLANNING ASSOCIATION

The above Association have arranged a Housing and Town Planning Tour to

Oxford, Bath and Bristol, to take place at Whitsuntide. The party will leave London on Friday, May 18, and will return on Thursday, May 24.

Full particulars are obtainable from the Secretary of the Association, at 3 Gray's Inn Place, W.C.1.

SOUTH WALES INSTITUTE OF ARCHITECTS

At the annual general meeting of the South Wales Institute of Architects, the following officers were elected for the Session 1934-35.

President: Lt.-Col. E. H. Fawckner, T.D., F.R.I.B.A. (Newport); vice-presidents: Messrs. J. Herbert Jones, F.R.I.B.A. (Swansea), and W. S. Purchon, M.A., A.R.I.B.A. (Cardiff); hon. treasurer: Mr. H. Teather, F.R.I.B.A. (Cardiff); hon. auditor: Mr. A. G. Lynham, F.R.I.B.A. (Cardiff); hon. librarian: Mr. Lewis John, M.A., A.R.I.B.A. (Cardiff); and hon. secretary: Mr. Ivor P. Jones, A.R.I.B.A. (Cardiff).

SCOTTISH ARCHITECTS

At the monthly meeting of the Council of the Royal Incorporation of Architects in Scotland, held at Edinburgh, the following members were elected:—Messrs. C. S. Welch; E. J. MacRae, F.R.I.B.A., and W. M. Scott, as Fellows; Messrs. D. W. Baxter, jun., L. G. Pargiter, F. W. M'G. Pyott, J. L. Gleave, M.A., A.R.I.B.A., A. M. Grant and C. S. Kennedy, as Associates.

APPOINTMENT TO THE BARKING COUNCIL

Mr. C. Shaw, A.R.I.B.A., has been appointed chief architectural assistant to Barking Borough Council, at a salary of £400 a year. There were 48 applications for the post.

In connection with the scheme for building a new Town Hall at Barking, members of the Council have paid visits to Nottingham, Peterborough, Lewisham and Beckenham to inspect municipal buildings.

REINFORCED CONCRETE

On Thursday, March 29, a lecture was given by Mr. T. C. Durley, B.A., A.M.INST.C.E., on behalf of the Reinforced Concrete Association to the Doric Architectural Club, Oxford. The subject of the address was "The Use of Reinforced Concrete in Modern Buildings."

The various special constructional forms and the numerous methods of decorative textural treatment were discussed, and the employment of these in modern buildings was illustrated by a series of lantern slides.

LIVERPOOL PROPERTY OWNERS' AND RATEPAYERS' ASSOCIATION

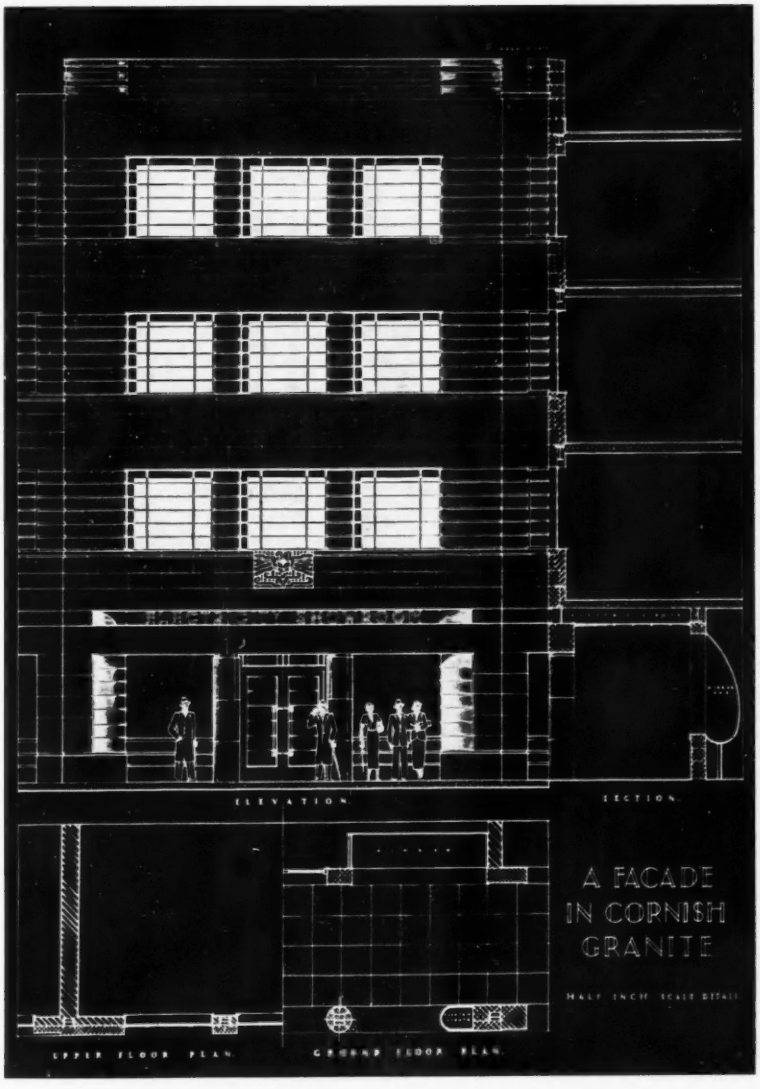
A declaration on the property-owners' attitude to the slum clearance compensation question was made by Lord Chesham, president of the National Federation of Property Owners and Ratepayers when he spoke last week at the annual dinner of the Liverpool and District Property Owners' and Ratepayers' Association.

Section 46 of the Housing Act, which dealt with that question, said Lord Chesham, represented a grievous injustice. The answers he had had to representations made to the Government could not be said to be altogether satisfactory. Touching the house condemned through being overcrowded or being in a dense area—which was not, in nine cases out of ten, the fault of the owner—he did see some hope of getting the matter put right. The Minister of Health had promised that as long as he was in office, people would not be penalized through what he called the bad neighbour, and he would try to get something to the desired effect included in the next housing Bill.

Concerning houses themselves condemned, the Government stuck to its slogan—"A condemned house can have no value," said Lord Chesham. "That is what we are fighting," he went on. "We are supported by such authorities as Lord Moyne. Personally, I do not think there is a chance of getting all we are asking for. But I think that there is a possibility of getting some kind of compensation on the basis of the refund of money actually expended on the purchase and maintenance of those houses."

Lord Chesham added a declaration that the Federation would have nothing to do with, and would never help, the slum speculator and the slum profiteer.

GRANITE COMPETITION: WINNING DESIGN



The winning design, by Stanley H. Smith, in the competition for a façade to an electricity department's showrooms and offices. *See Competition News on p. 524.*

R. I. B. A.

PRESENTATION OF THE ROYAL GOLD MEDAL

On Monday last, Sir Giles Gilbert Scott, P.R.I.B.A., presented on behalf of H.M. the King, the Royal Gold Medal for the promotion of Architecture to Mr. Henry Vaughan Lanchester, Fellow and Past Vice-President of the R.I.B.A.

Sir Giles Gilbert Scott said Mr. Lanchester made his reputation in open competition, and he accomplished the even more difficult feat of maintaining that reputation by continual success in an exacting and difficult branch of architectural practice. Even now, in his 70th year, he was still winning competitions. The profession rose in admiration for a man who had so often beaten them in a finely played game.

Mr. Lanchester began practice in 1889. With his partners, the late J. S. Stewart, the late A. E. Rickards, Mr. Geoffrey Lucas, and, at present, Mr. T. A. Lodge, he has built a great number of important buildings, principally municipal buildings and hospitals. These include: Cardiff City Hall and Law Courts, Deptford Town Hall, the Wesleyan Central Hall, Westminster, The Third Church of Christ Scientist, Curzon Street, Hull Art School, the Council Hall, Lucknow, Beckenham Municipal Buildings, and he is now engaged on Leeds University, Birmingham Hospital Centre and the rebuilding of St. Bartholomew's Hospital, London.

As a town planner, he has held the appointments of Lecturer on Civic Design in London University, Examiner in Civic Design and Town Planning in Liverpool, Scotland and elsewhere. He was adviser to the Government of India on the site for new Delhi (1912). He was Town Planning Adviser to the Government of Madras (1915-1916), the United Provinces (1919-20), Burma (1921) and the Protectorate of Zanzibar (1922). He has prepared town planning schemes in the North Tees Area, Derby Civic Centre, towns in the Madras Presidency, Gwalior, Lucknow, Rangoon and Zanzibar, and housing schemes at Portsdown Hill, Hants, Weybridge and Leicester, etc. He was President of the Town Planning Institute in 1922-23.

His publications include *Fischer von Erlach, Talks on Town Planning, Town Planning in Madras, The Art of Town Planning.*

COMPETITION FOR NEW CENTRAL LIBRARY AND MUSEUM, WORKSOP

The following notice has been issued by the Royal Institute of British Architects:—

"The Competitions Committee desire to call the attention of Members to the fact that the Conditions of the above competition are not in accordance with the Regulations of the R.I.B.A. The Competitions Committee are in negotiation with the promoters in the hope of securing an amendment. In the meantime Members should not take part in the competition."

INTERMEDIATE EXAMINATION

The following are the dates on which the forthcoming R.I.B.A. Intermediate Examination will be held:—June 1, 2, 4, 5 and 7, 1934. (Last day for receiving applications: May 1, 1934).

OBITUARY

We regret to record the death of Mr. George Andrew Paterson, F.R.I.B.A., a member of the firm of Stewart and Paterson, of Glasgow.

Mr. Paterson was educated in Glasgow, and served his articles with the firm of John Honeyman and Keppie, studying at the same time at the Glasgow School of Art. As a student he achieved a number of successes, among them being the award of the Alexander Thomson Travelling Studentship and the Owen Jones Travelling Studentship. He studied in France, Italy and Spain.

In 1901 Mr. Paterson began practice in partnership with Mr. John Stewart under the firm name of Stewart and Paterson. With Mr. Stewart he was responsible for many notable buildings in Glasgow and other parts of Scotland. He served on the Council of the Glasgow Institute of Architects and on the Council of the Royal Incorporation of Architects in Scotland. He was president of the Glasgow Institute of Architects in 1925-26.

COMPETITION

NEWS

GRANITE COMPETITION

The assessors in the competition for a façade in grey Cornish granite to an electricity department'ss howrooms and offices, organized by the Architectural Association on behalf of the Cornish Quarry Masters' Association, have awarded the first prize (£50) to:

MR. STANLEY H. SMITH, A.R.I.B.A., of 71 Meadway, Southgate, N.14.

The designs submitted by the following competitors received hon. mentions: Messrs. Cecil Stewart, 151 Sutherland Avenue, W.9; R. Parkinson, 80 Bingham Road, Croydon, Surrey; A. S. Morris and B. A. Le Mare, 29 The Drive, Walthamstow, E.17; Arthur N. Baldwinson, A.R.A.I.A., 12 Bedford Place. W.C.1; Birkin Haward and A. G. Ling, 5 Torrington Square. W.C.1; and Stanley C. G. Lambert, A.R.I.B.A., A.A.DIPL., and Eric C. Kent, A.R.I.B.A., A.A.DIPL., Ennerdale, Ford Bridge Road, Ashford, Middlesex.

Designs selected for proposed exhibition in Cornwall: Messrs. John A. Cameron, 67 W. Cromwell Road, Earl's Court, S.W.; Harry Barrett, A.R.I.B.A., 102 Oakley Street, Chelsea, S.W.3; L. H. B. Roberts, A.R.I.B.A., A.A.DIPL., 4 Sutcliffe Close, N.W.11; J. T. Alliston, B.A., A.R.I.B.A., A.A.DIPL., and Miss J. B. Drew, 28 Brunswick Square, W.C.1; Birkin Haward and A. G. Ling, 5 Torrington Square, W.C.; John N. Graham, 4 Pitcullen Crescent, Perth, Scotland; J. Austin Bent, A.R.I.B.A., Mayfield, Springhead, Nr. Oldham; T. T. Hewitson, 2 Wyndham Road, Edgbaston, Birmingham; Edgar Taberner, 49 Park Road, Wigan; Stanley C. G. Lambert, A.R.I.B.A., A.A.DIPL., and Eric C. Kent; A.R.I.B.A., A.A.DIPL., Ennerdale, Ford Bridge Road, Ashford, Middlesex; Roger Welstead, A.A.DIPL., "Tresco," Bramley Hill, Croydon, Surrey; P. J. Westwood and Sons, 14 Buckingham Street, Adelphi, W.C.2; and Kenneth Warman, 2 Beechwood Drive, Wibsey, Bradford.

113 designs were submitted, of which three were too late for acceptance.

The assessors were: Mr. C. Lovett Gill, F.R.I.B.A., Professor A. B. Knapp-Fisher, F.R.I.B.A., and Mr. Howard Robertson, F.R.I.B.A. Also, two members of the Cornish Quarry Masters' Association.

THE CORN EXCHANGE, GUILDFORD

A well-known landmark in High Street, Guildford—the portico of the old Corn Exchange—may be removed. The Town Council have decided to hold a competition for the development of the Tuns Gate site, the entrance of which is through the portico of the Corn Exchange. Architects are invited to either incorporate the existing front or to plan for its removal.

Competition Open

June 26.—Sending-in Day. Proposed Council Offices, Slough, for the Slough U.D.C. Assessor: H. S. Goodhart-Rendel, V-P.R.I.B.A. Premiums: £250, £150 and £100 for designs placed first, second and third, respectively. Conditions, etc., may be obtained from F. R. Duxbury, Clerk to the Council, Council Offices, Slough. (Deposit £1 1s.). Last day for sending in questions: April 23. Last day for submission of designs: June 26.

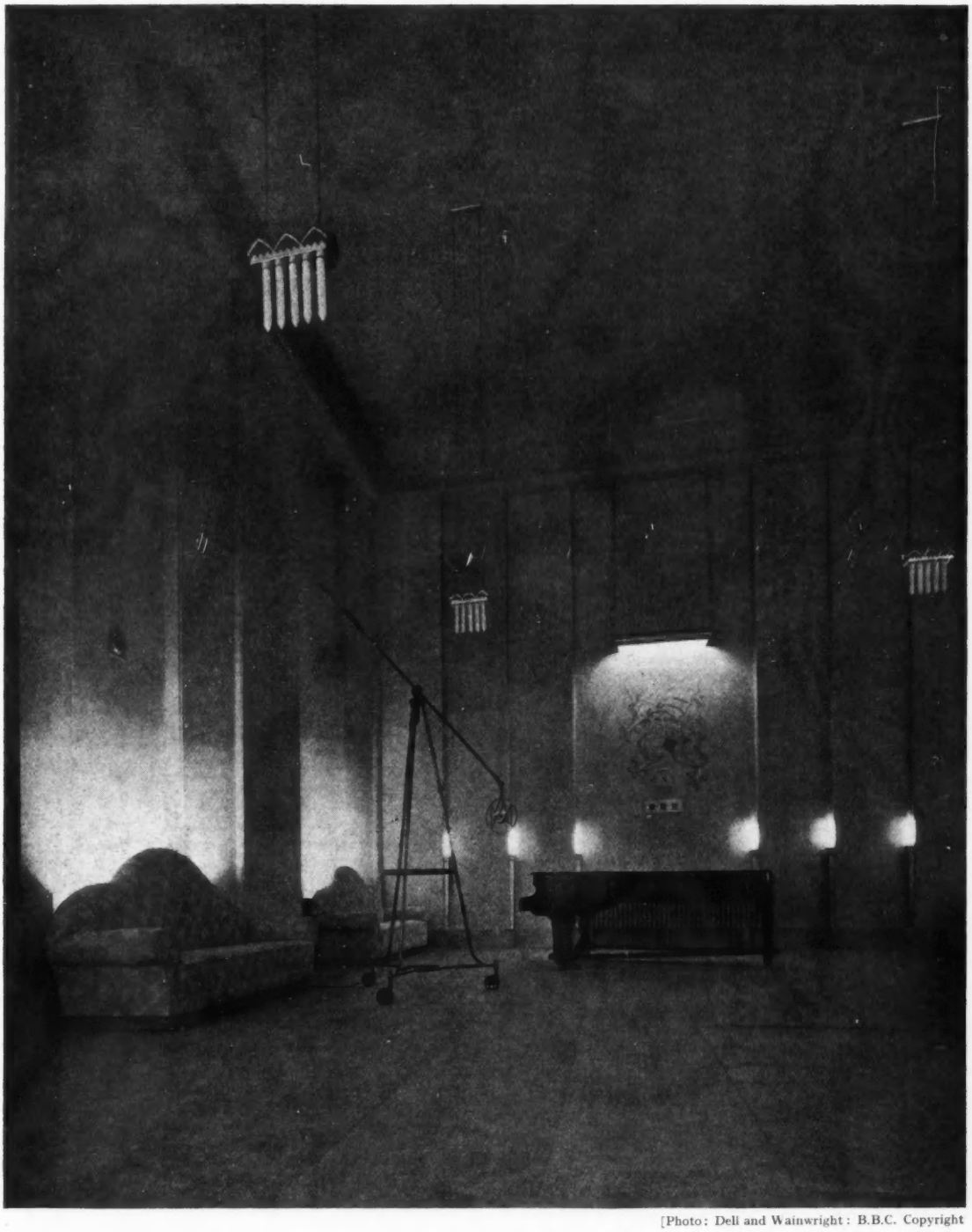
THIS ARSHETECTURE

The revolutionary design and construction of these houses will initiate an entirely new conception of what the perfect home should be.

They are not merely improvements on an ages-old idea; it is as though their designers had reached forward through the years to come into a world of sunshine and spacious dignity, bringing thence the plans from which have been evolved these gleaming prototypes of the homes of the future. . . . The house may be erected in red brick with pitched roof, without detriment to the plan, and with equally pleasing effects.

From a builder's advertisement for a "modern" house in the Ideal Home Exhibition catalogue.

B.B.C. STUDIOS, CARDIFF

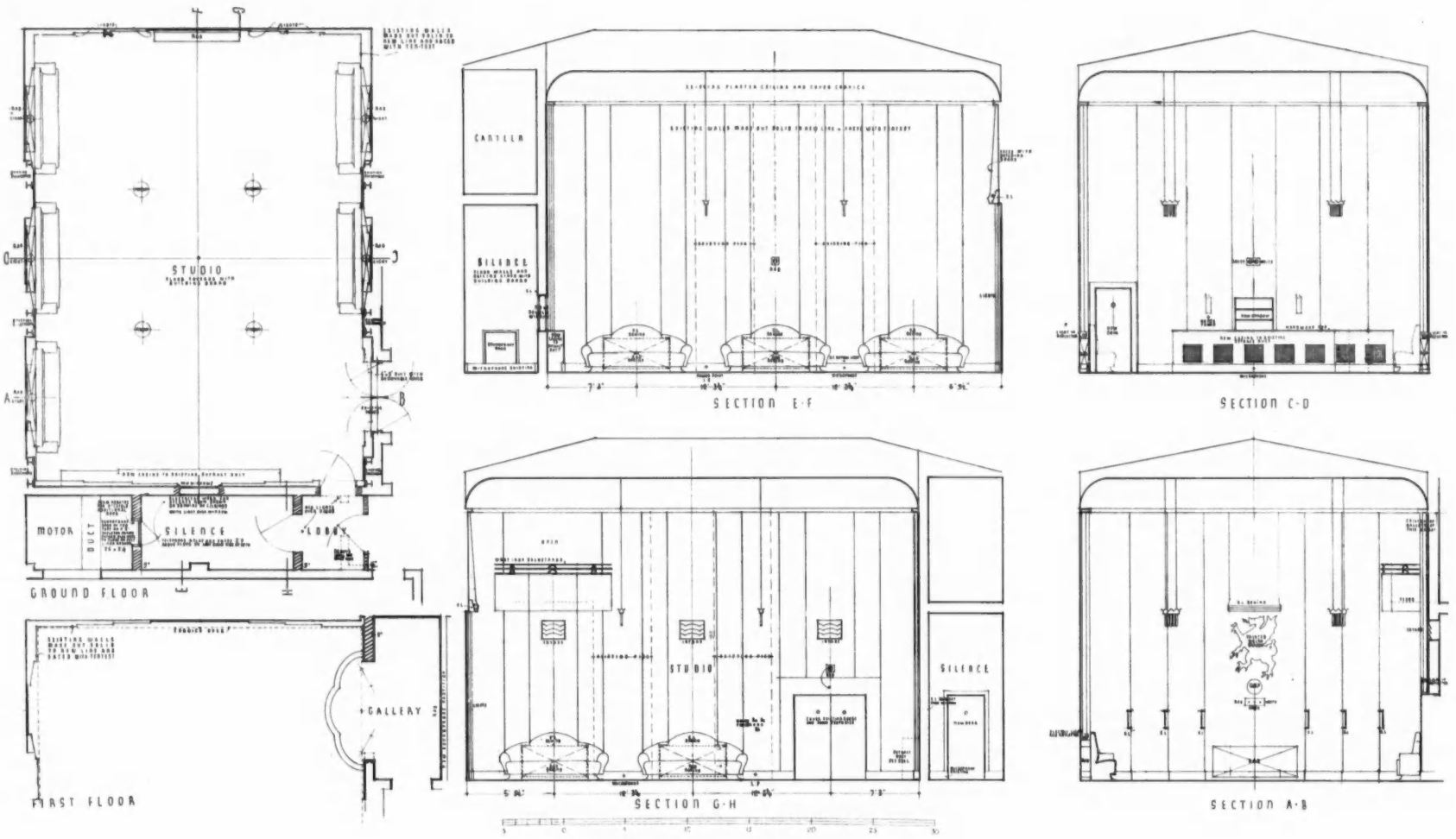


[Photo: Deli and Wainwright: B.B.C. Copyright

The illustrations on this and the following pages show the decoration and furnishing of the new broadcasting studios in Cardiff. Above is Studio number 2, which is used chiefly for the performances of Welsh choirs. The entire lighting of this studio is from fittings concealed behind the settees and from torchères in the angles of the wall surface (see this week's WORKING DETAILS *where these fittings are illustrated), the hanging lights being supplementary, to provide extra illumination for the singers' scores. They are hung at such a height in order to clear the microphone.*

DESIGNED BY EDWARD MAUFE

BROADCASTING HOUSE, CARDIFF

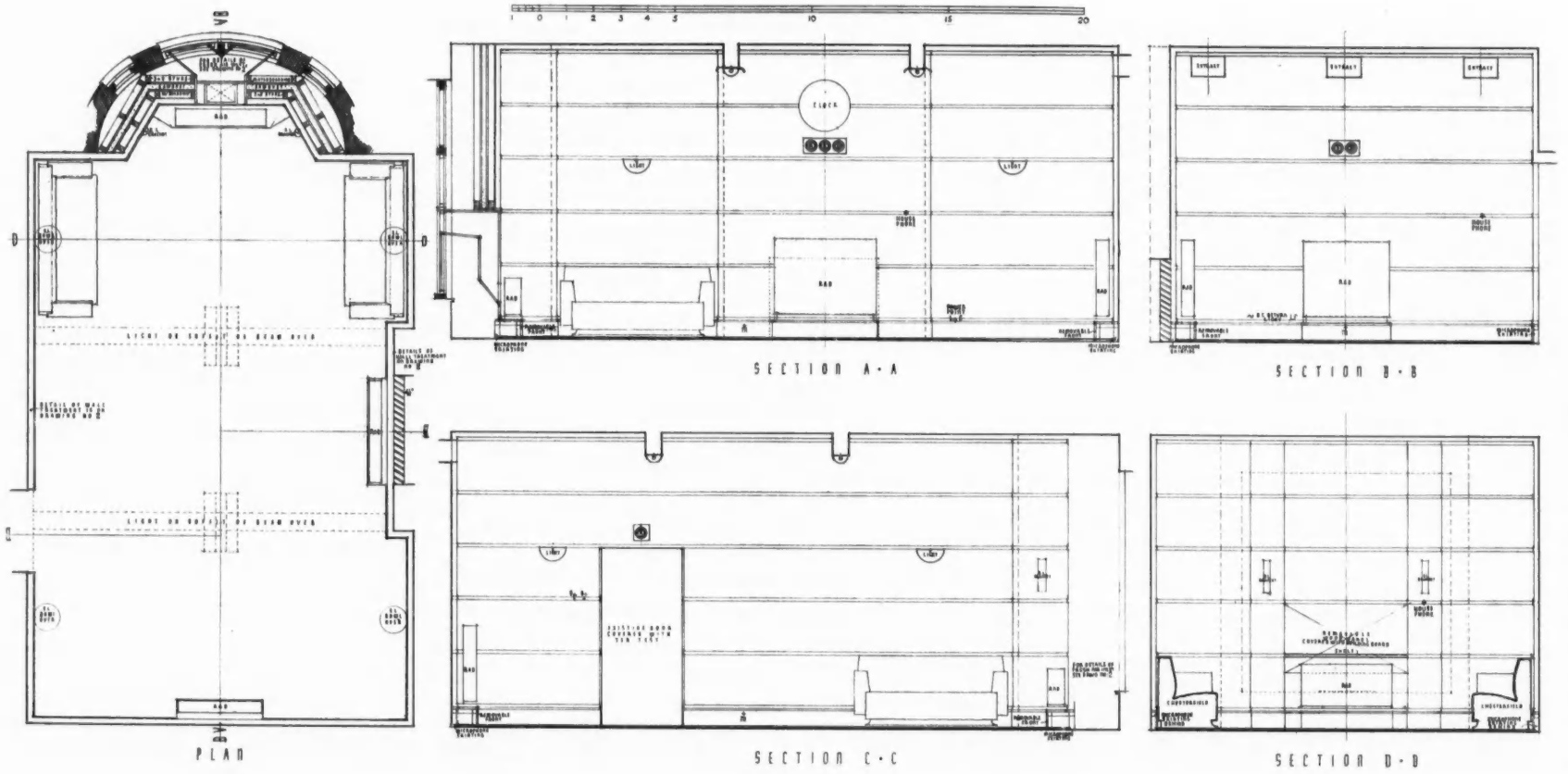


STUDIO No. 2

A general view in the interior of this studio is shown on the previous page. The walls are finished in natural wallboard, which has been left unpainted for acoustical reasons (see notes below).

The Welsh dragon seen in the middle of the end wall is painted in scarlet and lighted downwards from a hood above, and from the torchères on either side. The shafts of the torchères and the skirting are in bleached oak.

The carpet is striped in pink and beige—the same colours as the upholstery, and the ceiling is a pale Italian pink.



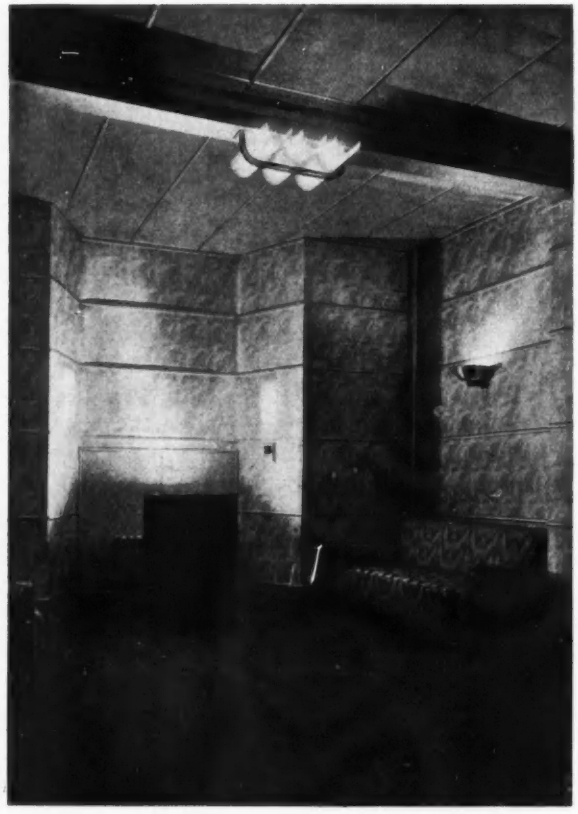
DRAMATIC STUDIO No. 4

This studio has been converted from the dining room of the original building on which the new studios are based, the studio (number 2) illustrated above being an entirely new structure.

In the design of the studios the necessity for acoustic accuracy was naturally the dominant factor, and dictated the simple unbroken shapes and flat surfaces everywhere used. The necessary absorbent wall surface is here provided by a 2-in. lining of asbestos wool, over which the silk facing material is stretched. In studio number 2 it is provided by natural wallboard which has been applied, by means of an adhesive, on a plaster base. The only nailing employed consisted of galvanized panel pins serving to secure the sheets, at all edges and at intermediate spacing, to timber nailing strips embedded in the plaster base and finished flush therewith. At external angles the nailing strips were wrot and rounded at the arris, the exposed edges of the sheets being similarly rounded.

DESIGNED BY EDWARD MAUFE

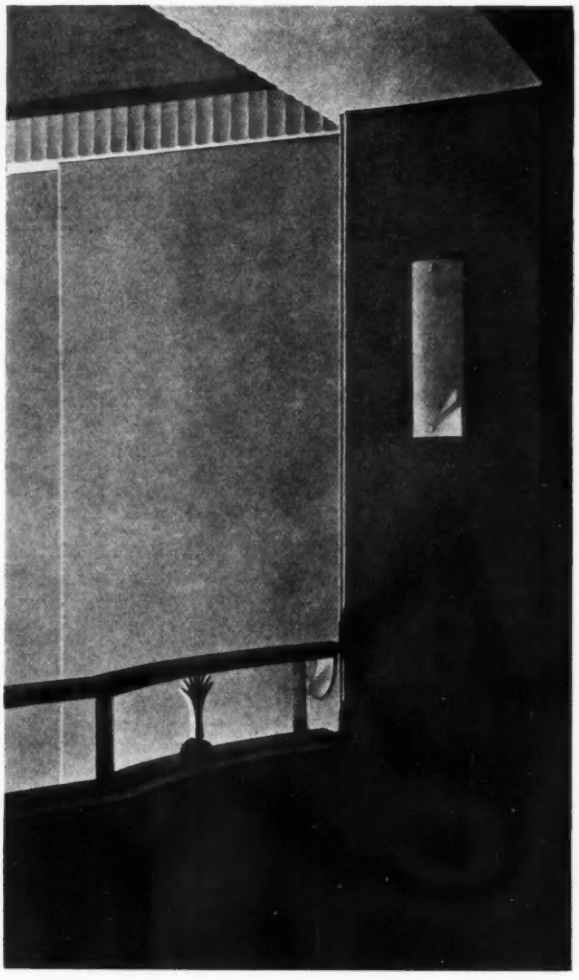
B.B.C. STUDIOS, CARDIFF



Left: Dramatic studio number 4. The walls are covered in a silk material over a 2-in. asbestos wool lining. The material is held in place with horizontal strips of silvered wood.

The furniture is upholstered in green and beige, and the carpet is in two shades of green. The ceiling is silvered to act as a reflector.

Below: Looking from the observation gallery into studio number 2. The gallery projects into the studio high up over the ventilation grilles. The railing is decorated with Welsh leeks in gilded metal, with green bars and a bleached oak handrail.



DESIGNED

BY

EDWARD MAUFE

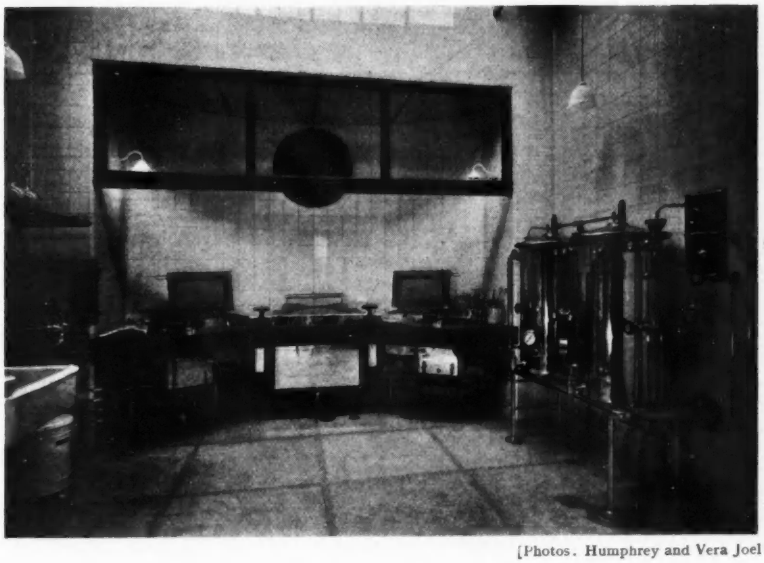
NEW MIDDLESEX HOSPITAL

The new private patients' wing at the Middlesex Hospital, to be known as the Woolavington wing, has recently been completed under the supervision of Mr. Alner W. Hall, the Hospital Architect.

The design of the entrance hall, staircase, waiting rooms and exterior canopy is the work of Mr. Alner W. Hall and Mr. R. W. Symonds in collaboration, and Mr. R. W. Symonds is also responsible for the designs of the colouring of the walls and fabrics, the furniture and electric light fittings.

Dr. Oscar Faber, O.B.E., was responsible for the steelwork, and Mr. H. A. Sandford, the Hospital Consulting Engineer, was responsible for the design and carrying out of all mechanical and electrical services and equipment.

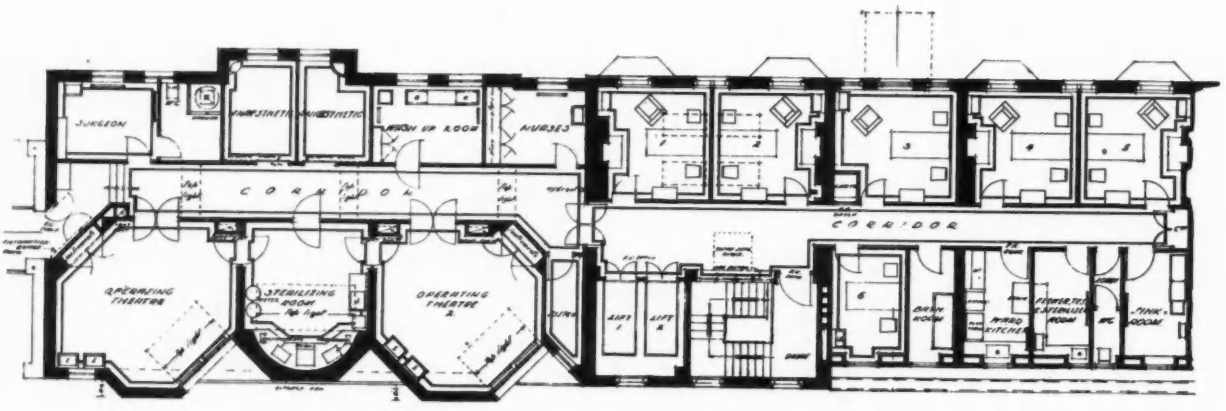
The illustrations on this page show the interior of one of the operating theatres and a sterilizing room.



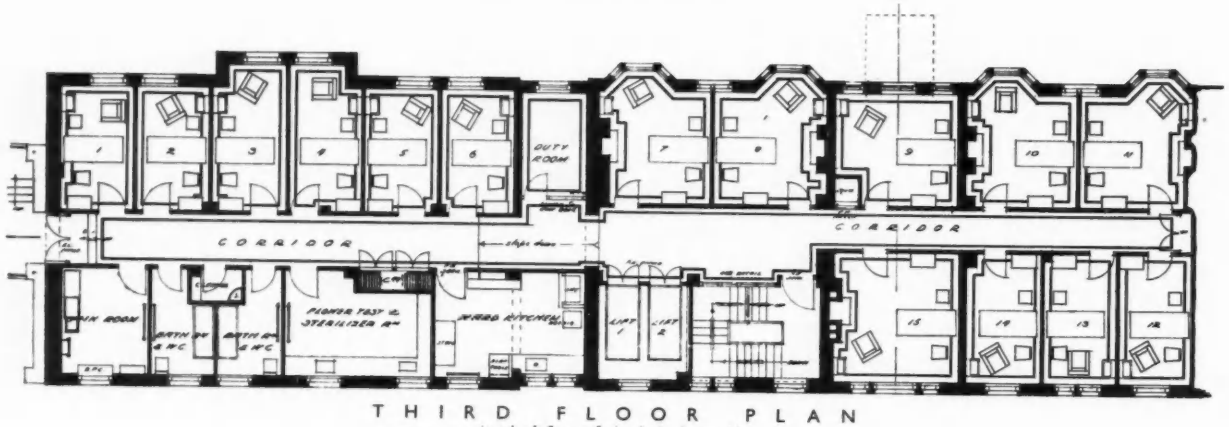
[Photos. Humphrey and Vera Joel

DESIGNED BY ALNER W. HALL

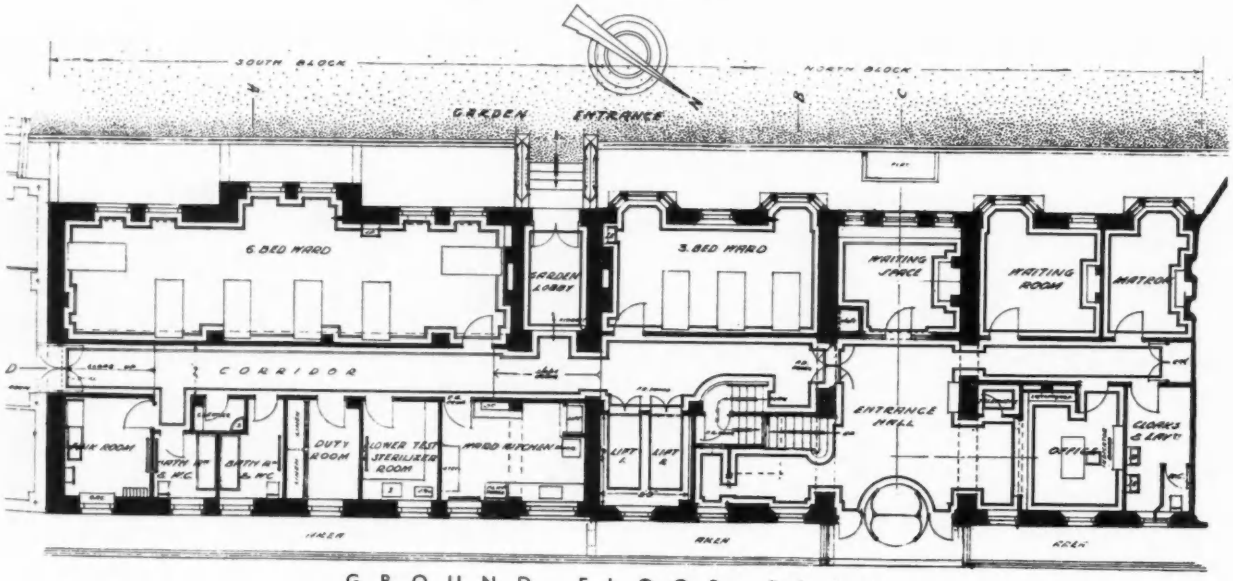
MIDDLESEX HOSPITAL:



FOURTH FLOOR PLAN
(containing operating theatres)



THIRD FLOOR PLAN
(typical floor of single-bed wards)



GROUND FLOOR PLAN
(multi-bed wards)

PRIVATE PATIENTS' WING

Accommodation is provided for some sixty-four patients on five floors. Most of the rooms are single but there are, in addition, a ward for six beds, one for four beds, and one for three beds.

All the usual ward adjuncts are provided on the eastern side, leaving the western and hospital garden side for the majority of the rooms. The new wing is in direct communication with the general hospital, both at basement and ground floor level, and there is access to the garden so that convalescent patients can be taken out there. All the services of the general hospital, such as X-ray, Massage, Electrical Treatment, etc., will also be available for their benefit.

Every patient has a bedside reading lamp, signal light to summon the nurse, wireless and telephone. Rooms are provided with coal or electric fires, made interchangeable. Two bed lifts have been installed, and special precautions were taken to make them silent and smooth running.

All the wards have spray painted walls of a restful tint, with curtains and hangings in keeping. All sanitary offices and kitchens are tiled. The floors of all corridors, sanitary offices and ward kitchens, are of rubber. The ward and room floors are of teak parquet.

On the fourth floor is a complete operating theatre suite with two theatres The theatres are of somewhat unusual shape, owing to the desire to get a direct north light, and include special facilities for heating by radiators, and electric panels in the ceilings, X-ray viewing boxes, and mechanical extraction of vitiated air. The northern theatre has an external dark blind, operated electrically, which will allow of special operations requiring darkened conditions to be performed. The mechanical plant for ventilation, etc., is on the flat roof over the theatres.

The remainder of the fourth floor has been planned with a view to the nursing of children, and the large rooms facing south-west will each take two cots, or a parent's bed and cot if required.

In the basement of the unit there is a general kitchen servery with direct access by a small electric lift to all ward kitchens above.

[Photo: J. Somerset Murray

[Photo: Humphrey and Vera Joel

The two photographs on this page show: top, the exterior from the courtyard; bottom, a ward kitchen.

DESIGNED BY ALNER W. HALL

LETTERS FROM READERS

ORRELL H. NUTTALL, L.R.I.B.A.

MAURICE E. WEBB, F.R.I.B.A.
(Chairman of the Building Centre)

JOSEF FRANK

A.A.S.T.A. and the R.I.B.A.

SIR,—I am in complete agreement with the letter of the Secretary of the A.A.S.T.A. published in the JOURNAL; and, at this juncture, it is very pertinent to put one question. Does the R.I.B.A. realize that it is in a very grave danger of becoming defunct?

It seems to me that if the R.I.B.A. does not make a very definite move towards improving the conditions of its salaried group, who comprise probably two-thirds of its membership, these members will soon ask themselves this very obvious question: "Why am I paying an annual subscription to a body which does nothing to ensure that its salaried members receive even a living wage, and makes no effort (in fact, disapproves of such effort on the part of the salaried members' organization) to prevent the serious overcrowding of the profession?"

I most wholeheartedly agree with the decision taken by the A.A.S.T.A. that it cease to be "officially" associated with the R.I.B.A. It had, so far as I can see, no alternative if it really desired to awaken all salaried architects to the gravity of the present and impending positions.

ORRELL H. NUTTALL

Information

SIR,—In reference to the very interesting article by Mr. Maxwell Fry in your issue for April 5, I think architects are probably all agreed that some clearing house of information is very much to be desired, but I venture to suggest that the beginning of such a clearing house has already been made at the Building Research Station and the Building Centre, at both of which places an immense amount of information is being collected and from time to time published, and this is at the disposal of all who care to consult them.

There are also various committees at the Royal Institute of British Architects, such as the Science Committee, who are working in a somewhat similar field, and proposals have been made which will, I hope, come to fruition, for a Joint Committee consisting of these different bodies to collate and issue to manufacturers and others, information such as Mr. Fry would like to see distributed.

I would add that, in regard to housing, much valuable work is being done at the Building Centre Cottages in the Strand, which are now the headquarters of various voluntary societies.

MAURICE E. WEBB

The Forthcoming Austrian Exhibition

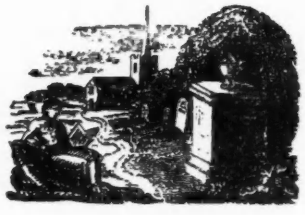
SIR,—The following statement may, on the face of it, seem to be of importance only to Austrians. I venture to think a proper understanding of these facts in England is necessary, because the art section of the Austrian Exhibition, that is due to open at the Dorland Hall in London on April 16, has been selected by a body which has definitely abjured the modern movement. Otherwise there is a danger that the British public might be led to imagine that the exhibits shown in it (mostly *articles de luxe* made for export) were chosen by the Austrian *Werkbund*, and represent the work of Austrian architects and designers of the modern school identified with its aims.

As the result of a recent split in the Austrian *Werkbund*, a number of its members seceded and formed a new organization called the *Neuer Werkbund Oesterreichs*. The members who seceded did so because they found they were no longer in sympathy with the policy of the *Oesterreichischer Werkbund*: a policy exclusively directed towards the encouragement of modern tendencies in architecture and industrial design. The programme of this *Neuer Werkbund* is "to make a fresh start at that point where traditional development left off 20 years ago"; or, in other words, a denial of the whole modern movement and a return to decorative forms. The *Neuer Werkbund* consists predominantly of artworkers and craftsmen who believe that propaganda will make it possible to reintroduce rich ornament and carved furniture; that individual manual workmanship can be substituted for industrial products; and that pure form is only a transient fashion, which has caused the decay of many once prosperous Austrian handicrafts. The *Oesterreichischer Werkbund*, on the other hand, believes that art must be freed from all extraneous considerations if it is not to degenerate into pure ornament; and that commodities in daily use are best and most serviceably designed when freed from decorative additions.

Though there is evidence that similar reactions are being mooted in Scandinavia and Switzerland—based on the same assumption that the modern style is only a passing whim, which, like any other vogue, can be superseded by a directly opposite tendency—given the will to bring this about—a phase of development such as the last 20 years have witnessed cannot possibly be brushed aside as though it had never existed, or were no more than a fleeting will o' the wisp.

The old Austrian *Werkbund*, which still remains in being, is convinced that the evolution of the modern movement is bound to continue; and that no propaganda can hope to check its logical development. It should be clear enough today that it is impossible to arrest industrialism, and that we ought to welcome it as the means by which the greatest number are enabled to acquire useful, cheap, and well-designed goods; and also because its tendency is to contract the sphere of luxury as an end in itself. Propaganda for ornamental *articles de luxe* seems to us immoral, as designs of this type are of no importance for humanity in general, and therefore make no contribution towards the furtherance and elevation of modern culture which the old *Werkbund* considers as its mission.

JOSEF FRANK

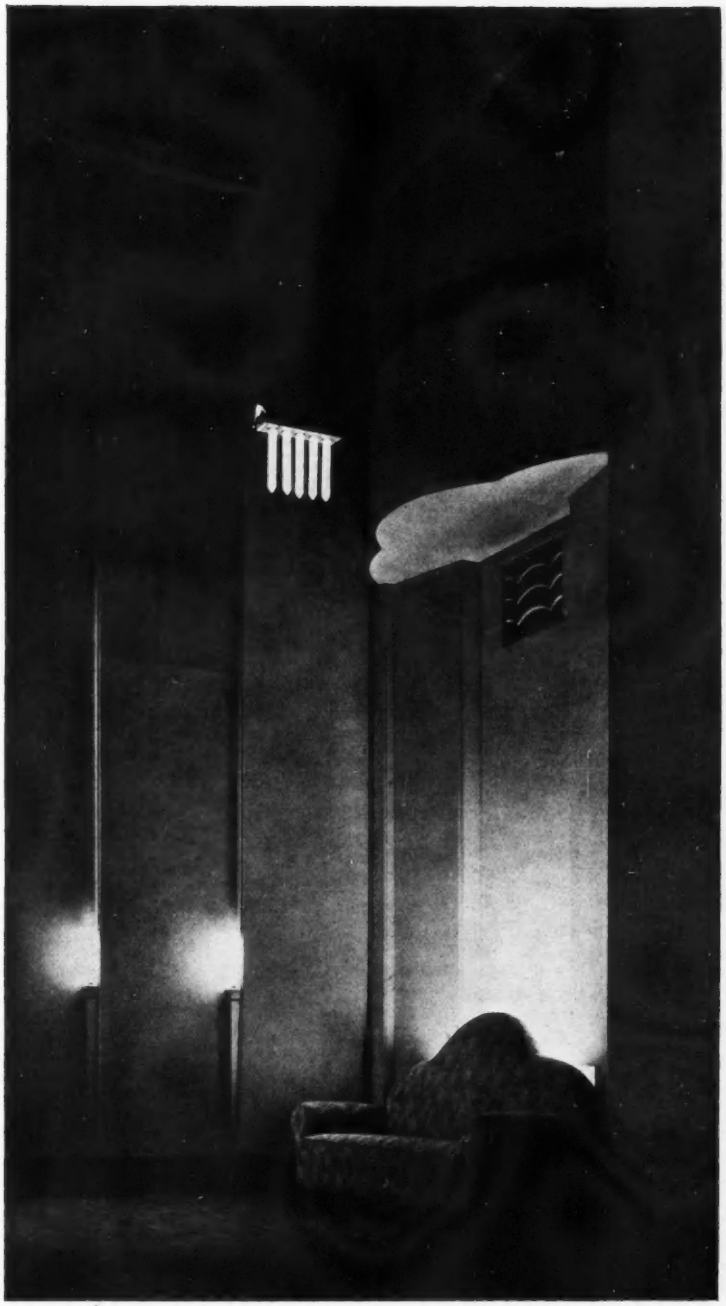


Society of Ulster Architects

Preparations are being made by the Royal Society of Ulster Architects to celebrate the centenary of the Royal Institute of British Architects with which they are affiliated. The celebration is to take the form of a dinner to which the President of the R.I.B.A. will be invited as the chief guest. It will be held in Belfast, probably in November.

WORKING DETAILS : 33

LIGHTING • B.B.C. STUDIOS, CARDIFF • EDWARD MAUFE

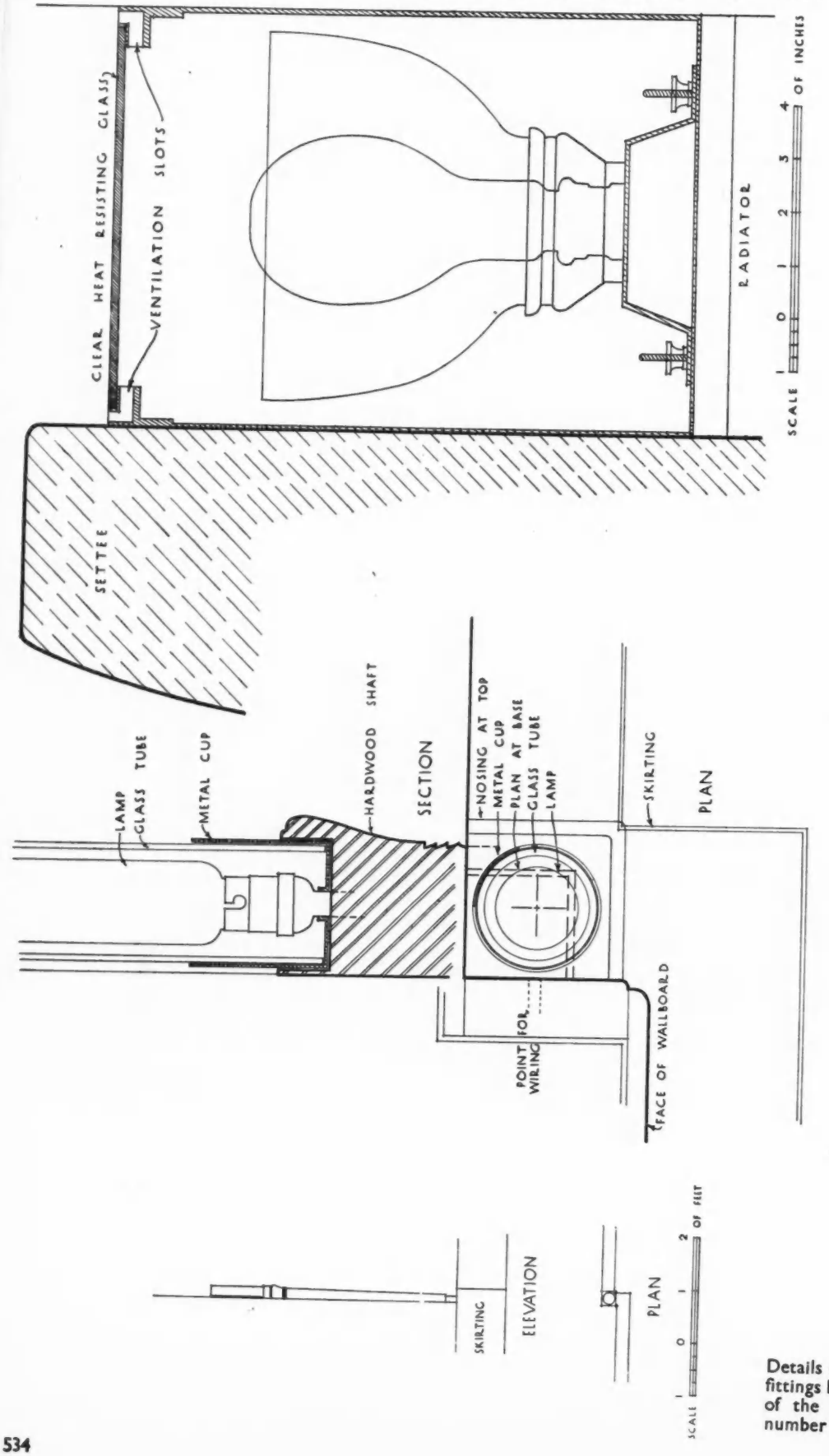


This studio is lighted by torcheres in the angles of the wall-surface and by concealed lighting behind the settees, the fittings for both being illustrated overleaf. The hanging lamps provide supplementary direct light for reading scores.

FILING REFERENCE:

WORKING DETAILS : 34

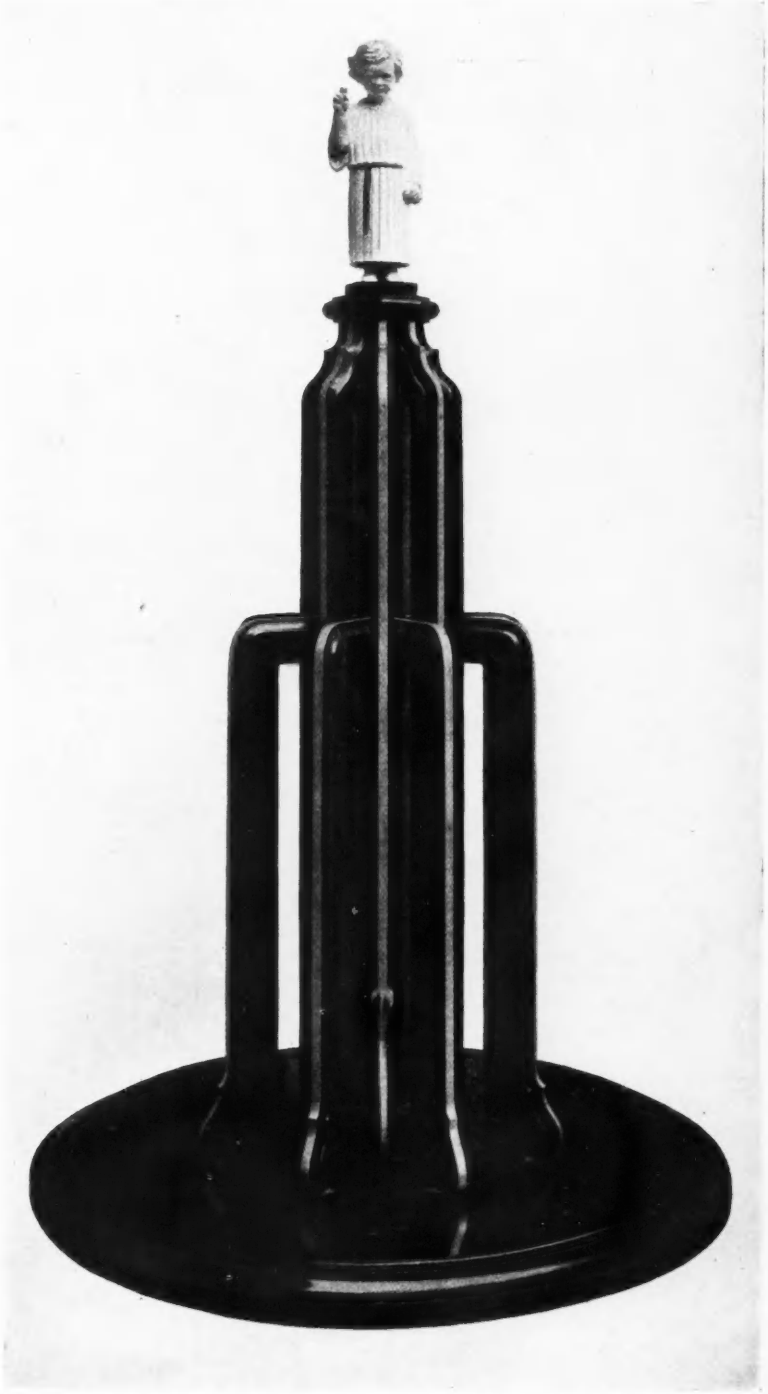
LIGHTING • B.B.C. STUDIOS, CARDIFF • EDWARD MAUFE



Details of the concealed light fittings behind the settees and of the torchères in Studio number 2. See photograph overleaf.

WORKING DETAILS : 35

FONT COVER • CHURCH AT HARRINGAY • WELCH, CACHEMAILLE-DAY AND LANDER

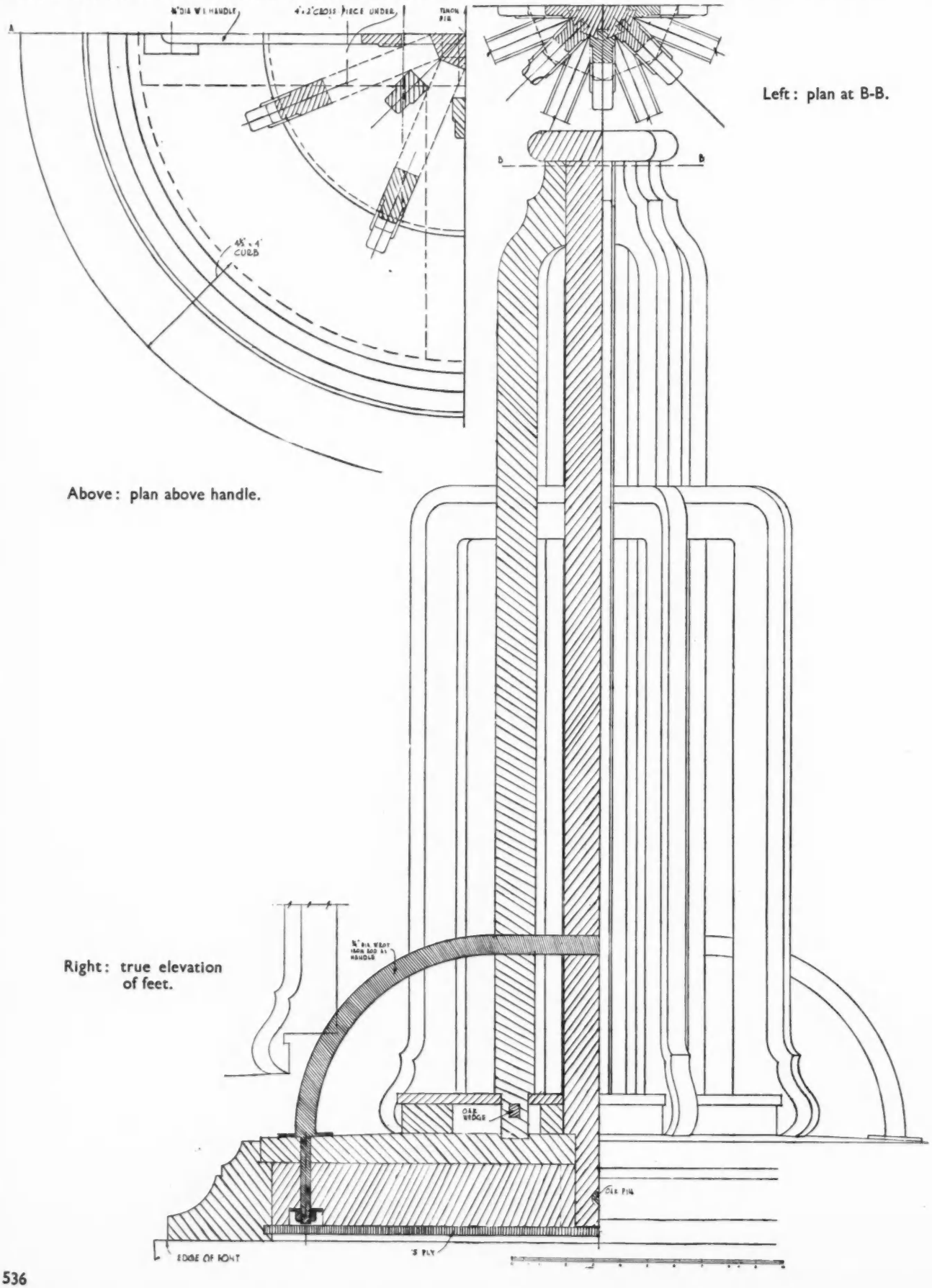


This font cover for St. Paul's Church, Harringay, was made in wood for £30. It is painted black, picked out in gold leaf with the inscription in red. The sculptor for the figure was Donald Hastings.

FILING REFERENCE:

WORKING DETAILS : 36

FONT COVER • CHURCH AT HARRINGAY • WELCH, CACHEMAILLE-DAY AND LANDER



Left: plan at B-B.

Above: plan above handle.

Right: true elevation of feet.

HOUSING SUPPLEMENT : I

This Survey and history of post-war housing in Europe is by way of introduction to a series of HOUSING SUPPLEMENTS *which we propose for reasons set forth on p. 519 to publish at regular intervals. It provides a statistical comparison of post-war low-cost housing in Great Britain and on the Continent of Europe, both from the point of view of the problems with which the various countries were faced and the measures that have been taken to deal with them. The information has been collected personally by the author from official publications and other prime-source data, during recent visits to the countries treated. The next* HOUSING SUPPLEMENT *will be published later in the month. It will deal with a specific scheme of rehousing in London in which the possibilities of unit planning have been explored, and will include a complete analysis of costs.*

POST-WAR HOUSING AND SLUM CLEARANCE POLICIES IN BRITAIN AND EUROPE

[*BY DUDLEY WARD, B.ARCH., A.R.I.B.A.*]

INTRODUCTION

THE present study presents the essential data concerning the post-war low-cost housing and slum clearance policies and activities of six European countries : Great Britain, Germany, France, Austria, Holland and Sweden, compiled and classified for comparison on the basis of : (1) The conditions existing in each country ; (2) the methods adopted to meet these conditions ; (3) the housing accomplished.

The peculiar economic problems of war and post-war years have left the world short of adequate shelter, and on the failure of normal methods of housing supply the governments of the most seriously affected countries have been obliged to resort to unprecedented measures in housing.

Furthermore, those countries which have met the major part of the deficit of dwellings actually brought about by the war and post-war eras of restricted building enterprise, have been able to commence wide programmes of slum clearance, elimination of overcrowding and further improvement of the housing standard of the lower section of wage-earners.

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GREAT BRITAIN

A. CONDITIONS EXISTING

I. Housing Urgency

a : Official enquiry in 1919 revealed a shortage of houses amounting to 795,000 in England and Wales and 115,000 in Scotland. Total for Great Britain 910,000.

b : The increase in the number of private families in England and Wales between the Census of 1921 and the Census of 1931 was 1,494,000. The increase from 1919 to 1934 in Great Britain can therefore be put at 2,000,000.

II. Governing Economic Situations

The cost of building rose rapidly immediately after the war. It fell again in 1920 and there was a slight tendency to rise in 1924. There has been a downward movement since.

The Rent Restriction Acts produced a disparity between economic rents based on costs of building and rents of existing houses. This applied especially immediately after the war.

There was no scarcity of capital but the temporary increase in interest rates aggravated the difficulties experienced in organizing building on an economic basis.

These conditions sufficed to put a stop to the construction of low-cost houses on a profitable basis.

(Report of International Labour Office, Geneva, 1930.)

B. METHODS ADOPTED TO MEET THE CONDITIONS

I. Government Legislation

a : Housing Act, 1919 (providing subsidies to promote housing) :

By local authorities : State paid for expenditure in excess of product of penny rate.

By public utility societies : State paid varying amounts from 30 per cent., 40 per cent., to 50 per cent. of interest and amortization.

By private enterprise : Lump sum grants of from £130 to £160 per house.

Subsidies under this Act terminated 1921 but grants are still paid for all net annual loss of the local authority in excess of penny rate.

b : Housing Act of 1923 (Chamberlain Act) :

1. Yearly grant from State of £6 per house for 20 years instituted for houses built by local authorities to let.

2. Fixed subsidy of £75 per house for houses of specified size built by private enterprise.

3. As regards slum clearance : loss to be borne half by State and half by local authority.

c : Housing Act of 1924 :

1. State subsidy £9 per house in non-agricultural parishes and £12 10s. in agricultural parishes. (Reduced in 1917, so far as England and Wales is concerned, to £7 10s. and £11 respectively.) Wheatley subsidy.

2. Houses could not be sold but had to be let at the appropriate nominal rental.

3. If loss to local authority exceeded £4 10s. per year for 40 years, rent could be raised to reduce the deficit to this amount.

4. General plan of subsidies to remain in force for 15 years.

5. Government had power to suspend grants if cost of housing increased unreasonably.

d : Housing (Rural Workers) Act, 1926 :

1. Subsidies for reconditioning.

e : Housing Act of 1930 :

1. For the purpose of slum clearance. Government makes available a system of subsidies of so much *per person* displaced, of 45s. (50s. in agricultural parishes) for 40 years.

2. Compensation offered for land on

which condemned building stands ostensibly at value of land as a cleared site.

f : Housing Act of 1933 :

1. Termination of the Wheatley Subsidy of 1924 Act.

2. Erection by private enterprise of working class houses to let with the aid where necessary of financial guarantees. Public Utility Societies representing £150,000,000 capital have agreed to undertake rehousing with Government backing.

3. Slum clearance : Every local authority in the country (1,717 in all) were asked to submit proposals on September 30, 1933, for a programme of clearing all slums in its area by not later than 1938.

4. Rural Housing : Same provisions as in the towns.

5. Actually, however, this was a reactionary Bill and has brought both housing and slum clearance practically to a full stop.

II. Organization and Stimulation

a : Organizations sponsoring the work

1. One-third to one-half of the working class housing in England undertaken by the local authorities. Most of the actual work being done by contractors.

Two-thirds is the figure in Scotland.

2. Slightly over a third of the dwellings built since the war have been built by private enterprise without Government or municipal assistance. These, however, do not include many of the low cost group.

3. The remaining proportion, which is slightly under one-third, has been built by private enterprise assisted by State subsidies.

Public utility societies have played a very small part in carrying out the actual housing of the cheaper type in Britain and they have been assisted by the Government through the local authorities both in the form of credit and of subsidies. Over two million dwellings have been erected in Great Britain since the war and of these, one and one-quarter million have been subsidized. The work done by the public utility housing societies is included under assisted private enterprise quoted above.

4. The remaining organizations sponsoring the work are various private companies such as Lever Brothers at Port Sunlight. Also undertakings at Bournville and at Earswick, etc.

5. Co-operative housing societies of various kinds have not been developed to the same extent in Great Britain as has been the case in Europe although progress has been made in this direction since the war.

6. Finally the function of building societies in Great Britain has been extremely important not in the actual undertaking of housing, but in the financing of private enterprise.

b : Financial assistance

1. Annual subsidies, outright grants and loans were the chief methods. The State and local authorities bore part of the cost to place houses within reach of the public. The local authorities supported by the Government built much housing, raising capital on their own credit.

2. State aid also extended some credit facilities to Public Utility Societies and private persons building homes for their own use. Financial problems presented little difficulty in Great Britain owing to financial stability. Interest rates on official loans were low, at present (1933) $3\frac{1}{2}$-$3\frac{3}{4}$ per cent., and amortization periods long, generally 60 years, which facilitated low rentals.

c : Land policy

No difficulty encountered by local authorities in purchase of land. The expropriation measures enabled by the Acts of 1909, 1919 and 1930 were seldom required to be enforced.

d. Reduction of building costs and the rationalization of housing

All schemes receiving public aid must be approved by the Ministry of Health which, by issuing all sorts of handbooks, model plans, structural recommendations, etc., exercises a very great influence on standards and methods.

1. Committee appointed to assist the Government with expert advice on the supply of materials for housing.

2. Another committee to regulate the supply of labour.

3. Also a committee to study improved building methods, new materials and methods of construction and standardization.

4. Opening of the Building Research Station at Watford.

C. HOUSING ACCOMPLISHED

I. Dwellings Built

Of the two million odd houses erected in Great Britain in post-war years, about one and one-quarter million have been subsidized. In fact, over 15 per cent. of the population of Great Britain has been housed in subsidized dwellings since the war which has cost the Government on the average of ten million pounds per year in subsidies.

Since 1924, in addition to 100,000 dwellings per year which was the estimated minimum requirement, there has been sufficient construction to cover some part, but by no means all, of the dwelling shortage created before and immediately after the war. This has enabled Great Britain seriously to tackle the problems of slum clearance during the last few years to a greater extent than has been possible in any other country. Although the above deficit due to increase in population and dwellings becoming obsolete has been met, yet much remains to be done for overcrowded conditions and slum areas.

II. Types of Dwelling Built

a : Eighty-five per cent. of the subsidized houses built in Great Britain are single family houses of a two storied type built in pairs or in groups of four to six houses. According to the Acts of 1923 and 1924 the density has been restricted to twelve houses per acre in towns and eight per acre in rural districts. Systematic garden city and suburban lay-out has been developed, particularly in the work of local authorities. However, the activity and freedom of private enterprise in the construction of housing and the lack of control in the subdivision of land have resulted in much of the work falling short of the best European work and of the standard of such controlled examples of planning as Letchworth and Welwyn garden cities and the London County Council's estate developments, Becontree, Roehampton, etc.

As regards the houses themselves they provide accommodation of a higher standard than any in Europe for the family of limited income. The larger dwellings contain a large living room, a parlour and three or four bedrooms. The smaller ones a living room and two or three bedrooms. Bathroom and kitchen are also provided and all modern services except central heating. The dwelling area is 700 to 850 sq. ft. and the cost approximately £500.

b : The tenements are mostly five storeys in height, two rooms in depth. A common feature is for external balconies to serve as access from the staircases to the tenements on each floor. They ordinarily lack the trees, grass, flowers, statuary and pleasant surroundings of Continental tenements but are of a superior standard as individual dwellings.

III. Rents

30 shillings to 65 shillings per month for non-parlour types. 34 shillings to 74 shillings per month for parlour types. A three bedroom parlour type house costs about 21 shillings per room per month, including rates.

The annual rent is between $6\frac{1}{2}$ and $7\frac{1}{2}$ per cent. of the dwelling cost.

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GERMANY

A. CONDITIONS EXISTING

I. Housing Urgency

a : There were almost a million surplus families sharing a dwelling with other families according to the 1927 census. Six and three-tenths per cent. of dwellings at this time accommodated surplus families, while 10 per cent. of the population lived more than two persons per room.

b : In 1929 it was estimated that 300,000 dwellings were needed imme-

diately to cover the deficit due to the war and deflation periods and a further 30,000 per year owing to temporary dwellings becoming obsolete : while 9,000 per year were needed in rural districts. This was merely to make up arrears rather than for normal annual requirements. In 1933 Germany had not yet caught up with these requirements ; thus no attempts at actual slum clearance have so far been possible.

II. Governing Economic Conditions

a : The intense economic crisis incidental to inflation when the mark became worthless in 1923 caused extreme difficulty in building projects. Capital was not available and it was not until after the stabilization of currency and introduction of foreign capital (four billion, four hundred million marks in 1927) for national production in the form of loans that building again became feasible to any extent.

b : The value of the American dollar in Berlin rose to 18 times its par value in 1920-21 ; 40 times par in 1922 ; over 4,000 times par in 1923 and in December of the same year one thousand billion times its par value until it was finally stabilized in new currency at that time.

c : During the period of inflation, money rates were exorbitant. After stabilization in 1923, rates still remained high, ranging from 10 per cent. in 1924 down to 7 per cent. in 1929. Second mortgage interests were 14 per cent. to 16 per cent. In 1933 the rates were much above pre-war levels.

d : Building costs rose with general prices but more rapidly. In 1927 they were at 175 per cent. of pre-war level due to the rise in wages (especially of unskilled labour), more than to the rise in the cost of materials.

e : Rents have been controlled in Germany by the various States since the outbreak of war ; finally being confirmed by the Reich in 1922. With currency inflation in 1923 rents became zero and thereafter building prices rose 300 per cent. Private building enterprise was therefore checked for some time. In 1924 rents were increased to supply funds for a special House-rent Tax (Hauszinssteuer) rather than for the benefit of landlords. The house-rent tax was reduced in 1931 ; it will be further reduced in 1935 and 1937 and finally abolished in 1940. Thus landlords will receive better returns and private enterprise in housing will be encouraged.

B. METHODS ADOPTED TO MEET THE CONDITIONS

I. Government Legislation

a : Act of 1918 : Loans raised on the money market for building dwellings for Government officials to be guaranteed by the Government.

b : 1919 : Tax levied on selling price of coal to subsidize the construction of miners' dwellings.

c : 1920 : Legislation authorizing municipalities to adopt compulsory land purchase for housing purposes.

d : 1924 : By the third order on emergency taxation a certain proportion of the proceeds of housing rents, which were at this time increased by Act of Parliament, was to be paid into the Treasury for a fund called the House-rent Tax Fund which helped to finance the greater part of the housing in Germany from that time. The principle behind the HZT was the fact that inflation had made a present of the mortgages to most building-owners, and that it was therefore entirely fair to put a heavy tax on the rents of houses built before the war.

e : 1926 : Reich granted loans to States to divide among builders in the form of temporary loans during construction of building, repayable on completion when long term loans had been arranged.

f : 1928 : After the general election in 1928, the Government drew up a more extensive housing programme. The Reich stipulated that 20 per cent. of pre-war rent, collected in the form of House-rent Tax, should be devoted to the encouragement of building by each of the States collecting such revenue.

g : 1931 to 1933 : The Government has allotted various sums to subsidize the construction of unemployed workers' houses. The last instalment in August, 1933, of 50,000,000 marks for at least 20,000 additional unemployed workmen's houses in suburbs, with " subsistence gardens," brings the total amount made available for this purpose to date to 173,000,000 marks and the total number of homes thus constructed since 1931 through governmental grants to 60,000. (U.S. Department of Labour Review.)

h : 1932 : For the stimulation of business and creation of work a subsidy of 50,000,000 marks was made available for the repair, remodelling and partitioning of dwellings. The Government paid 20 per cent. of the cost of all repairs over 250 marks, and 50 per cent. when partitioning created new apartments. The maximum subsidy was 600 marks which is paid on completion of the work, which must amount to a minimum of 500 marks.

i : 1933. A further subsidy of 50,000,000 marks was granted with a minimum expenditure on repairs of 100 marks.

Legislation concerning rents :

a : 1922. Restrictive regulation issued by different States since outbreak of the war was confirmed by Reich.

b : 1924. Rents increased somewhat to provide funds for House-rent Tax.

c : 1927. Uniform regulations issued for rents throughout Germany.

d : 1929. Rents in old buildings fixed at 120 per cent. of pre-war rents. Rents in new buildings somewhat higher. Forty-two to 51 per cent. of pre-war rent was deducted for House-rent Tax.

e : 1931. Rent Tax reduced 20 per cent., and most of it pigeon-holed for expenses other than housing. To be further reduced 25 per cent. in April, 1935 ; 25 per cent. in 1937 and finally abolished in 1940.

II. Organization and Stimulation

a : Organizations sponsoring the work

1. Private enterprise : From 1926 to 1933 between one-fifth and one-sixth of the dwellings built in Germany were entirely financed by private funds, for upper income group, however. Furthermore, apart from credit assistance obtained, 50 to 60 per cent. of all housing construction has been directly sponsored and built by private enterprise.

2. Public utility societies : These bodies have received much support from the Government and during the last decade have actually constructed themselves approximately 30 per cent. of the dwellings erected in the larger towns of over 50,000 population. They have thus erected rather less than private enterprise but have been the most active housing bodies in Germany since the war. Many such societies are semi-official in character, having been set up by the cities.

3. Public authorities and corporations : Constructed about 10 per cent. of the dwellings erected in recent years, such being the smaller dwellings for the lower group of wage earners. These bodies filled a need which neither private enterprise nor public utility societies cared to meet without due subsidy.

4. There are various other organizations of less importance, including savings societies, building guilds, co-operative societies, etc., which undertook a smaller proportion of the housing. Private employers have preferred to leave the housing of employees to societies which are assisted by Government. No public aid for company-owned housing.

b : Financial assistance

From 1919 to 1933, 65 per cent. of the housing accomplished has been done with some form of direct State aid while approximately 1⅝ million families have been housed by Government loans assisting housing societies and by direct municipal building. During the last few years the State has actually found 50 per cent. of the capital invested in building in Germany and has lent money on specially favourable terms to enable rents to come within the reach of low grade wage earners. The House-rent Tax provided about half the Government loans, the remainder coming from official loans raised by the various States and also from the national budget. Well over four billion marks has been raised by the House-

rent Tax and the proportion of this which has gone into loans still constitutes a floating capital for the Government's future use.

Loans were issued on first mortgage up to 40 per cent. of the building value at from 3 per cent. to 4 per cent. and up to 66 per cent. on second mortgage, while in cases of large families and war victims even 100 per cent. was allowed by the State. Amortization was 1 per cent. over ten years and 2 per cent. afterwards.

Guaranteed loans were adopted by several municipalities whereby amounts in excess of 40 per cent. were guaranteed by the municipality. This system which had the effect of bringing in outside capital was possible only with improved conditions.

Direct subsidies were of minor importance in German post-war housing. Immediately after the war there was a policy of State aided housing in the form of subsidies to cover rise in building cost. These subsidies were at first not repayable but later were repayable in part. This system was abandoned, however, after stabilization of the currency and the great majority of housing was constructed without direct subsidy but by Government credit. Emergency subsidies introduced 1931-1933 are dealt with under Government legislation.

Tax exemption is granted in Germany chiefly to Public Utility Societies which provide housing for families of limited means. The States as well as the Reich exempt all such bodies to encourage low-cost building activity.

c : Land policy

Municipal acquisition of land has long been the policy in Germany. At the end of 1924, 53 towns owned over one-fifth of the land on their outskirts, some owning as much as one-half or three-quarters. This provided the majority of the land for post-war housing, it being utilized in the following way in 70 towns of over 5,000 inhabitants : 45 per cent. of the land turned over by the cities was placed at the disposal of public utility societies, 32 per cent. for private builders and 23 per cent. for the erection of municipal houses.

The purchase of additional land by the local authorities was facilitated owing to the slump in building and the consequent low price of building land. Compulsory purchase measures were introduced in the Acts of 1919 and 1920. Compensation was to be a "reasonable" one, no account being taken of increased values owing to conditions arising from the war. The rigidly enforced new standards of "open building" also served to deflate pre-war speculative values, which had been based on the hope of high-density construction.

The principal form of transfer of land to private owners was through transfer of surface rights and by sale with the right of the municipality to repurchase.

d : Reduction of building costs and the rationalization of housing

1. A close watch was kept by the Government on the price of building materials in order to prevent undue rise in prices on the commencement of large housing undertakings.

2. A committee called the Federal Society for Research into Building and Housing Economy was set up to carry out investigations together with experts and has done much successful research into standardization and rationalization.

3. The fact that much of the building was centralized in the hands of the local authorities and public utility societies has enabled operations on a large scale with decreased costs to be made possible.

C. HOUSING ACCOMPLISHED

I. Dwellings Built

From 1919 to 1933 approximately two and a half million dwellings have been constructed in Germany and about one and two-thirds millions have received financial assistance in some form. The greatest post-war period of activity was 1927, 1928, 1929 and 1930 when an average of over 300,000 dwellings per year were constructed. However the deficit has not yet been met to enable any serious slum clearance programme to be undertaken.

II. Types of Dwelling Built

a : The tendency in Germany has been towards the multi-family dwelling rather than the garden suburb, no doubt for reasons of economy. These tenement apartments are in large blocks three, four or five storeys in height, built around a common enclosed space which serves as a playground and gardens. Many of the more recent blocks however are "open rows," oriented with the ends to the street. They are always narrow and uncomplicated in plan, two rooms in depth to allow for cross ventilation. Coverage of the site is rarely more than 25-30 per cent.

b : Since 1931 the Government has attempted to subsidize and encourage the construction in the outer suburbs of colonies of single family dwellings with subsistence gardens of at least 6,500 sq. ft. in area to help meet the needs of the unemployed who have been thrown out of work by the present industrial deflation.

The dwellings built in post-war years (excepting in the above-mentioned subsistence-garden colonies) are of a much higher standard of comfort and hygiene than was the case previously. Thirty to 40 per cent. contain one to three rooms averaging about 600 sq. ft. dwelling area, and the average cost is about £500. A bathroom, kitchen, stove, water, gas and electricity, and balconies in the case of tenements are standard provisions.

III. Rents

The rents of the smaller dwellings suitable for lower group wage-earners have, as has already been mentioned, been kept fairly low by rent restriction legislation although there have been increases from time to time. Rents are still lower than general prices, the annual rent for a low-cost dwelling being about £32 per annum. Unskilled workers, however, can afford very few of them.

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FRANCE

A. CONDITIONS EXISTING

I. Housing Urgency

a : One-eighth of the population of France lived more than two person per room in 1921. The census at this time shows overcrowding highest in rural towns and in furnished lodgings in the City of Paris and the Department of the Seine. Insanitary dwellings, not necessarily overcrowded, show very high figures, especially in the provincial towns where they reached as high as 30 per cent. of the total dwellings.

b : Apart from the devastated war areas where nearly 900,000 buildings of all kinds were required, the housing deficit in the remainder of the country in 1920 was estimated to be half a million dwellings, according to a parliamentary report issued at that time. These, it stated, were required in ten years. This apparently overlooked obsolete dwellings, for the President of the "Conseil superieur des habitations à bon marché" estimated the requirement at one million dwellings, 25 per cent. of which were needed to replace slum areas.

II. Governing Economic Conditions

a : The economic situation in France has been unfavourable to private building enterprise during the greater part of the post-war period due to inflation, lack of sufficient private credit and consequent increased building costs. Rent restriction legislation has furthermore aggravated the building difficulties.

b : The currency inflation although not very serious was prolonged. Stabilization was arrived at in December, 1926, when the dollar was at 4.9 times its pre-war value, after having reached 6 times pre-war value in terms of the franc. Legislation confirmed this stabilization in 1928.

c : Discount rates which were as high

as 7 per cent. in 1920 rose to more than 10 per cent. in 1926. In later years they have improved, although financial stringency still exists.

d : Building costs rose with general prices, but less rapidly. However, on stabilization of the currency they continued to rise while general prices tended to fall.

e : Rent restriction on old dwellings, instituted in August, 1914, and lasting with various amendments until the present time, restricted building of new houses on account of these competitive rents. There still exists a disparity between the level of controlled rents and that of existing prices.

B. METHODS ADOPTED TO MEET THE CONDITIONS

I. Government Legislation

a : Up to 1922 the Siegfried Act of 1894, Acts of 1908 and 1912 and 15 other Acts since the commencement of the war formulated various policies regarding low cost housing which were arranged, and those applicable were incorporated in the Housing Act of 1922.

b : This 1922 Housing Act formed the basis of French housing policy in the post-war period. It provided State aid in the forms of loans and subsidies for the housing of the poorer section of the population. Certain officially approved organizations (mentioned under Methods Adopted, Section 2, a) were assisted by the Government in the construction of low cost housing for rent and in certain cases for sale to those of limited means.

Loans : credit facilities were only extended to dwellings of the cheaper class with a strict code of conditions as to the size and accommodation of the dwelling, family income, etc., and the purpose of the loans which were for construction, purchase and reconditioning of such dwellings. The terms of the Government loans vary according to the borrowing organization concerned and the Act limits the terms which these organizations can demand when making loans to the public. Wide facilities and much encouragement were offered by the Government, however, for the formation of public bodies, societies and institutions to encourage and to erect low-cost housing.

Subsidies : are granted to officially approved organizations for the construction of housing for renting or for sale for specially needy and also large families, but particularly those with more than two small children : distributed in grants of 30 per cent. of the cost with various provisos. Also in annual grants of from 1 per cent. to 2 per cent. of building cost for periods of from 18 to 30 years.

Tax exemptions : were also granted under this Act.

c : Amending Acts of 1923, 1925 and 1926 to meet the situation caused by the depreciation of the franc.

d : Loucheur Act of 1928 instituted changes bearing on : More liberal financial support from the State, the loan rate being reduced to 2 per cent. and the amount advanced increased to 80 per cent. to 90 per cent. of the purchase price if guaranteed by the local authority.

Encouragement of ownership of houses by removing some of the restrictions of the previous Acts and including more facilities for individuals to build for themselves. State aid was extended to middle-class dwellings, although to a lesser extent and with little or no subsidy.

Funds were made available for a programme of construction of 200,000 cheap dwellings and 60,000 moderate rent dwellings to be completed in five years and financed as follows : about 82 per cent. advanced in loans by the State, interest being paid by the local authorities ; about 11 per cent. granted in the form of State subsidies ; about 7 per cent. to be supplied by the builder.

e : The remaining Acts of June, 1930, March, 1931, January, 1932, and March, 1932, were minor amendments with no serious alterations in policy. They refer respectively to : accession of property of war invalids ; maximum advances by the State in low cost housing ; diminution of taxes of mutation on building land, etc.

II. Organization and Stimulation

a : Organizations sponsoring the work :

1. Public Offices for Cheap Housing (Offices publics d'habitations à bon marché) : Self-governing bodies set up by the local authorities are the backbone of housing administration in France. Between 1920 and 1927, approximately five-eighths of the sums expended for housing were advanced to these bodies by the Government. These bodies have operated most extensively in the cities, particularly in Paris.

One-third of the members of their councils are appointed by the prefect, one-third by the local authority or authorities by which they are set up, and one-third by representatives of private companies and organizations concerned with housing, such as housing societies, savings banks, trades unions, health councils, etc.

2. Building credit societies (Sociétés de crédit immobilier) : These are joint-stock limited dividend associations, established for the purpose of granting loans for cheap housing either to private persons proposing to become owners or to low cost housing societies. They were actually responsible for as much housing as the Public Offices for Cheap Housing but, contrary to these bodies, only advanced money for housing construction.

3. Co-operative cheap housing societies (Sociétés anonymes d'habitations à bon marché), which are limited dividend organizations whose shareholders are persons proposing to rent or buy and occupy the dwellings built. These societies received approximately one-eighth of the sums advanced by the State between 1920 and 1927. They also received assistance when acting as credit organizations in addition to building societies.

4. The local authorities also received about one-eighth of the sums advanced between 1920 and 1927. However, if it be considered that the Public Offices for Cheap Housing who received five-eighths of these sums were all directly established by the local authorities, it is seen that they were directly responsible for three-quarters of the housing undertaken during this time.

5. Joint-stock, low cost housing societies come next on the list in importance having also received about one-eighth of the total sums advanced during this period.

The above organizations, Nos. 1, 3, 4, 5, were the officially approved bodies which undertook the housing under the 1922 Housing Act until the Loucheur Act in 1928 extended the sphere of Government assistance as already mentioned.

6. Other bodies were of less importance, such as Charity Boards, Public Utility Associations and Societies, Savings Banks. Employers housing employees were rather active, 124,000 dwellings were built by mining companies, 57,000 by railroad companies and 185,000 in the provinces by industrial undertakings.

In France private enterprise suffered during the prolonged financial instability. However, after the Loucheur Act it has up to the present provided a larger proportion of dwellings. It has not yet reached even the productivity of 1913, however, and there was already an acute shortage then.

b : Financial assistance

Between 1919 and the passing of the Loucheur Act, sums varying from 40 to 50 million francs per year were granted by the Government in the form of direct subsidies for low cost housing while during the whole period approximately 815 million francs were granted in the form of loans directly for building purposes and 605 million francs to credit organizations for the purpose of loans to builders of low cost dwellings. It was estimated that in 1926 the *indirect* loss to the state on loans (granted at lower rates than the cost to the government) was about 36 million francs.

After the Loucheur Act in 1928 the Government has, up to the present time, considerably increased its financial support to building organizations, credit organizations and also to private individuals by granting subsidies of at least 150 million francs annually ; while through the Deposit and Loan

Fund, loans, which in 1929 amounted to 1,667 million francs, have been granted in increasing amounts up to 1933.

The Government financed the Deposit and Loan Fund partly by loans from the savings banks and also from the Old Age Pensions Fund. It made its advances for housing on easy terms of about 2 per cent. for 40 years.

Subsidies were granted by the Government both for dwellings to be rented and those to be sold to the occupiers.

Tax exemption : since the war all new residential buildings are exempted from land tax and the special tax raised for the benefit of local authorities for a period of three years. Up to 1926 cheap housing was exempted from similar taxes for a period of twelve years. Cheap housing societies and also owner-occupants of low-cost housing receive tax exemptions.

c. Land policy

There has been very little organized purchasing of land by local authorities for housing purposes. This neglect of land policy and of town planning measures in connection with housing, has resulted in unsatisfactory subdivision in many cases—with the marked exception of the Public Office of the Seine Dept., which has done the best housing. This body started its operations by buying all the land needed for its immediate programme, and more, mostly in the form of large estates big enough for complete garden-suburb villages. In 1930 it owned about 875 acres.

d : Reduction of building cost and the rationalization of housing

More attention has been given to assistance financially, and the formation and working of building and credit organizations than has been directed to the reduction of building costs which, owing to the currency inflation and rising prices has been maintained at a high level.

C. HOUSING ACCOMPLISHED

I. Dwellings Built

Despite the very liberal assistance offered by the French Government in low cost housing, since 1928, house shortage still remains and slum clearance has not been attempted. The number of dwellings built has been considerably less than that undertaken in England and Germany, despite the reconstruction of some half million dwellings in the devastated war areas.

II. Types of Dwelling Built

About 75 per cent. of the dwellings built since the war have been single-family houses and the remaining 25 per cent. apartments in blocks of from four to five storeys in height. The lay-out and subdivision of the land in the post-war housing schemes is in many cases rather disappointing in comparison with the better work in Germany, England and other Northern European countries, due in part to a lack of a definite land policy on the part of local authorities. The most recent garden-suburbs around Paris, however, show a marked German influence in their orderly and open planning.

The cheapest of the dwellings are normally about 45 square metres or 500 sq. ft. in area as a minimum, and consist of a kitchen, living room and two bedrooms ; a shower bath and wash-tub, drying closet and a stove for heating and cost £560-£600 to build.

III. Rents

The rent restriction legislation which was instituted at the commencement of the war and has lasted until the present time has kept rents below the cost of food, clothing, heating and lighting in comparison with pre-war standards : the average rent of a low cost apartment or single-family house being the equivalent of from £26 to £30 per annum.

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AUSTRIA

A. CONDITIONS EXISTING

I. Housing Urgency :

a : According to the 1910 census, among the smaller dwellings a proportion as high as 25 per cent. of the inhabitants lived more than two persons per room ; while more than 20 per cent. of owners sub-let their dwellings to others in Vienna.

Nearly 75 per cent. of the existing dwellings comprised only one room or at the most two rooms and a kitchen. Ninety per cent. were without water ; 75 per cent. were without gas ; while 93 per cent. were without electric light. The building area frequently covered up to 90 per cent. of the building site and courtyards of areas 9 by 9 ft. existed in eight-storey buildings. It is claimed that little effort was made on the part of the Monarchy to alleviate these conditions.

b : According to Mr. Anton Weber, of Vienna Municipality, in 1928 a quarter of a million dwellings were required for the whole of Austria, while normal annual requirements for increase of population and to replace old dwellings were 20,000.

II. Governing Economic Conditions :

a : Austrian industry depends on export trade owing to the reduction of her territory and population since the war. The disadvantages of lack of home market, unfavourable traffic position and lack of raw products in the country, have rendered competitive exports of industrial products a difficult problem. This led to serious unemployment with the currency inflation and the economic crisis close upon it, while political differences hindered a direct course of action for some time.

These particular conditions have led to the unique liberality of the Viennese municipal housing policy which acted as an indirect subsidy to the industry of the capital, the low rents enabling wages to be reduced and Viennese industry to compete on foreign markets.

b : Because of the inflation of the currency and general economic instability the money market suffered and capital was difficult to obtain. Discount rates for short term loans rose to 11 per cent. in 1924. Conditions are still unfavourable.

c : The post-war economic crisis in Austria following the inflation of the currency, was one of the most serious in Europe. The price of the American dollar had risen to 15,000 times its value at par when stabilization was effected.

d : Building materials are at about the level of general prices and have been so since the stabilization of the currency. Labour costs, however, are considerably higher, consequently building costs are at a higher level than general prices.

e : Owing to the disadvantages under which Austrian industry has been placed since the war, wages have had to be kept low and thus a more drastic rent control has been adopted than in any other country. This in turn has rendered the building of low cost houses for workers unprofitable to private enterprise and has thrown a larger obligation upon the authorities than in other countries.

B. METHODS ADOPTED TO MEET THE CONDITIONS

I. Government Legislation :

a : Act of 1921 : A Federal Housing and Settlement Fund administered by the Ministry of Social Affairs, with a Parliamentary committee, was set up and granted subsidies to pay the interest and amortization on loans obtained elsewhere by local authorities and public utility societies. This fund also granted loans against interest, guaranteed loans obtained elsewhere and subscribed to the capital generally of such bodies.

b : Act of 1926 : Long term loans issued by the State at 1·2 per cent. for dwellings to be let and 5 per cent. to 6 per cent. for houses fully owned by the occupants.

c : Act of 1929 : Extends State support to private persons and undertakings in form of State guarantee to pay interest and amortization on junior mortgage loans procured by the builder up to 50 to 60 per cent. of the capital value of the building at not more than 7 per cent. interest amortized over not more than 40 years. The builders must possess sites and provide 10 to 20 per cent. of the equity and must pay a

contribution of 2 to 3 per cent. to the State for the security gained. The State financed this from taxes on the tenants of old houses. This Act makes the furnishing of loans for private individuals and undertakings compulsory to insurance institutions, banks, savings banks, etc., up to a fixed proportion of their reserve funds.

Rent control legislation: In 1922 the rents were restricted merely to cover the cost of repairs and maintenance, but were increased in 1929 to double.

Vienna: the municipal housing policy of Vienna depends, for the majority of the funds necessary, upon a tax upon property substituted in 1923 for the former rent tax of 1920. The new House Building Tax called "Wohnungsbausteuer" was paid in Vienna by all tenants on a graduating scale, so that 80 per cent. of the existing buildings pay only a quarter of the tax while 0·5 per cent. of the existing buildings, which are in the luxury group, pay 41·6 per cent. All buildings, new or old, however, are subject to this tax.

II. Organization and Stimulation

a: Organizations sponsoring the work

Vienna: 1. The Municipality: The Socialist Municipal Government of Vienna instituted a housing programme whereby it actually built dwellings itself from materials at least partially fabricated in its own factories. They were erected on its own land and with money from its funds. The extensive and successful housing so accomplished placed Vienna in a unique position among all other countries for this reason. By far the greater part of post-war housing in Vienna has been carried out in this way.

2. Co-operative and settlement housing societies were responsible for an appreciable amount of work aided by the Federal Housing and Settlement Fund and also the City of Vienna, but did not receive sufficient financial support to develop to any great extent.

3. Private enterprise, including public and private employers, have built also to approximately the same extent as the housing societies, having received but little encouragement.

Remainder of Austria: 1. Local authorities in the remainder of Austria were also responsible for the greater part of the housing and have undertaken the work themselves similarly to the Viennese Municipality.

2. Housing societies are next in importance and comprise co-operative housing societies with a few public utility societies and limited liability societies. This group was assisted by the Federal Housing and Settlement Fund in 90 per cent. of their schemes.

3. Public and private employers erected approximately the same number of dwellings as the housing societies.

4. Private enterprise erected comparatively few low cost dwellings but most of the well-to-do houses were built in this way. A quarter of all the dwellings erected in Austria throughout the post-war period were built by private enterprise.

b: Financial assistance

Vienna: the Vienna Municipality instead of offering financial assistance of a direct kind, undertook low cost housing on a much more extensive and organized scale than any local authority in any other country; by acting as proprietor, financier, builder and manager of the housing erected. Its post-war activities have been:

1. Three thousand six hundred dwellings built and 6,000 adapted between 1917 and 1923 by means of the Housing and Settlement Fund, which was the first serious post-war attempt at financial assistance in the capital.

2. The programme of 5,000 dwellings per year erected by the Municipality was adopted in 1923 and carried out fully with the exception of the last two years up to 1933.

3. Attempts to encourage settlement societies and ownership of dwellings by allotting 28 million *schillings* between 1921 and 1926 issued in mortgage loans covering 85 per cent. of building costs but carrying no interest charges and not repayable. This, however, was stopped in 1927 and thereafter the Municipality contributed the whole of the building costs.

4. To promote ownership in the case of one-family houses, the Municipality granted mortgage loans at 4 per cent. up to 75 per cent. of the purchase price and 13,000 *schillings* per house. This system developed to the extent of only three million *schillings*.

Federal Government: 1. Subsidies: (a) Non-repayable grants for interest and amortization to local authorities and building societies offered by the Federal Housing and Settlement Fund by the Act of 1921. (b) Similar payments under the Acts of 1926 and 1929.

2. Loans: The Federal Housing and Settlement Fund guaranteed and also advanced loans to local authorities and housing societies by the Acts of 1921, 1926 and 1928, and in 1929 support was extended to private persons and organizations.

3. Tax exemption: By the Act of 1922 all new buildings were exempted from land tax for a period of thirty years; by the Acts of 1924 and 1929 tax exemption measures on all new buildings were confirmed and extended.

c. Land policy

There has been for many years a definite land-purchase policy adopted by most of the municipalities throughout Austria. However, it was not until 1929 that compulsory purchase came within their powers and this was only to abolish unhealthy areas.

In Vienna, the difficulties which the Municipal Authority encountered in obtaining desirable sites have been offset by the fall in building land prices generally owing to the lack of demand of land for private enterprise. The city now owns about 25 per cent. of its total area.

d. Reduction of building costs and the rationalization of housing

Vienna: The Vienna Municipality has studied this side of the question of low cost housing most thoroughly and has put various systems to very effective trial whereby building costs have been reduced by as much as 30 per cent.

The Municipality supplies all materials, contracts being placed with the municipal brick kilns for five years in advance enabling suitable machinery to be purchased and the cost of production lowered. This applies similarly to glass, cements, lime, gravel, doors, windows, floors, steel, etc., all of which are supplied to the contractor, who then tenders to the Municipality for the labour only.

Transport of material has been similarly handled, centralization in organization has enabled a large saving to be shown over decentralized methods.

Remainder of Austria: Setting up of the Austrian Rationalization Committee in 1929 to study the rationalization of the building industry.

C. HOUSING ACCOMPLISHED

I. Dwellings Built

During the decade 1923 to 1933 the Municipality of Vienna alone spent the equivalent of £24,500,000 sterling in constructing over 65,000 dwellings, which is more than have been built in the remainder of Austria during this period. At the present time the Viennese Municipality finds that the House Building Tax will not stand the strain of financing the annual programme of 5,000 dwellings which it has accomplished during the last decade. They have been obliged to reduce this number considerably but are continuing with the work. At the present time a large deficit of dwellings still exists while the slum areas in the city remain.

II. Types of Dwelling Built

Ninety per cent. of the dwellings built in Vienna are apartment houses while the remaining 10 per cent. are single-family houses. However, the percentage of single-family dwellings has increased in the last few years, from 1928 20 per cent. of the housing constructed being of this type.

The average low cost dwelling in Vienna is small in area, being 400 to 450 sq. ft. Over half of the dwellings consist of a small bedroom, a living room and a kitchen while one-eighth consist of one room only, about 235 sq. ft. in area. Stove and a private water closet are provided but not bathrooms. There are ample public showers and baths, however. These apartments are in large blocks, the best examples not

exceeding four storeys in height and covering not more than 50 per cent. of the site. Single-family dwellings contain a living room, two bedrooms, a kitchen and a cellar. The average cost of a low cost dwelling is about £350 sterling.

Vienna set an example to the world in providing the inhabitant of the low cost dwelling with more amenable community equipment than is normally to be found elsewhere. All facilities from educational, intellectual and hygienic points of view are provided for the low grade wage earner in such huge communal housing schemes as the Karl-Marx-hoff where one building block, three-quarters of a mile in length, houses approximately 5,000 persons. There are large areas of gardens, grass, trees, flowers and statuary ; also playgrounds, wading pools and fountains. Kindergartens, day nurseries, libraries, and clinics are also part of the scheme ; while communal baths and a large communal laundry with electric washing, drying and ironing machines enable a housewife to do a week's family washing in three hours.

III. Rents

In Vienna the financial policy of the Municipality has enabled rents to be the lowest of any low cost dwellings in Europe. The authorities demand sufficient rent to cover maintenance and repairs only, writing off the capital cost of construction so that no interest or amortization enters into rent considerations.

For a small room and a kitchenette apartment the equivalent of one shilling and eight pence sterling up to two shillings is demanded per month.

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HOLLAND

A. CONDITIONS EXISTING

I. Housing Urgency

a : Holland's population has increased more rapidly than any other Western European country. This was 3,580,000 in 1869 ; 6,865,000 in 1920, while it had increased to 8,062,000 in 1931. According to the census in 1920 less than 1 per cent. of the population were sharing a dwelling, occupied temporary lodgings or dwellings unfit for habitation. Despite this comparatively favourable position the Netherlands have been more active in housing matters in comparison with the population than any other European country.

b : In 1918 it was estimated by Mr. Faber, the Inspector of Housing for the Netherlands, that 60,000 dwellings were required, while in 1920 the estimated number was 100,000. The estimated number per year to provide also for replacement of dilapidated dwellings was 37,000.

II. Governing Economic Conditions

a : The fact that there had been no great change in the economic state of the country and the value of the currency has enabled private enterprise in housing to function satisfactorily during the post-war period.

b : The gulden depreciated slightly after the war, causing a general rise in building costs, culminating in 1918 at 276 per cent. pre-war level. From 1918 to 1923 prices fell to 60 per cent. pre-war level. From 1923 to the present time they returned to normal.

c : The discount rate has varied during the post-war period from 3 per cent. to 5 per cent.

d : For a short period only raised building cost and restricted rents checked private enterprise in housing, forcing temporary measures to be adopted by the Government for special assistance during this time, in addition to their long-time policy of housing the lowest income groups, initiated in 1901.

e : Rents were restricted over a short period only commencing in 1918 but afterwards gradually removed.

B. METHODS ADOPTED TO MEET THE CONDITIONS

I. Government Legislation

Existing legislation from pre-war Act of 1901 provides aid in the form of loans and subsidies.

Loans were issued by the State to the Local Authorities and through the Local Authorities to the Public Utility Building Societies. These loans were granted up to 100 per cent. of the building cost at same interest paid on the market for Government securities and were amortized over 50 years.

Subsidies were issued by the State and local authorities in equal proportions to insure a reasonable return on capital in cases where conditions render the rental returns insufficient, either through high building costs or poor tenants. Nearly 10,000 dwellings were built through this Act up to 1914.

Emergency legislation during the post-war crisis was mainly for undertaking the construction of a better class of dwelling in addition to increasing greatly the number of cheap ones, and for encouraging working class housing by public utility building societies.

a : The Act of 1918 provided aid in the form of lump-sum subsidies to cover the difference between pre-war costs of houses and post-war costs. Seventy-five per cent. of this was paid by the State and 25 per cent. by the local authorities, who examined applications and distributed the grants.

b : 1920 : New regulations were issued modifying the 1918 Act. Subsidies were calculated at the rate of 20 gulden per square metre of dwelling area, with a maximum grant of 2,000 gulden. This was gradually reduced until in 1923 it was abolished.

c : Emergency legislation enabled mortgage loans to be issued by the State and guaranteed by the local authorities, for 100 per cent. of the site value and 90 per cent. of the building cost for 15 years. The amount of any lump sum grant allowed was deducted. Interest was charged at 6 per cent. and amortization at 0.5 per cent. for the first five years and 1 per cent. for the remaining period ; also 1 per cent. was paid to the local authorities as insurance against depreciation.

In the Netherlands the housing legislation of pre-war times based on the Act of 1901 has up to the present time formed the basis of housing policy in the country excepting for the emergency measures mentioned above, which operated from 1918 to 1923. Further emergency legislation for the assistance of the lower group wage earners provides a subsidy of approximately four pounds sterling per year for dwellings erected to house those displaced by the present slum clearance schemes.

II. Organization and Stimulation

a : Organizations sponsoring the work

1. Private enterprise : By far the largest amount of building for all types of dwellings in Holland has been done by this means, except during the critical period 1918 to 1923. From 1923 to the present time, private enterprise has supplied from twice to eight times as many houses per year as all other means combined, varying from 15,000 to 40,000 dwellings per year.

2. Public utility building societies come next in importance in Holland as a means of housing development, their greatest period of influence being from 1918 to 1923. They have provided as many as 19,500 dwellings in one year and during the housing crisis in 1921 provided four times as many dwellings as the local authorities. They have put up about 100,000 dwellings in all since the war.

3. Local authorities have provided from 1,200 to 5,600 each year since the war, about 40,000 dwellings in all.

4. The State has produced considerably less ; the annual production since the war varying from 60 to 600 according to the year.

b : Financial assistance

Between 40 and 50 per cent. of the dwellings erected since the war have been publicly assisted in Holland. The municipalities have been more active and have undertaken more responsibility in housing matters than the State ; however, with the restoration of normal economic conditions, public assistance has been withdrawn

to a great extent by the State more than by the local authorities.

Subsidies were granted by the State and local authorities, each contributing a proportion varying from one-half each to three-quarters by the State and one-quarter by the local authority. Subsidies were only granted widely over a short period, and were intended to cover interest and amortization on loans for working class dwellings for the amounts exceeding that covered by the rent. As they were mostly in the form of annual payments, however, they still bulk fairly large in the budget. Subsidies were issued by the State to municipalities and by the State and municipalities to public utility societies. Also by the State to employers housing employees, in which case grants were reduced by one-third. (For recent subsidies see Legislation.)

Loans were granted by the State to municipalities and through them to public utility societies on the responsibility of the municipalities.

After the combined system of grants and loans was abandoned the State continued to give financial assistance in the form of second mortgages for 20 per cent. of the cost repayable in ten years at interest rates varying from 6 to 4.5 per cent.

Loans by mortgage banks and other credit institutions take care of private building enterprise to a greater extent than before the war. First mortgages for 60 to 70 per cent. of the purchase price are advanced at 5 to 6 per cent. with 2 per cent. redemption. Second mortgages are as low as 7 per cent. in some cases.

c : Land policy

Local authorities have had the power of compulsory purchase of land for low cost housing purposes since the middle of last century. The value, however, is decided by an arbitration court in all cases, and these compulsory-purchase powers are seldom utilized. Most municipalities have purchased large areas on the outskirts of towns for housing purposes. This enables housing costs to be reduced by the cheaper land costs, whether such land is used for municipal housing schemes or whether it is sold or leased at correspondingly cheap rates for housing to other parties.

d : Reduction of building costs and the rationalization of housing

1. Many economies have been achieved in Holland by a thorough study of the possibilities of lightening the forms of construction and reducing the size of dwelling by improved planning to obtain better use of the space available. Standardization of windows, doors and other component parts has also reduced costs.

2. There was a proposal placed before the Housing Congress in 1918 for standardization of different types of working-class dwelling. It was, however, not adopted ; but in 1920 as the result of the appointment of a committee to discuss this subject, much cost reduction has been achieved in this field.

3. A Central Purchasing Agency (Centrale Bouw Materialen Voorziening) set up by the Union of Dutch Local Authorities, and some Government departments as a joint stock company to order materials in bulk direct from the producers on favourable terms, achieved some good results but was dissolved when after 1923 the housing crisis passed and a large measure of Government assistance was withdrawn.

C. HOUSING ACCOMPLISHED

I. Dwellings Built

By housing one-fifth of her population since the beginning of the war and the greater part of this since 1920, Holland has accomplished more housing in relation to her size than any other European country. The deficit of 100,000 dwellings which existed at the commencement of the post-war years had been balanced early in 1930 and housing at the present time presents very little difficulty apart from slum clearance schemes which are being mooted at present in Amsterdam, Rotterdam and the Hague.

Holland appears to be the only European country that has so far taken care of the whole of the post-war quantitative housing deficiency and has been able to concentrate on slum clearance and rehousing projects on a large scale, to overcome insanitary conditions and slum congestion. Amsterdam has already cleared about 5,000 slum dwellings, and rehoused most of the tenants.

II. Types of Dwelling Built

The majority of low-cost dwellings in Amsterdam, Rotterdam and the Hague are in large blocks of apartments. However, during the period of maximum Government assistance, from 1918 to 1923, as many single-family or pairs of single-family houses were constructed as large blocks. The large apartment blocks are commonly four to five storeys in height, with long façades on the street frontages, while internal common courts and playgrounds are provided.

The most common type of workers' dwelling measures 40 to 45 square metres, or 450 to 500 sq. ft. in area. It consists of a living room, small kitchen and either two bedrooms or one large bedroom and two small bedrooms. A bathroom, however, is not provided.

III. Rents

Rents demanded for the low-cost dwellings are approximately £50 sterling per annum. However, it is maintained that these rents are too high. Houses constructed with Government assistance which are less than half the total number were let, however, at rents as low as two-thirds or even half of these figures. The falling off of Government assistance had made a smaller number of new houses available at these rents, but the present Government subsidy for rehousing those displaced by slum clearance is designed to assist in this direction. Holland has the distinction of more nearly approximating the rents payable by unskilled workers in her Government housing than any other country except Austria.

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SWEDEN

A. CONDITIONS EXISTING

I. Housing Urgency

a. Housing conditions in Sweden immediately after the war were very crowded. In 1920, half of the dwellings in the bigger towns consisted of two rooms at the most and many of only one room. More than 2 per cent. were without a kitchen or with one kitchen serving several dwellings, while one-fifth to a third of the smaller dwellings in Stockholm and the larger towns accommodated more than two persons per room.

b. Many families were actually unable to find accommodation in the early post-war years and temporary shelter was provided by the local authorities. In 1923 over 1,600 families were reported to be unable to find any accommodation.

II. Governing Economic Conditions

a. Economic and political conditions were fairly stable in Sweden which did not suffer any serious currency depreciation. There have been no revolutionary changes to upset normal conditions as has been the case in Central Europe.

b. The Swedish krona slightly depreciated at the close of the war, accentuating the rise in prices and consequently of building costs. In 1922 the krona returned almost to par to drop again with sterling in 1931.

c. Money became a little difficult to procure immediately after the war ; the highest rates charged being 7 per cent. in 1920 dropping later to 5 per cent. and 4 per cent.

d. Building costs rose towards the end of the war ; they fell towards 1920 and were stabilized in 1923 at about 200 per cent. of the pre-war figure. After 1925 there was a revival of building and building prices rose in consequence.

e. Rents were controlled only until 1925 but the restriction was never as rigorous as in Middle Europe and was gradually lifted and removed. Rents are still above general price level.

B. METHODS ADOPTED TO MEET THE CONDITIONS

I. Government Legislation

a. 1916 : By a Royal Decree, local

joint committees were inaugurated to arrange conciliatory measures between landlord and tenant.

b. 1917: These committees intervened to establish equitable rent conditions. Government started granting outright subsidies.

c. 1919 to 1920: A gradual increase in rents permitted by percentages varying from 15 to 20 per cent. of the rents of 1915.

d. 1920: Government subsidies for low cost housing reduced.

e. 1921: Act stipulated that rent-control should cease on September 30, 1923.

f. 1922: Government subsidies for low cost housing for the most part discontinued.

g. 1929: Creation of Swedish Housing Loan Fund.

h. Since 1929: Amendments, but no general policy change.

II. Organization and Stimulation

a. Organizations sponsoring the work

1. Private enterprise has been the chief means of housing. It was only at the period of high prices and money rates, terminating in 1922, that private building fell off. After stabiliziation of prices and the termination of controlled rents, private enterprise again found it profitable to enter the field even of the small dwelling.

2. Co-operative housing societies and various other housing and building societies and organizations are next in importance and with the support offered by the State are on the increase.

3. The local authorities have produced almost as many dwellings as the housing societies with the exception of the last few years. Work being undertaken by the authorities is falling off in amount.

4. The State has undertaken only a small amount of housing on its own accord.

5. Industrial undertakings: Public and private employers erected dwellings during the period of shortage but have not continued such activity subsequently.

b. Financial assistance

Government loans on easy terms: This was the chief method of stimulation of housing. On the gradual return to normal economic conditions subsidies were no longer adopted but some form of assistance was necessary to meet higher costs of building. This was offered in various forms of credit facilities by the Government.

The first post-war loan facilities were arranged through:

1. The State Dwellings Loan Fund which was created owing to the early post-war difficulty in obtaining second mortgages on easy terms. At first after 1920 it was stipulated that these loans, together with the non-repayable subsidies, should not exceed 50 per cent. of the building cost or a maximum of 15,000 kroner which was reduced to 8,000 kroner in 1924. Interest rates were first 5 per cent. and later 4 per cent. Amortization over 30 years was 2 per cent. over the first 15 years, with the local authorities responsible for the payment of interest and amortization charges.

The next facilities, which were more permanent measures were:

2. The Swedish Housing Loan Fund which was created in 1929 and is organized on the co-operative system for the construction of single-family dwellings. The State has contributed a grant of 30 millions while credits are granted to individuals who intend to occupy the dwelling, for 75 per cent. of the building cost at the current discount rate of interest.

3. Credit joint stock companies, controlled by the municipalities, have also issued mortgage loans guaranteed by the municipalities in the case where the builder has only surface rights to the land and thus finds difficulty in procuring mortgages on the money market. These companies charge from 5 per cent. to 6 per cent. interest.

The National Insurance Fund has been granting second mortgage loans to public utility housing societies since 1913.

Government subsidies: During the critical period of high building cost between 1917 and 1919, the Government granted subsidies to cover excess costs and to make building possible to private enterprise. However, on improvement of conditions subsidies were discontinued in 1922, apart from a special subsidy to redeem a portion of the second mortgage advanced by the Government which would have been difficult to pay owing to the fall in the value of property.

The subsidies granted in 1917 to 1919 were liberal while they lasted; 33 per cent. of the building costs were advanced to public housing or public utility building societies and to private persons building dwellings for their own use. Two-thirds of this were granted by the State and one-third by the local authorities. This subsidy was reduced to 15 per cent. in 1920 and was abolished in 1922.

Since 1929 up to the present time the policy of financial assistance in Stockholm is worthy of note, and can be summarized in three main groups: *a*: Steps taken in order to provide single-family dwellings so that no appreciable cash amounts would be needed by the builder. *b*: Measures for producing cheap tenement flats. *c*: Steps taken to support co-operative building enterprises.

1. Single-family dwellings: The builder receives loans from the municipality up to 90 per cent. of the building cost, the remaining 10 per cent. being supplied by the owner himself in the form of his own labour in erecting the dwelling which is supplied to him in standard units, each house being of a standardized design.

2. Cheap tenement flats: The Stockholm Municipality makes its own building land available to private builders by loaning half of the purchase price of the site at a low rate of interest and the other half free of interest on condition that rents above a certain figure are not demanded. The City Authority further makes secondary loans of 80 to 90 per cent. of the building cost available for building purposes. A junior mortgage lien of 15 per cent. is then imposed on the property over and above the 80 or 90 per cent. of the building loan. This extra 15 per cent. mortgage lien is held as a security that the rents will be kept within the agreed limits. This junior mortgage of 15 per cent. of the estate's value has priority commencing at 95 per cent. Thus the total mortgage held by the municipality reaches 110 per cent. and the owner therefore does not find it profitable to sell or to raise the rents above the agreed figure. This system which keeps the rents controlled in this way does not hinder private enterprise as is the case with rent restriction without financial assistance.

3. The support of co-operative building enterprises: Loans are granted to co-operative building societies for smaller flats at 6 per cent. for 25 years. The amount of loans including cost of ground must not exceed 86 to 89 per cent. of the cost of the estate.

c: Land policy

Municipalities in Sweden own large areas of land. In Stockholm the city authorities own over four times as much of the land surrounding the city as the area of the city itself; all of this area being laid out with a definite scheme of planning. The land has been acquired without compulsory purchase methods which do not exist in Sweden but rather by a system of systematic acquisition by voluntary sale, which has been operating since about 1900.

Land was placed at the disposal of builders by the municipalities on favourable terms to promote building. In Stockholm in the central part of the town the land was sold to the prospective builders, while in the garden suburbs and elsewhere in Sweden leasing of the land is more general. To stimulate housing in the city of Stockholm, purchasers were required to pay only 5 per cent. of the site price in cash, while another system of site purchase is explained in the section on financial assistance.

d: Reduction of building costs and the rationalization of housing

1. Government grants to the Academy of Technical Science to encourage research into standardization.

2. The State Housing Office has drawn up a series of model plans for the rational lay-out of dwellings which have

been adopted in much of the housing accomplished.

3. Experiments with standardized single-family dwellings which have been supplied in standardized parts of wood and of such design that most of the work of erection can be performed by the prospective owner. These houses are about 500 sq. ft. and contain one room and a kitchen on the ground floor with possibilities to arrange either one room and a hall or two small rooms on the first floor. The demand for these cottages has been greater than the supply.

C. HOUSING ACCOMPLISHED

I. Dwellings Built

It is claimed that the housing shortage has been met in Sweden in all but the cheapest type of low cost dwelling. This deficit still provides a problem while overcrowding and slum areas still remain in many areas as is the case in other countries.

Approximately 200,000 dwellings have been built in Sweden since the war, of which about 40,000 receive direct State aid.

II. Types of Dwelling Built

The housing accommodation of the city of Stockholm and also of Gotenborg consists chiefly of apartment houses, in spite of the great growth of garden suburbs in recent years. Approximately one-third of the housing accommodation in Stockholm consists of one room and a kitchen, while about a quarter have two rooms and a kitchen. The standard of comfort is higher than in pre-war times and in most cases dwellings are provided with bathrooms, hot water and central heating. Standard of space, however, is lower.

III. Rents

Single-family houses: The amount of interest, amortization and land lease rent, including water and services, paid per annum on a 500 sq. ft. single-family house, erected of the standardized wooden material described above, is approximately £45 sterling.

This type of house with an attic, thus including three rooms and a kitchen, amounts to approximately £50 sterling per annum.

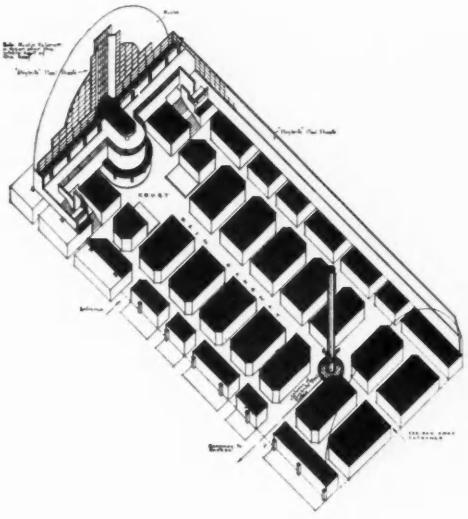
Tenement apartments: The following rents for apartments with the use of bathrooms in the basement apply in Stockholm:

For one room and a kitchen, £35 to £40 per annum.

For two rooms and a kitchen, £50 to £60 per annum.

For three rooms and a kitchen, £80 to £85 per annum.

For four rooms and a kitchen, £90 to £95 per annum.



TRADE NOTES

[*BY F. R. S. YORKE, A.R.I.B.A.*]

The Ideal Home Exhibition

APART from Mr. Jeffcott's "Staybrite City," the centre of attraction from the architect's point of view should obviously be the "Village of Tomorrow," so widely trumpeted as "the first comprehensive exhibition of scientific design as applied to house-planning." That the old world village of previous years should be discarded for something more nearly contemporary is obviously sound, as is the appointment of Mr. R. A. Duncan as estate architect, but his powers have obviously been far too limited; with a free hand to alter and amend builders' designs the village would certainly have been very different. The only rational building in the village is the "Sunspan" house by Messrs. Wells Coates and Pleydell-Bouverie, which will be illustrated in this JOURNAL next week, and which seems a logical solution of its particular problem. The remaining houses are mostly built to the typical speculative builder's plan, which, though extremely tight, may be assumed to work reasonably well: but the plans have been elevated in the "moderne" manner by slicing off the roof and running a few windows round the corner, not forgetting fancy floated and combed finishes and the inevitable chevron glazing bars which make replacements needlessly expensive. Nor is it any comfort to remember that five out of the nine houses shown here have been designed by architects.

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One is regretfully forced to conclude that this "Village of Tomorrow" is scarcely more than a "Village of Yesterday," but I suppose even that is better than the village of four hundred years ago. I do not imagine for a moment that Mr. Duncan claims perfection for this year's effort, but even if not more than one-tenth of the original object is attained it is presumably better than nothing at all. Yet it is doubtful whether such work will have the influence intended; one could hardly imagine these Olympia houses at the sides of our new by-passes an improvement on the endless horrors one sees now.

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During a brief tour round the rest of the exhibition I found several new devices or improvements in existing and well-known apparatus. The first, a cooker by Flavels known as the "Kabineat," seems a logical answer to the common difficulty of dis-

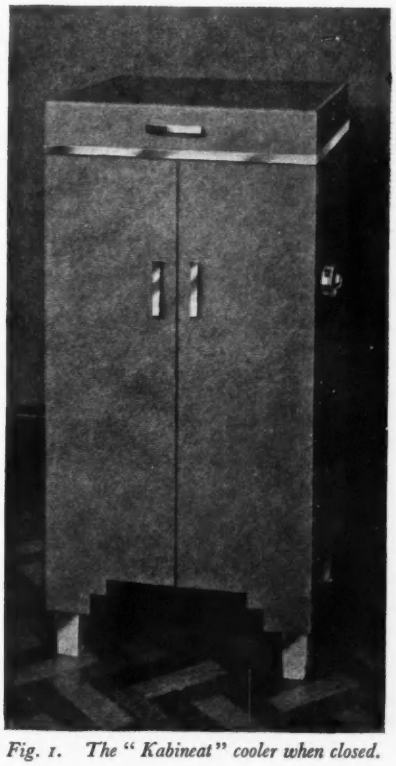

Fig. 1. The "Kabineat" cooker when closed.

guising a cooker in a one-room flat. The cooker proper is more or less normal, but round it is a pressed metal cabinet (Fig 1). The top of this lifts up and, when locked in position, forms the usual plate rack, while the doors open in front of the oven and on them are hung the usual cooker implements such as spoons and the things with holes in them for lifting fish and suchlike fragilities. The Institute of Good Housekeeping, by the way, has a lot of polite things to say about this cooker.

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Not so very long ago the Pressed Steel Company of Oxford, who supply car bodies to Morris and a good many others, started making refrigerators, and now thay have produced a combined refrigerator and electric cooker. The original demand, I understand, came from Sir John Burnet, Tait and Lorne, who wanted something space-saving for their Oxford Street flats, but the cooker is now generally available at a price of 48 guineas (Fig. 2). The illustration explains itself, it being only necessary to add that the refrigerator (of 3½ cu. ft. capacity) is in the position usually occupied by the oven and above it is the griller and hot-plate, with the oven cantilevered out at the top. The area required is only 22 in. by 21 in., with an overall height of 5 ft. 5 in.

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This year's Aga cooker looks much the same as usual, though it has been improved both structurally and mechanically and is now, in the terms of the catalogue, "proof against wilful misuse." A larger four-oven model is now available at an extra cost of £16 and there is also the 20-gallon water heater which it is claimed gives four hot baths a day at a fuel cost of 7s. 6d. a quarter. This heater is worked automatically from the cooker, and its time of recovery is necessarily slow—about 10 hours. It is, however, justifiably pointed out that this means two baths in the morning, washing-up water during the day, and two more baths in the evening.

Domestic Air-Conditioning

On Stand 81 is a range of Frigidaire air-conditioning equipment, and a room, served by unit air-conditioning plant, in which visitors are able to experience the indoor atmospheric conditions obtainable with a modern system of winter heating and summer cooling.

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The unit conditioner controls temperature and humidity. Hot humid air is converted in three simple operations to a cool, refreshing atmosphere. Warm air is drawn into the unit and passed over the chilled surfaces of a cooling coil. Through a process of condensation excessive moisture in the air is eliminated to reduce the humidity. When the air has given up heat and moisture it is circulated through the room by means of a fan designed to create an even, gentle draughtless air flow.

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The same unit can be used in winter for heating, regulating humidity and circulating warm air. For this purpose it is either connected to hot water or steam pipes, or an electric heating element is incorporated in the unit. The units are in the form of pressed metal cabinets, and occupy little more space than the radiators of a normal central hot water heating system.

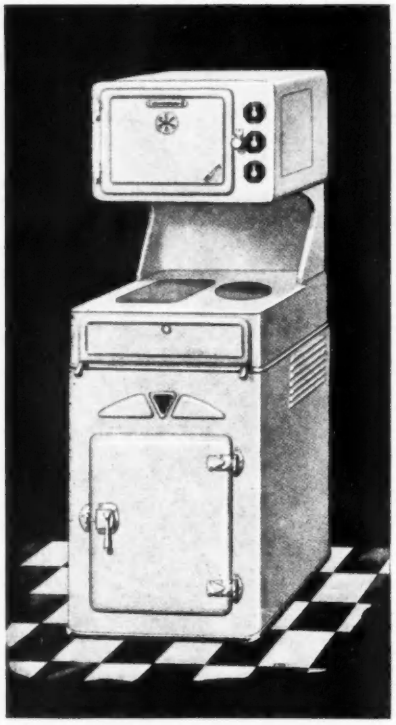

Fig. 2. The "Prestcold" combined refrigerator and cooker occupies a space of 22 in. by 21 in. with an overall height of 5 ft. 5 in.

TRADE ITEMS

Messrs. Davidson & Co. report that as trading conditions improved generally they have had greater activity in all departments during 1933. However, owing to the completion of the Electricity Grid there has been less demand for mechanical draft and grit collecting equipment such as has been supplied to Dunston, Ironbridge and Battersea super-power stations. The North Tees "B" power station, owned by the North Eastern Electtric Supply Co., Ltd., forms a notable example of similar work. Sirocco manufactures at present in hand for this station include centrifugal fans for mechanical draft and "Davidson" patent grit collecting equipment. Mechanical draft plant has also been supplied for extensions at Woolwich Arsenal.

Other power stations where Sirocco equipment has been installed include: Lots Road and Deptford West (London Power Co., Ltd.); County Borough of Preston Electricity Works; Poplar Electricity Works, London; Temple Back Electricity Station, Bristol; Hull Corporation Electricity Works; Croydon Electricity Works; Lancashire Power Co., Ltd.

Allied to this work, Sirocco mechanical draft plant has been supplied for use with many waste heat boilers, particularly to gas companies as for example, Bolton South Metropolitan Gas Co., Birkenhead Gas Co., and also the Gas Light and Coke Co., Ltd. This type of boiler assists economical production by utilization of the heat content of waste gases.

Sirocco specialities such as mechanical draft plant, grit collecting equipment and ventilating fans have been increasingly demanded in the cement making industries, and development work in connection with the "Aeroto" patent screw fan has made encouraging progress. A large number of installations have been built of various types, ranging in size from 10 in. to 10 ft. in diameter, and it is interesting to note that one of these fans, 75 in. diameter, is in use for the ventilation of the London Underground Railways. The application of these fans for mine ventilation has resulted in orders for numerous installations in such widespread areas as Great Britain, South Africa and Australia.

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Through the enterprise of one of the electrical manufacturers—The British Thomson-Houston Co., Ltd.—an opportunity is being given at the Ideal Home Exhibition for the public to see some of the methods on which modern electrical practice has been reared.

Four times a day in the Hall of Magic on the gallery of the National Hall, Olympia, experts from the B.T.-H. Research Laboratories at Rugby are giving a display of "electrical magic."

THE BUILDINGS ILLUSTRATED

Sub-Contractors' List

Following are the names of the general contractors and some of the sub-contractors for the buildings illustrated in this issue.

Middlesex Hospital (pages 529-531). General contractors, Higgs and Hill, Ltd.; Dr. Oscar Faber, O.B.E., steelwork engineer; H. A. Sandford, the Hospital consulting engineer, designed and carried out all mechanical and electrical services and equipment; H. H. Connybeare, quantity surveyor. Sub-contractors: H. J. Cash & Co., Ltd., heating, hot water, steam, and ventilation; Manlove Alliott & Co., Ltd., sterilizers; Locke and Soares, electric light and power; Dent and Hellyer, Ltd., plumbing, drainage and sanitary fittings; Waygood-Otis, Ltd., lifts; Dunlop Rubber Co., rubber flooring; Howard and Son, teak parquet flooring; James Slater & Co., Ltd., Carron Company, Arnault, Ltd., Benham and Sons, Ltd., and Frank V. Magrini, Ltd., kitchen apparatus; J. and E. Hall, Ltd., and Electrolux, Ltd., cold storage and refrigerators; Carter & Co. (London), Ltd., tiles; J. P. White and Son, entrance doors, lift doors, etc.; James Gibbons, Ltd., balustrade to oak staircase; F. Tibbenham, Ltd., and Shapland and Petter, furniture; Skellorn Edwards, easy chairs and couches; Allan Walton, all curtain and upholstery materials; Troughton and Young, Ltd. and Bective Electrical Co., Ltd., electric light fittings; Eric Munday, aluminium grille to office.

Studios for B.B.C., Cardiff (pages 525-528). General contractors, Stone & Co. (Bristol), Ltd. Sub-contractors: Peradin Rubber Sales, Ltd., rubber flooring; James Gibbons, Ltd., ironmongery; Birmingham Guild, Ltd., grilles; Troughton and Young, Ltd., and Heal and Son, Ltd., electric light fittings; Synchronome Co., Ltd., clocks; P. E. Gane, Ltd. and A. H. Parker, Ltd., furniture; Heal and Son, Ltd., scarlet dragon; TenTest Fibre Board Co. (1929), Ltd., wall board.

AN OMISSION

In the list of sub-contractors for the showrooms in Davies Street (architects, Dean and Braddell) illustrated in our issue for March 22, the name of Messrs. Drytone, Limited, was omitted. Messrs. Drytone were responsible for the doors and door-frames.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILE RADIUS)

BETHNAL GREEN. *Tenements.* The L.C.C. is to erect blocks of tenements on the Hollybush Gardens site at a cost of £32,000.

CHELSEA. *Clearance Scheme.* The B.C. is to prepare a clearance scheme for the Wellington Street area involving 53 houses.

CHELSEA. *Building.* Mr. A. Blomfield has prepared plans for the erection of a six-storey building in Manor Gardens.

COULSDON. *Houses.* Plans passed by the U.D.C. : Shop, Stoats Nest Road, for Messrs. Stanford & Co. ; two houses, Melrose Road, for Mr. H. Salter ; two houses, Chaldon Way, for Mr. W. J. Burstow ; three houses, Alexander Road, for Mr. W. Ingram ; six houses, Stoneyfield Road, for Mr. E. B. Clarke ; 14 houses, Coulsdon Road, for Messrs. Macleod & Co. ; six houses, Court Avenue, for Firmus Constructions, Ltd. ; two houses, Brigstock Road, for Mr. H. S. Griffiths.

CROYDON. *Factories.* The Corporation has leased land in Cherry Orchard Road to Mr. Ogden Smith, for the erection of factory buildings.

ISLINGTON. *Tenements.* The L.C.C. is to erect 80 tenements on the Northampton Street site, at a cost of £28,500.

LEWISHAM. *Houses.* Plans passed by the B.C. : Two houses, Lowther Hill, for Mr. J. Rosenfield; 12 houses, Sydenham Park Road, for Messrs. Brett and Son ; 41 houses, Marvels Lane, for Messrs. H. Thoburn, Ltd. ; 47 houses, Woodlands estate, for Mr. P. B. Dannatt ; houses, in Elstree Hill, for Mr. E. A. Young ; two buildings, Westwood Oak, for Mr. J. Lax ; shops, flats and houses, Bromley Road, and Daneby Avenue, for Mr. G. T. Harman ; houses, site of 27-41, Upwood Road, Lee, for Mr. W. T. A. Froude ; 10 houses, off Sunderland Road, Forest Hill, for Mr. J. C. Anderson.

SANDERSTEAD. *Estate development.* Messrs. Morgan, Baines and Clark, have prepared plans for the development of the Briton Hill farm estate. The area is 51 acres and over 300 houses are to be built.

SANDERSTEAD. *Houses.* Plans passed : 16 houses, The Windings, for Messrs. Hooker and Rogers ; seven houses, Onslow Gardens, for Messrs. Brice and Co. ; two houses, Gordon Avenue, for Mr. J. P. Warren ; two houses, Selsdon Road, for Mr. N. A. Holmes ; four houses, Sundridge Road, for Industrial Builders, Ltd. ; 10 houses, The Windings, for Mr. F. C. Woodruff ; two houses, Selsdon Road, for Messrs. Baldwin and Sons, Ltd.

Messrs. Truett and Steel, Ltd., are to erect 34 houses in Mitchley Avenue.

SOUTHGATE. *Shops and Flats, etc.* Plans passed by the Corporation : Four shops and flats, Green Lanes, for Messrs. L. H. Charles & Co., Ltd. ; three houses, Lower Maidstone Road, for Mr. A. Pilgrim ; roads, Oak Lodge estate, for Messrs. George Reed and Sons, Ltd. ; two houses, The Mall, for Mr. J. R. Scarborough ; two houses, Ringwood Way, for Mr. G. W. S. Ingram.

SOUTH-WESTERN COUNTIES

BOURNEMOUTH. *Nursing Home.* The Corporation has promised to give favourable consideration to a proposal by Messrs. Guillaume and Sons, for the development of the Haddon Hill estate, including the erection of a nursing home, five storeys in height.

BOURNEMOUTH. *Houses, etc.* Plans passed by the Corporation : 20 flats, Christchurch Road and Annerley Road, for Messrs. R. Lee, Ltd. ; four flats, plots 31, 32 and 33 Draycott Road, for Mr. B. J. Watts ; two houses, plots 32 and 33 Carberry Avenue, for Messrs. H. G. Mills and Son ; two houses, 52 Malmesbury Park Road, for Mr. C. V. Miller ; shop and living accommodation, Tuckton Road, for Mr. C. Williamson ; two bungalows, Old Wimborne Road, for Mr. F. G. Colmer ; 24 houses and garages, Ashford Road, for Mr. J. N. Hardy ; 14 houses and garages, Ashford Road, for Mr. J. N. Hardy ; two flats, The Grove, Moordown, for Mrs. K. M. Cundall ; house and garage, 25 Meyrick Park Crescent, for Mr. R. Carter ; five bungalows, Headswell Avenue, for Mr. W. J. Clapcott ; three bungalows, Pine Vale Crescent, for Mr. L. H. Lockyer ; five bungalows, Saxonbury Road, for Messrs. C. W. Garrett and Sons ; two bungalows, Ringwood Road, for Mr. W. Ridout ; 17 flats, Orchard Street, for Commr. Munro ; two houses and garages, Southwood Road, for Mr. R. T. Roffey ; pair of flats, Draycott Road, for Mr. W. Chapman ; two houses and garages, Christchurch Road, Ilford Estate, for Mr. A. W. Watts ; four flats, Florence Road, for Mrs. L. Rowley ; two flats, Heatherlea Road, for Mrs. L. Perno ; two houses, Seafield Road, for Mr. T. Sutcliffe.

EXETER. *Houses.* The Corporation is to purchase land in the Wonford district, for the erection of 350 houses. The City Architect reports, in this connection, that space should be reserved for a civic centre, including the erection of an assembly hall, library, institute and welfare centre.

SWINDON. *Houses, etc.* Plans passed by the Corporation : 60 houses, Croft Road, for Mr. A. J. Colborne ; 96 houses, Marlborough Road, and 10, Moredon Road, for Messrs. E. H. Bradley and Sons ; shop and offices, Victoria Road, for Messrs. J. T. Parsons and Sons.

SOUTHERN COUNTIES

BEXHILL. *Estate development, etc.* Plans passed by the Corporation : Estate development, off Pear Tree Lane, for Mr. J. Asher ; development, Bidwell estate, for Mr. E. J. Harris ; 14 houses, Claremont Road, for Mr. Hodgson.

GUILDFORD. *Shops, Flats, etc.* Plans passed by the Corporation : Two shops and offices, North Street, for Mr. S. T. Gotelee ; two houses, Farnham Road, for Mr. J. Purser ; three houses Winterhill estate, for Messrs. Armstrong & Co. ; 17 houses, off Woking Road, for Mr. R. C. Whitemore ; 91 flats, Portsmouth Road and Millmead Terrace, for Stone Ridge Estates, Ltd. ; swimming pool, Maori Road, for Mr. L. R. Hiscock ; two houses, Sheepfold Road, for Mr. G. Harms.

EASTERN COUNTIES

COLCHESTER. *Assembly Hall.* The Joint Committee of the County Councils of Cambridgeshire, Essex, East Suffolk, and West Suffolk is to erect an assembly hall, etc., at the Royal Eastern Counties Institution, at a cost of £15,000.

MIDLAND COUNTIES

CHESTERFIELD. *Houses.* Plans passed by the Corporation : Two houses, Newbold Avenue, for Mr. S. G. Wells ; eight houses, Calow Lane, for Mr. L. Hoole ; two houses, Sheffield Road, and two in Tapton View Road, for Mr. A. B. Short ; four houses, Hady Lane, for Mr. W. Whiteley ; 14 houses, Darwen Road, for Messrs. J. H. Naylor and Sons.

KIDDERMINSTER. *Houses.* Plans passed by the Corporation : Three houses, Puxton Lane, for Mr. H. B. Edmunds ; seven houses, Springfield Lane, for Mr. F. Hughes ; four houses, Mason Road, for Mr. Rowe ; four houses, Foxholes estate, for Messrs. Holt and Shaw ; machine shop, Franchise Street, for Messrs. Dutfield and Quale ; two houses, Chester Road, for Mrs. A. Walker ; 20 houses, Bruce Road, for Mr. W. Lindley ; four houses, Puxton Lane, for Mrs. R. Hill ; 10 houses, Comberton estate, for Messrs. Towers, Wilson & Co. ; shops and offices, Blackwell Street, for Mr. James Tower ; four houses, Coates Road, for Messrs. Wallace & Co. ; two houses, Holman Street, for Miss Austin ; two houses, Leswell Lane, for Messrs. G. Thomas and Sons.

MANSFIELD. *Houses.* The Corporation has obtained sanction to borrow £22,500 for the erection of 84 houses on the Ravensdale estate.

WOLVERHAMPTON. *School Extensions.* The Education Committee has approved the following schemes : Extensions to Oldfallings Senior Girls' School, £6,300, to give increased accommodation of 120 places, plus science room and additional domestic accommodation ; the erection of temporary hutments where required, £2,500 ; additional school site and the erection of permanent junior mixed school of 450 places with hall on a site to be decided on, £13,500.

NORTHERN COUNTIES

BOLTON. *Houses.* Plans passed by the Corporation : six houses, Salford Road, for Mr. Maurice Welch ; two houses, Harpers Lane, for Messrs. Yates and Partington ; six houses, Greenhill Avenue, for Messrs. Dobson and Tierney ; two houses, Strawberry Hill Road, for Mr. J. Morris ; 12 houses, Red Lane, for Mr. A. H. Witter ; 60 houses, Crompton Fold estate, for Messrs. W. Gornall and Sons, Ltd. ; two houses, Albert Road, for Mr. T. H. Pearse ; six houses, Longfellow Avenue, for Mr. J. Hough ; two houses, Loctock Junction Lane, for Messrs. Wilfred Andrew, Ltd.

CHESTER. *Houses and Shops.* Plans passed by the Corporation : 50 houses, Abbots Court, for Messrs. T. Warrington, Ltd. ; two shops, Boughton, for Messrs. Vernon and Sons, Ltd.

CHORLEY. *Houses.* Plans passed by the Corporation : four houses, Brown Road, for Mr. A. Redhead ; four houses, Guildford Avenue, for Messrs. J. W. Lee, Ltd. ; two houses, Carr Lane, for Mr. R. Cragg ; two houses, Russell Square, for Messrs. Monks and Kenyon ; four houses, Park Road, for Mr. Z. Wilkinson ; two houses, Yarrow Road, for Messrs. C. Triffitt and Son ; four houses, Isleworth Drive, for Gillibrand Estates, Ltd.

SEAHAM HARBOUR. *Houses.* The U.D.C. is to borrow £50,000 for the erection of 158 houses.

SHEFFIELD. *Houses.* Plans passed by the Corporation : Eight houses, off Crimicar Lane, for Mr. J. W. Sivil ; three houses, Whitehouse Road, for Mr. H. Turner ; two houses, Whirlow Grove, for Messrs. Dyson & Co. ; four houses, Stannington Road, for Mr. A. Simpson ; 10 houses, Forres Avenue, for Mr. F. Ridal ; two houses, Montrose Road, for Messrs. Plant Bros. ; 12 houses, Forres Avenue, for Mr. W. Green ; 16 houses, Woodthorpe Arms estate, for Messrs. J. H. Naylor and Son ; four houses, City Road, for Mr. S. C. Boul ; four houses, Ridgeway Road, for Mr. J. F. Bullen ; six houses, Springfield Road, for Mr. T. Leadbeater ; eight houses, Springfield Road, for Mr. J. T. Redmile ; four houses, Hurlfield Road, for Messrs. T. Ardern and Son ; shop and house, Paper Mill Road, for Mr. E. Westmoreland ; two houses, Fox Hill Road, for Mr. H. Haywood ; two houses, Millhouses Lane, for Mrs. E. Jones ; two houses, Essex Street, for Mr. T. A. Larder.

STRETFORD. *School.* The Corporation has received sanction to borrow £8,503 for the erection of an infants' department at Moss Park elementary school.

STRETFORD. *Houses.* Plans passed by the Corporation : 14 houses, Bradfield Road, for Messrs. Freeman, Evans & Co. ; 24 houses, Lindom Avenue, for Messrs. Smith and Allcock, Ltd.

Manufacturers' Item

Work is commencing this week on a new factory for Allom Brothers, Ltd., of 16 Grosvenor Place, S.W.1, for which Stanley Hall and Easton and Robertson, FF.R.I.B.A., are the consulting architects. The site chosen faces the Morden road near the beginning of the Sutton by-pass. The new works will replace the present factory off Oxford Street, and the added accommodation will enable the firm to manufacture not only light fittings of all description, but also sheet metal work.

A large demonstration room is being included, in which lighting arrangements can be tried. An architect will thus have the opportunity of testing the effect of a scheme, and modifying it, if necessary, to suit the special requirements he desires.

In addition, the facade will be used for experimental work in flood-lighting. It is hoped that the work will be completed by June.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I s. d.	II s. d.
A_1	ABERDARE	S. Wales & M.	1 5	1 0½
A_1	Abergavenny	S Wales & M.	1 5	1 0½
A_2	Abingdon	S. Counties	1 4	1 0
A	Accrington	N.W. Counties	1 5½	1 1½
A_2	Addlestone	S. Counties	1 4	1 0
A	Adlington	N.W. Counties	1 5½	1 1½
A	Airdrie	Scotland	*1 5½	1 1½
C	Aldeburgh	E. Counties	1 1½	10½
A	Altrincham	N.W. Counties	1 5½	1 1½
B_2	Appleby	N.W. Counties	1 2	10½
A	Ashton-under-Lyne	N.W. Counties	1 5½	1 1½
A_2	Atherstone	Mid. Counties	1 4	1 0
B_2	Aylesbury	S. Counties	1 2½	11
B_1	BANBURY	S. Counties	1 3	11½
B_1	Bangor	N.W. Counties	1 3	11½
A_2	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley	Yorkshire	1 5½	1 1½
B	Barnstaple	S.W. Counties	1 3½	11½
A	Barrow	N.W. Counties	1 5½	1 1½
A	Barry	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke	S.W. Counties	1 3	11½
A_2	Bath	S.W. Counties	1 4½	1 0½
A	Batley	Yorkshire	1 5½	1 1½
A_2	Bedford	S. Counties	1 4½	1 0½
A_2	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley	Mid. Counties	1 4½	1 0½
B_2	Bicester	S. Counties	1 2	10½
	Birkenhead	N.W. Counties	*1 7	1 2½
A	Birmingham	Mid. Counties	1 5½	1 1½
A_1	Bishop Auckland	N.E. Coast	1 5	1 0½
A	Blackburn	N.W. Counties	1 5½	1 1½
A	Blackpool	N.W. Counties	1 5½	1 1½
A	Blyth	N.E. Coast	1 5½	1 1½
B_1	Bognor	S. Counties	1 3	11½
A	Bolton	N.W. Counties	1 5½	1 1½
A	Boston	Mid. Counties	1 4	1 0
A_2	Bournemouth	S. Counties	1 4	1 0
B_2	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford	Yorkshire	1 5½	1 1½
A	Brentwood	E. Counties	1 5	1 0½
A	Bridgend	S. Wales & M.	1 5½	1 1½
B_1	Bridgwater	S.W. Counties	1 3	11½
A_1	Bridlington	Yorkshire	1 5	1 0½
A	Brighouse	Yorkshire	1 5½	1 1½
A_2	Brighton	S. Counties	1 4	1 0
A	Bristol	S.W. Counties	1 5½	1 1½
B_2	Brixham	S.W. Counties	1 2½	11
A_2	Bromsgrove	Mid. Counties	1 4½	1 0½
B_2	Bromyard	Mid. Counties	1 2	10½
A	Burnley	N.W. Counties	1 5½	1 1½
A	Burslem	Mid. Counties	1 5½	1 1½
A	Burton-on-Trent	Mid. Counties	1 5½	1 1½
A	Bury	N.W. Counties	1 5½	1 1½
A_1	Buxton	N.W. Counties	1 5	1 0½
A_1	CAMBRIDGE	E. Counties	1 5	1 0½
B_1	Canterbury	S. Counties	1 3	11½
A	Cardiff	S. Wales & M.	1 5½	1 1½
A	Carlisle	N.W. Counties	1 5½	1 1½
B	Carmarthen	S. Wales & M.	1 3½	11½
B	Carnarvon	N.W. Counties	1 3½	11½
A	Carnforth	N.W. Counties	1 5½	1 1½
A	Castleford	Yorkshire	1 5½	1 1½
B	Chatham	S. Counties	1 3½	11½
A_2	Chelmsford	E. Counties	1 4	1 0
A_2	Cheltenham	S.W. Counties	1 4	1 0
A	Chester	N.W. Counties	1 5½	1 1½
A	Chesterfield	Mid. Counties	1 5½	1 1½
B_1	Chichester	S. Counties	1 3	11½
A	Chorley	N.W. Counties	1 5½	1 1½
B_1	Cirencester	S. Counties	1 3	11½
A	Clitheroe	N.W. Counties	1 5½	1 1½
A	Clydebank	Scotland	1 5½	1 1½
A	Coalville	Mid. Counties	1 5½	1 1½
A_2	Colchester	E. Counties	1 4	1 0
A	Colne	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay	N.W. Counties	1 4½	1 0½
A_1	Consett	N.E. Coast	1 5	1 0½
A_2	Conway	N.W. Counties	1 4½	1 0½
A	Coventry	Mid. Counties	1 5½	1 1½
A_2	Crewe	N.W. Counties	1 4½	1 0½
A	Cumberland	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1½
A	Darwen	N.W. Counties	1 5½	1 1½
B_1	Deal	S. Counties	1 3	11½
A_2	Denbigh	N.W. Counties	1 4	1 0
A	Derby	Mid. Counties	1 5½	1 1½
A	Dewsbury	Yorkshire	1 5½	1 1½
B	Didcot	S. Counties	1 3½	11½
A	Doncaster	Yorkshire	1 5½	1 1½
B_2	Dorchester	S.W. Counties	1 2½	11
A_2	Driffield	Yorkshire	1 4	1 0
A_2	Droitwich	Mid. Counties	1 4½	1 0½
A	Dudley	Mid. Counties	1 5½	1 1½
A	Dundee	Scotland	1 5½	1 1½
A	Durham	N.E. Coast	1 5½	1 1½
A_2	EASTBOURNE	S. Counties	1 4	1 0
A_1	Ebbw Vale	S. Wales & M.	1 5	1 0½
A	Edinburgh	Scotland	1 5½	1 1½
A_1	E. Glamorganshire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter	S.W. Counties	*1 4½	1 0½
B	Exmouth	S.W. Counties	1 3½	11½
A_2	FELIXSTOWE	E. Counties	1 4	1 0
A_2	Filey	Yorkshire	1 4	1 0
A	Fleetwood	N.W. Counties	1 5½	1 1½
B_1	Folkestone	S. Counties	1 3	11½
A	Frodsham	N.W. Counties	1 5½	1 1½
B_2	Frome	S.W. Counties	1 2½	11
A	GATESHEAD	N.E. Coast	1 5½	1 1½
B	Gillingham	S. Counties	1 3½	11½
A_2	Gloucester	S.W. Counties	1 4½	1 0½
A_2	Goole	Yorkshire	1 4½	1 0½
A_2	Gosport	S. Counties	1 4½	1 0½
A_2	Grantham	Mid. Counties	1 4	1 0
A_1	Gravesend	S. Counties	1 5	1 0½
A	Greenock	Scotland	*1 5½	1 1½
A	Grimsby	Yorkshire	1 5½	1 1½
B	Guildford	S. Counties	1 3½	11½
A	HALIFAX	Yorkshire	1 5½	1 1½
A	Hanley	Mid. Counties	1 5½	1 1½
A	Harrogate	Yorkshire	1 5½	1 1½
A	Hartlepools	N.E. Coast	1 5½	1 1½
B	Harwich	E. Counties	1 3½	11½
B_1	Hastings	S. Counties	1 3	11½
A_2	Hatfield	S. Counties	1 4½	1 0½
B	Hereford	S.W. Counties	1 3½	11½
A_2	Hertford	E. Counties	1 4½	1 0½
A	Heysham	N.W. Counties	1 5½	1 1½
A	Howden	N.E. Coast	1 5½	1 1½
A	Huddersfield	Yorkshire	1 5½	1 1½
A	Hull	Yorkshire	1 5½	1 1½
A	ILKLEY	Yorkshire	1 5½	1 1½
A	Immingham	Mid. Counties	1 5½	1 1½
A_2	Ipswich	E. Counties	1 4½	1 0½
B_2	Isle of Wight	S. Counties	1 2	10½
A	JARROW	N.E. Coast	1 5½	1 1½
A	KEIGHLEY	Yorkshire	1 5½	1 1½
B	Kendal	N.W. Counties	1 3½	11½
B	Keswick	N.W. Counties	1 3½	11½
A_2	Kettering	Mid. Counties	1 4½	1 0½
A_2	Kidderminster	Mid. Counties	1 4½	1 0½
B_1	King's Lynn	E. Counties	1 3	11½
A	LANCASTER	N.W. Counties	1 5½	1 1½
A_1	Leamington	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester	Mid. Counties	1 5½	1 1½
A	Leigh	N.W. Counties	1 5½	1 1½
B_2	Lewes	S. Counties	1 2	10½
A_2	Lichfield	Mid. Counties	1 4½	1 0½
A	Lincoln	Mid. Counties	1 5½	1 1½
	Liverpool	N.W. Counties	*1 7	1 2½
A_2	Llandudno	N.W. Counties	1 4½	1 0½
A	Llanelly	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12-15 miles radius)		1 6½	1 2
A	Long Eaton	Mid. Counties	1 5½	1 1½
A	Loughborough	Mid. Counties	1 5½	1 1½
A_2	Luton	E. Counties	1 4	1 0
A	Lytham	N.W. Counties	1 5½	1 1½
A_1	MACCLESFIELD	N.W. Counties	1 5	1 0½
B	Maidstone	S. Counties	1 3½	11½
A_2	Malvern	Mid. Counties	1 4	1 0
A	Manchester	N.W. Counties	1 5½	1 1½
A	Mansfield	Mid. Counties	1 5½	1 1½
B_1	Margate	S. Counties	1 3	11½
A	Matlock	Mid. Counties	1 4	1 0
A_1	Merthyr	S. Wales & M.	1 5	1 0½
A	Middlesbrough	N.E. Coast	1 5½	1 1½
A_2	Middlewich	N.W. Counties	1 4½	1 0½
B_2	Minehead	S.W. Counties	1 2½	11
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1 2½	11
A	Morecambe	N.W. Counties	1 5½	1 1½
A_2	NANTWICH	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson	N.W. Counties	1 5½	1 1½
A	Newcastle	N.E. Coast	1 5½	1 1½
A	Newport	S. Wales & M.	1 5½	1 1½
A	Normanton	Yorkshire	1 5½	1 1½
A	Northampton	Mid. Counties	1 5½	1 1½
A	North Staffs	Mid. Counties	1 5½	1 1½
A	North Shields	N.E. Coast	1 5½	1 1½
A_1	Norwich	E. Counties	1 5	1 0½
A	Nottingham	Mid. Counties	1 5½	1 1½
A	Nuneaton	Mid. Counties	1 5½	1 1½
A_2	OAKHAM	Mid. Counties	1 4	1 0
A	Oldham	N.W. Counties	1 5½	1 1½
A_2	Oswestry	N.W. Counties	1 4	1 0
A_2	Oxford	S. Counties	1 4½	1 0½
A	PAISLEY	Scotland	*1 5½	1 1½
B_2	Pembroke	S. Wales & M.	1 2	10½
A	Perth	Scotland	*1 5½	1 1½
A_2	Peterborough	E. Counties	1 4½	1 0½
A	Plymouth	S.W. Counties	*1 5½	1 1½
A	Pontefract	Yorkshire	1 5½	1 1½
A_1	Pontypridd	S. Wales & M.	1 5	1 0½
A_2	Portsmouth	S. Counties	1 4½	1 0½
A	Preston	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING	S. Counties	1 4½	1 0½
B	Reigate	S. Counties	1 3½	11½
A_2	Retford	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A_2	Ripon	Yorkshire	1 4	1 0
A	Rochdale	N.W. Counties	1 5½	1 1½
B	Rochester	S. Counties	1 3½	11½
A_1	Ruabon	N.W. Counties	1 5	1 0½
A	Rugby	Mid. Counties	1 5½	1 1½
A_2	Rugeley	Mid. Counties	1 4½	1 0½
A	Runcorn	N.W. Counties	1 5½	1 1½
A_1	ST. ALBANS	E. Counties	1 5	1 0½
A	St. Helens	N.W. Counties	1 5½	1 1½
B_2	Salisbury	S.W. Counties	1 2½	11
A_1	Scarborough	Yorkshire	1 5	1 0½
A	Scunthorpe	Mid. Counties	1 5½	1 1½
A	Sheffield	Yorkshire	1 5½	1 1½
A	Shipley	Yorkshire	1 5½	1 1½
A_2	Shrewsbury	Mid. Counties	1 4½	1 0½
A_2	Skipton	Yorkshire	1 4½	1 0½
A_2	Slough	S. Counties	1 4½	1 0½
A_1	Solihull	Mid. Counties	1 5	1 0½
A_2	Southampton	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport	N.W. Counties	1 5½	1 1½
A	S. Shields	N.E. Coast	1 5½	1 1½
A_2	Stafford	Mid. Counties	1 5	1 0½
A	Stockport	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud	S.W. Counties	1 3½	11½
A	Sunderland	N.E. Coast	1 5½	1 1½
A	Swadlincote	Mid. Counties	1 5½	1 1½
A	Swansea	S. Wales & M.	1 5½	1 1½
A_2	Swindon	S.W. Counties	1 4	1 0
A_2	TAMWORTH	N.W. Counties	1 5	1 0½
B	Taunton	S.W. Counties	1 3½	11½
A	Teesside Dist.	N.E. Counties	1 5½	1 1½
A_2	Teignmouth	S.W. Coast	1 4	1 0
A	Todmorden	Yorkshire	1 5½	1 1½
A_1	Torquay	S.W. Counties	1 5	1 0½
B_2	Truro	S.W. Counties	1 2½	11
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall	Mid. Counties	1 5½	1 1½
A	Tyne District	N.E. Coast	1 5½	1 1½
A	WAKEFIELD	Yorkshire	1 5½	1 1½
A	Walsall	Mid. Counties	1 5½	1 1½
A	Warrington	N.W. Counties	1 5½	1 1½
A_1	Warwick	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid. Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby	Yorkshire	1 4½	1 0½
A	Widnes	N.W. Counties	1 5½	1 1½
A	Wigan	N.W. Counties	1 5½	1 1½
B	Winchester	S. Counties	1 3½	11½
A_2	Windsor	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester	Mid. Counties	1 4½	1 0½
A_2	Worksop	Yorkshire	1 4	1 0
A_1	Wrexham	N.W. Counties	1 5	1 0½
A_2	Wycombe	S. Counties	1 4	1 0
B_2	YARMOUTH	E. Counties	1 3	11½
B_1	Yeovil	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	1 1½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	£ s. d.
Bricklayer . . . . . per hour	1 7
Carpenter . . . . . ,,	1 7
Joiner . . . . . ,,	1 7
Machinist . . . . . ,,	1 8
Mason (Banker) . . . . . ,,	1 7
,, (Fixer) . . . . . ,,	1 8
Plumber . . . . . ,,	1 7
Painter . . . . . ,,	1 6
Paperhanger . . . . . ,,	1 6
Glazier . . . . . ,,	1 7
Slater . . . . . ,,	1 7
Scaffolder . . . . . ,,	1 3
Timberman . . . . . ,,	1 3
Navvy . . . . . ,,	1 2½
General Labourer . . . . . ,,	1 2½
Lorryman . . . . . ,,	1 5
Crane Driver . . . . . ,,	1 6
Watchman . . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£ s. d.
Grey Stone Lime . . . . . per ton	2 2 0
Blue Lias Lime . . . . . ,,	1 16 6
Hydrated Lime . . . . . ,,	3 0 9
Portland Cement . . . . . ,,	2 6 0
Rapid Hardening Cement . . . . . ,,	2 13 6
White Portland Cement . . . . . ,,	8 15 0
Thames Ballast . . . . . per Y.C.	6 3
¾" Crushed Ballast . . . . . ,,	6 9
Building Sand . . . . . ,,	7 3
Washed Sand . . . . . ,,	8 3
2" Broken Brick . . . . . ,,	8 0
¾" ,, ,, ... ,,	10 3
Pan Breeze . . . . . ,,	6 6
Coke Breeze . . . . . ,,	8 9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

	4" s. d.	6" s. d.
Straight Pipes . . per F.R	0 9	1 1
Bends . . . each	1 9	2 6
Taper Bends . . ,,	3 6	5 3
Rest Bends . . ,,	4 3	6 3
Single junctions . . ,,	3 6	5 3
Double ,, . . ,,	4 9	6 6
Straight channels . . per F.R.	1 6	2 6
¾" Channel bends . . each	2 9	4 0
Channel junctions . . ,,	4 6	6 6
Channel tapers . . ,,	2 9	4 0
Yard gullies . . ,,	6 9	8 9
Interceptors . . ,,	16 0	19 6

IRON DRAINS:

Iron drain pipe . . per F.R.	1 6	2 6
Bends . . . each	5 0	10 6
Inspection bends . . ,,	9 0	15 0
Single junctions . . ,,	8 9	18 0
Double junctions . . ,,	13 6	30 0
Lead wool . . . lb.	6	—
Gaskin . . . ,,	5	—

BRICKLAYER

	£ s. d.
Flettons . . . . . per M.	2 18 0
Grooved do. . . . . ,,	3 0 0
Phorpres bricks . . . . . ,,	2 17 3
Phorpres Cellular bricks . . . . . ,,	2 17 3
Stocks, 1st quality	4 11 0
,, 2nd ,, ... ,,	4 2 6
Blue Bricks, Pressed	8 17 6
,, Wirecuts	7 17 6
,, Brindles	7 0 0
,, Bullnose	9 0 0
Red Sand-faced Facings	6 18 6
Red Rubbers for Arches	12 0 0
Multicoloured Facings	7 10 0
Luton Facings	7 10 0
Phorpres White Facings	3 17 3
Phorpres Rustic Facings	3 12 3
Midhurst White Facings . . . . . ,,	5 0 0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:	
Stretchers . . . . . ,,	21 0 0
Headers . . . . . ,,	20 10 0
Bullnose . . . . . ,,	27 10 0
Double Stretchers . . . . . ,,	29 10 0
Double Headers . . . . . ,,	26 10 0
Glazed Second Quality, *Less* . . . ,,	1 0 0
,, Buffs and Creams, *Add* . . ,,	2 0 0
,, Other Colours . . . ,,	5 10 0
2" Breeze Partition Blocks . . per Y.S.	1 7
2½" ,, ,, ,, . . ,,	1 10
3" ,, ,, ,, . .	2 1
4" ,, ,, ,, . . ,,	2 6

MASON

	s. d.
The following d/d F.O.R. at Nine Elms:	
Portland stone, Whitbed . . F.C.	4 4½
,, ,, Basebed . . ,,	4 9
Bath stone . . . . ,,	2 11
York stone . . . . ,,	6 6
,, ,, Sawn templates . . ,,	7 6
,, ,, Paving, 2" . . F.S.	1 8
,, ,, ,, 3" . . ,,	2 6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£ s. d.
24" × 12" Duchesses . . . per M.	28 17 6
22" × 12" Marchionesses . . ,,	24 10 0
20" × 10" Countesses . . ,,	19 5 0
18" × 10" Viscountesses . . ,,	15 10 0
18" × 9" Ladies . . . ,,	13 17 6
Westmorland green (random sizes) . per ton	8 10 0
Old Delabole slates d/d in full truck loads to Nine Elms Station:	
20" × 10" medium grey per 1,000 (actual)	21 11 6
,, ,, green ,, ,,	24 7 4
Best machine roofing tiles . . ,,	4 10 0
Best hand-made do. . . . ,,	5 0 0
Hips and valleys . . . each	9½
,, hand-made . . . ,,	10
Nails, compo . . . . lb.	1 4
,, copper . . . . ,,	1 6

CARPENTER AND JOINER

	s. d.
Good carcassing timber . . F.C.	2 2
Birch . . . . as 1" F.S.	9
Deal, Joiner's . . . ,, ,,	5
,, ,, 2nds . . ,, ,,	4
Mahogany, Honduras . . ,, ,,	1 3
,, African . . ,, ,,	1 1
,, Cuban . . ,, ,,	2 6
Oak, plain American . . ,, ,,	1 0
,, Figured ,, . . ,, ,,	1 3
,, Plain Japanese . . ,, ,,	1 2
,, Figured ,, . . ,, ,,	1 5
,, Austrian wainscot . . ,, ,,	1 6
,, English . . . ,, ,,	1 11
Pine, Yellow . . . ,, ,,	1 0
,, Oregon . . . ,, ,,	4
,, British Columbian . . ,, ,,	4
Teak, Moulmein . . . ,, ,,	1 3
,, Burma . . . ,, ,,	1 2
Walnut, American . . ,, ,,	2 3
,, French . . . ,, ,,	2 3
Whitewood, American . . ,, ,,	1 1
Deal floorings, ¾" . . . Sq.	18 6
,, ⅞" . . . ,,	1 1 6
,, 1" . . . ,,	1 2 0
,, 1¼" . . . ,,	1 5 0
,, 1½" . . . ,,	1 10 0
Deal matchings ¾" . . . ,,	14 0
,, ⅞" . . . ,,	15 6
,, 1" . . . ,,	1 4 0
Rough boarding ¾" . . . ,,	16 0
,, 1" . . . ,,	18 0
,, 1¼" . . . ,,	1 6 0

Plywood, per ft. sup.

Thickness	⅜"	½"	¾"	⅞"
Qualities	AA. A. B.	AA. A. B.	AA. A. B.	AA. A. B.
	d. d. d.	d. d. d.	d. d. d.	d. d. d.
Birch	4 3 2	5 4 3	7½ 6 4½	8½ 7 6
Alder	3½ 3 2	5 4 3	6½ 5½ 4½	8 7 6
Gaboon				
Mahogany	4 3 3	6½ 5½ 4½	9½ 7½ –	1/0½ 10 –
Figured Oak				
1 side	8½ 7 –	10 8 –	11½ – –	1/6 – –
Plain Oak				
1 side	6½ 6 –	7½ 7 –	9½ – –	1/– – –
Oregon Pine	5 4 –	5½ 5 –	6 – –	– – –

	d.
Scotch glue . . . . . lb.	8

SMITH AND FOUNDER

Tubes and Fittings:

(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	¼"	½"	1"	1½"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9
,, 3"-11½" long ,,	7	9	1/3	1/8	3/–
Long screws, 12"-23½" long ,,	11	1/3	2/2	2/10	5/3
,, ,, 3"M-½" long ,,	8	10	1/5	1/11	3/6
Bends . . . ,,	8	11	1/7½	2/7½	5/2
Springs not socketed . ,,	5	7	1/1½	1/11½	3/11
Socket unions . . ,,	2/–	3/–	5/6	6/9	10/–
Elbows, square . . ,,	10	1/1	1/6	2/2	4/3
Tees . . . ,,	1/–	1/3	1/10	2/6	5/1
Crosses . . . ,,	2/2	2/9	4/1	5/6	10/6
Plain Sockets and nipples ,,	3	4	6	8	1/3
Diminished sockets . ,,	4	6	9	1/–	2/–
Flanges . . . ,,	9	1/–	1/4	1/9	2/9
Caps . . . ,,	3½	5	8	1/–	2/–
Backnuts . . . ,,	2	3	5	6	1/1
Iron main cocks . . ,,	1/6	2/3	4/2	5/4	11/6
,, ,, with brass plugs ,,	—	4/–	7/6	10/–	21/–

Discounts: TUBES.

	Per cent.		Per cent.
Gas . . .	65	Galvanized gas .	52½
Water . . .	61½	,, water	47½
Steam . . .	57½	,, steam	42½
	FITTINGS.		
Gas . . .	57½	Galvanized gas .	47½
Water . . .	52½	,, water	42½
Steam . . .	47½	,, steam	37½

SMITH AND FOUNDER—*continued*

	s. d.
Rolled steel joists cut to length . . cwt.	10 9
Mild steel reinforcing rods, ⅜" . . ,,	8 6
,, ,, ½" . . ,,	8 3
,, ,, ⅝" . . ,,	8 0
,, ,, ¾" . . ,,	7 6
,, ,, ⅞" . . ,,	7 6
,, ,, 1" . . ,,	7 6
,, ,, 1¼" . . ,,	7 6
,, ,, 1½" . . ,,	7 6

Cast-iron rain-water pipes of	3" s. d.	4" s. d.
ordinary thickness metal . F.R	8	10
Shoes . . . . each	2 0	3 0
Anti-splash shoes . . ,,	4 6	8 0
Boots . . . . ,,	3 0	4 0
Bends . . . . ,,	2 7	3 9
,, with access door . . ,,	—	6 3
Heads . . . . ,,	4 0	5 0
Swan necks up to 9" offsets . ,,	3 9	6 0
Plinth bends, 4½" to 6" . ,,	3 9	5 3
Half-round rain-water gutters of ordinary thickness metal . F.R.	5	6
Stop ends . . . . each	6	6
Angles . . . . ,,	1 7	1 11
Obtuse angles . . . ,,	2 0	2 6
Outlets . . . . ,,	1 9	2 3

PLUMBER

	£ s. d.
Lead, milled sheets . . . cwt.	18 6
,, drawn pipes . . ,,	17 0
,, soil pipe . . ,,	18 6
,, scrap . . ,,	10 6
Solder, plumbers' . . . lb.	9½
,, fine do. . . ,,	1 0
Copper, sheet . . . ,,	8½
,, tubes . . . ,,	11

L.C.C soil and waste pipes:	3"	4"	6"
Plain cast . F.R.	1 0	1 2	2 6
Coated . . ,,	1 1	1 3	2 8
Galvanized . ,,	2 6	2 6	4 6
Holderbats . each	3 10	4 6	4 9
Bends . . ,,	3 9	5 3	10 3
Shoes . . ,,	2 10	4 4	9 6
Heads . . ,,	4 8	8 5	12 9

PLASTERER

	£ s. d.
Lime, chalk . . . per ton	2 5 0
Plaster, coarse . . . ,,	2 10 0
,, fine . . . ,,	4 15 6
Hydrated lime . . . ,,	3 0 9
Sirapite . . . ,,	3 6 0
Keene's cement . . . ,,	5 0 0
Sand, washed . . . Y.C.	11 6
Hair . . . lb.	6
Laths, sawn . . . bundle	2 4
,, rent . . . ,,	3 9
Lath nails . . . lb.	3½

GLAZIER

	s. d.	s. d.
Sheet glass, 21 oz., squares n/e 2 ft.	s. F.S.	2
,, ,, 26 oz. ,, ,, ,, ,,		3½
Arctic glass, white . . . ,,		7
Cathedral glass, white, dbl.-rolled, plain, hammered, rimpled, waterwite,		6½
¼" Hartley's rough rolled . . ,,		7
,, wired cast . . ,,		10
¼" ,, wired cast . . ,,		11
¼" Polished plate, n/e 1 ft. . ,,	†10 to‡1	1
,, ,, 2 . . ,,	†1 2 ,,‡1	4
,, ,, 3 . . ,,	†1 8 ,,‡1	11
,, ,, 4 . . ,,	†2 3 ,,‡2	6
,, ,, 6 . . ,,	†2 7 ,,‡2	9
,, ,, 8 . . ,,	†2 9 ,,‡3	2
,, ,, 12 . . ,,	†3 1 ,,‡3	7
,, ,, 20 . . ,,	†3 7 ,,‡4	2
,, ,, 45 . . ,,	†3 11 ,,‡4	7
,, ,, 65 . . ,,	†4 4 ,,‡4	11
,, ,, 90 . . ,,	†4 9 ,,‡5	5
,, ,, 100 . . ,,	†5 0 ,,‡5	7
Vita glass, sheet, n/e 1 ft. . ,,		1 0
,, ,, ,, 2 . ,,		1 3
,, ,, ,, over 2 . ,,		1 6
,, ,, plate, n/e 1 ft. . ,,		3 0
,, ,, ,, 2 . ,,		4 0
,, ,, ,, 5 . ,,		5 0
,, ,, ,, 7 . ,,		6 0
,, ,, ,, 15 . ,,		7 6
,, ,, ,, over 15 . ,,		10
Putty, linseed oil . . . lb.		3

†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

	£ s. d.
White lead in 1 cwt. casks . . cwt.	2 6 0
Linseed oil . . . . gall.	2 2½
Boiled oil . . . . ,,	2 4½
Turpentine . . . . ,,	4 1½
Patent knotting . . . ,,	14 0
Distemper, washable . . . cwt.	2 6 0
,, ordinary . . . ,,	2 0 0
Whitening . . . . ,,	4 0
Size, double . . . firkin	3 0
Copal varnish . . . gall.	13 0
Flat varnish . . . ,,	14 0
Outside varnish . . . ,,	16 0
White enamel . . . ,,	1 15 0
Ready-mixed paint . . . ,,	13 6
Brunswick black . . . ,,	7 6

Changes from last week are set out in heavier type.

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR

		£ s. d.
Digging over surface n/e 12" deep and cart away	Y.S.	2 9
" to reduce levels n/e 5' 0" deep and cart away	Y.C.	8 6
" to form basement n/e 5' 0" deep and cart away	"	9 0
" " 10' 0" deep and cart away	"	9 6
" " 15' 0" deep and cart away	"	10 0
If in stiff clay	add "	2 6
If in underpinning	" "	4 0
Planking and strutting to sides of excavation	F.S.	1 0
" " to pier holes	"	5
" " to trenches	"	5
" " extra, only if left in	"	3
Hardcore, filled in and rammed	Y.C.	10 0
Portland cement concrete in foundations (6-1)	"	1 6 0
" " (4-2-1)	"	1 12 6
" " underpinning	"	1 16 0
Finishing surface of concrete, spade face	Y.S.	7

DRAINLAYER

		4" s. d.	6" s. d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1 6	2 3
Extra, only for bends	Each	2 8	3 9
" junctions		3 9	4 6
Gullies and gratings		16 6	18 0
Cast iron drains, and laying and jointing	F.R.	4 9	6 9
Extra, only for bends	Each	10 6	15 6

BRICKLAYER

	£ s. d.
Brickwork, Flettons in lime mortar	Per Rod 27 10 0
" " in cement	" 28 15 0
" Stocks in cement	" 35 0 0
" Blues in cement	" 52 0 0
Extra only for circular on plan	" 2 0 0
" backing to masonry	" 1 10 0
" raising on old walls	" 2 0 0
" underpinning	" 5 10 0
Fair Face and pointing internally	F.S. 1½
Extra over fletton brickwork for picked stock facings and pointing	" 8½
" " " red brick facings and pointing	" 11
" " " blue brick facings and pointing	" 1 4
" " " glazed brick facings and pointing	" 3 6
Tuck pointing	" 7
Weather pointing in cement	" 3½
Slate dampcourse	" 10
Vertical dampcourse	" 1 1

ASPHALTER

	s. d.
½" Horizontal dampcourse	Y.S. 4 6
½" Vertical dampcourse	" 6 9
½" paving or flat	" 4 0
1" paving or flat	" 5 6
1" × 6" skirting	F.R. 1 0
Angle fillet	" 2
Rounded angle	" 2
Cesspools	Each 5 0

MASON

	s. d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C. 17 9
Bath stone and do., all as last	" 13 6
Artificial stone and do.	" 13 0
York stone templates, fixed complete	" 10 6
" thresholds	" 13 6
" sills	" 1 0 6

SLATER AND TILER

	£ s. d.
Slating, Bangor or equal, laid to a 3" lap, and fixing with compo nails, 20" × 10"	Sqr. 3 10 0
Do., 18" × 9"	" 3 7 0
Do., 24" × 12"	" 3 17 0
Westmorland slating, laid with diminished courses	" 6 0 0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course	" 3 0 0
Do., all as last, but of machine-made tiles	" 2 16 0
10" × 10" medium Old Delabole slating, laid to a 3" lap (grey)	" 4 6 0
" " " " " " (green)	" 4 15 0

CARPENTER AND JOINER

	£ s. d.
Flat boarded centering to concrete floors, including all strutting	Sqr. 2 5 0
Shuttering to sides and soffits of beams	F.S. 8
" to stanchions	" 8
" to staircases	" 1 8
Fir and fixing in wall plates, lintols, etc.	F.C. 3 9
Fir framed in floors	" 4 6
" " roofs	" 6 6
" " trusses	" 7 6
" " partitions	" 8 6
½" deal sawn boarding and fixing to joists	Sqr. 1 14 6
1" " " " "	" 1 17 6
1½" " " " "	" 2 3 0
4" × 2" fir battening for Countess slating	" 9 6
Do. for 4" gauge tiling	" 12 0
Stout feather-edged tilting fillet	F.R. 4½
Patent inodorous felt, 1 ply	Y.S. 2 3
" " " 2 "	" 2 9
" " " 3 "	" 3 3
Stout herringbone strutting to 9" joists	F.R. 10½
1" deal gutter boards and bearers	F.S. 1 2
1½" " " " "	" 1 6
2" deal wrought rounded roll	F.R. 8
1" deal grooved and tongued flooring, laid complete, including cleaning off	Sqr. 2 1 0
1¼" do.	" 2 10 0
1½" do.	" 2 17 0
1" deal moulded skirting, fixed on, and including grounds plugged to wall	F.S. 1 6
1½" do.	" 1 9

CARPENTER AND JOINER—*continued*

	s. d.
1½" deal moulded sashes of average size	F.S. 1 9½
2" " " "	" 1 11½
1½" deal cased frames double hung, of 6" × 3" oak sills, 1¼" pulley stiles, 1¼" heads, 1" inside and outside linings, ½" parting beads, and with brass faced axle pulleys, etc., fixed complete	" 3 7
2" " " "	" 3 10
Extra only for moulded horns	Each 6
1½" deal four-panel square, both sides, door	F.S. 2 0
2" " " "	" 2 8
1½" " but moulded both sides	" 2 4
2" " " "	" 3 0
4" × 3" deal, rebated and moulded frames	F.R. 1 0
4½" × 3½" " " "	" 1 4
1¼" deal tongued and moulded window board, on and including deal bearers	F.S. 1 9
1½" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	" 2 6
1½" deal moulded wall strings	" 2 1
1½" " outer strings	" 2 4
Ends of treads and risers housed to string	Each 1 9
3" × 2" deal moulded handrail	F.R. 1 3
1" × 1" deal balusters and housing each end	Each 2 0
1½" × 1½" " " "	" 2 9
3" × 3" deal wrought framed newels	F.R. 1 3
Extra only for newel caps	Each 6 0
Do., pendants	" 6 0

SMITH AND FOUNDER

	£ s. d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt. 15 6
Riveted plate or compound girders, and hoisting and fixing in position	" 19 6
Do. stanchions with riveted caps and bases and do.	" 19 0
Mild steel bar reinforcement, ½" and up, bent and fixed complete	" 17 6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S. 11
Wrot-iron caulked and cambered chimney bars	Per cwt. 1 10 0

PLUMBER

	£ s. d.
Milled lead and labour in flats	cwt. 1 12 0
Do. in flashings	" 1 15 6
Do. in covering to turrets	" 2 3 0
Do. in soakers	" 1 7 6
Labour to welted edge	F.R. 3½
Open copper nailing	" 3
Close " "	" 4

	½" s. d.	¾" s. d.	1" s. d.	1¼" s. d.	2" s. d.	4" s. d.
Lead service pipe and fixing with pipe hooks	F.R. 10	1 0	1 3	2 0	2 10	—
Do. soil pipe and fixing with cast lead tacks	—	—	—	—	—	5 6
Extra, only to bends	Each —	—	—	—	2 0	6 9
Do. to stop ends	" 6½	8	9	11	1 0	—
Boiler screws and unions	" 3 3	3 9	5 0	8 0	—	—
Lead traps	" —	—	—	6 3	8 9	—
Screw down bib valves	" 6 9	9 6	11 0	—	—	—
Do. Stop cocks and joints	" 7 0	9 6	12 6	—	—	—

4" cast-iron ½-rd. gutter and fixing	F.R. 1 0
Extra, only stop ends	Each 1 0
Do. angles	" 1 6
Do. outlets	" 2 9
4" dia. cast-iron rain-water pipe and fixing with ears cast on	F.R. 1 2
Extra, only for shoes	Each 1 3
Do. for plain heads	" 5 6

PLASTERER AND TILING

	s. d.
Expanded metal lathing, small mesh	Y.S. 2 0
Do. in n/w to beams, stanchions, etc.	" 2 9
Lathing with sawn laths to ceilings	" 1 3
½" screeding in Portland cement and sand for tiling, wood block floor, etc.	" 1 5
Do. vertical	" 1 7
Rough render on walls	" 1 2½
Render, float and set in lime and hair	" 1 9
Render and set in Sirapite	" 1 11
Render, backing in cement and sand, and set in Keene's cement	" 2 9
Extra, only if on lathing	" 4
Keene's cement, angle and arris	F.R. 6
Arris	" 1½
Rounded angle, small	" 3
Plain cornices in plaster, including dubbing out, per 1" girth	" 1½
1" granolithic pavings	Y.S. 3 6
1½" "	" 4 6
6" × 6" white glazed wall tiling and fixing on prepared screed	" 17 6
9" × 3" " " " "	" 1 2 6
Extra, only for small quadrant angle	F.R. 8

GLAZIER

	s. d.
21 oz. sheet glass and glazing with putty	F.S. 7
26 oz. do. and do.	" 8
Arctic glass and glazing with putty	" 1 1
Cathedral glass and do.	" 1 2
Glazing only, British polished plate	" 7
Extra, only if in beads	" 2
Washleather	F.R. 4

PAINTER

	s. d.
Clearcolle and whiten ceilings	Y.S. 6½
Do. and distemper walls	" 9
Do. with washable distemper	" 1 1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	" 3 3
Do. on woodwork	" 3 6
Do. on steelwork	" 3 0
Do. and brush grain and twice varnish	" 5 6
Stain and twice varnish woodwork	" 1 11
Stain and wax-polish woodwork	" 4 6
French polishing	F.S. 1 2
Stripping off old paper	Piece 2 0
Hanging ordinary paper from	" 2 9

Changes from last week are set out in heavier type.

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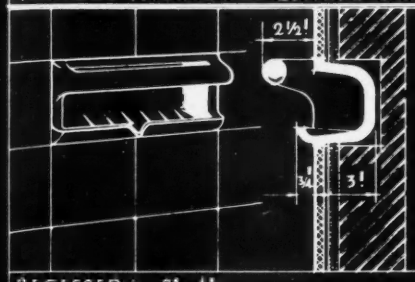
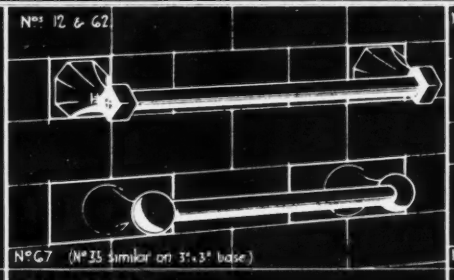
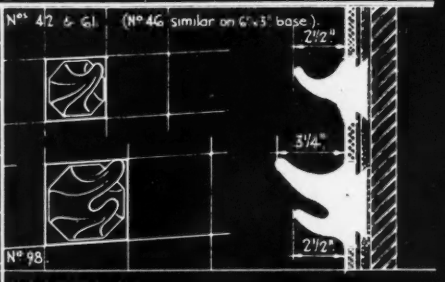
VARIOUS FITTINGS IN GLAZED EARTHENWARE : RECESSED & PROJECTING



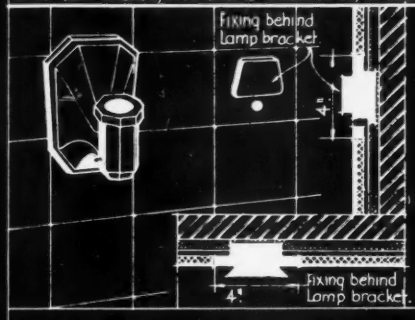
RECESSED : 8" x 4"
N° 52. SOAP HOLDER, FLUSH FRONT, NO GRIP & NO LIP.
N° 53. SOAP HOLDER, WITH PLAIN LIP BUT NO GRIP.
N° 54. SOAP HOLDER, WITH TONGUED LIP BUT NO GRIP.
N° 55. SOAP HOLDER, WITH GRIP BUT NO LIP.
N° 56. SOAP HOLDER, WITH GRIP & PLAIN LIP.
N° 57. SOAP HOLDER, WITH GRIP & TONGUED LIP, AS SHOWN



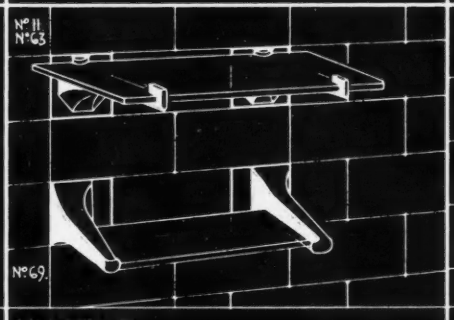
PROJECTING :
N°12. TOWEL RAIL & BRACKETS, 3"x3" BASE. 12a CENTRE BRACKET.
N°35. TOWEL RAIL & BRACKETS, 3"x3" BASE. 35A CENTRE BRACKET.
N°62. TOWEL RAIL & BRACKETS, 4"x4" BASE. 62A CENTRE BRACKET.
N°67. TOWEL RAIL & BRACKETS, 6"x3" BASE. 67A CENTRE BRACKET



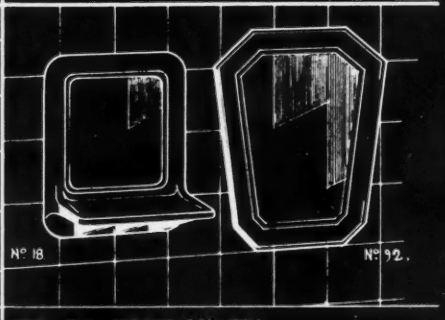
PROJECTING :
N° 42. COAT HOOK 3"x3" BASE.
N° 46. COAT HOOK, 6"x3" BASE.
N° 61. COAT HOOK, 4"x4" BASE.
N° 98. DOUBLE COAT HOOK 4"x4" BASE.



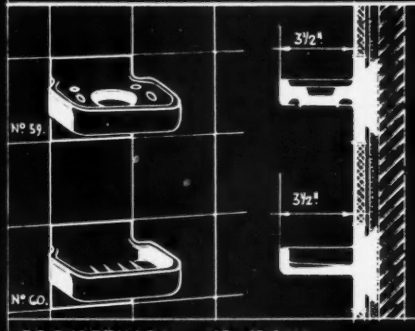
PROJECTING : Supplied complete with switch lampholder.
N° 90. LAMP BRACKET
The bracket slips on to tile fixing block with 4"x4" base.



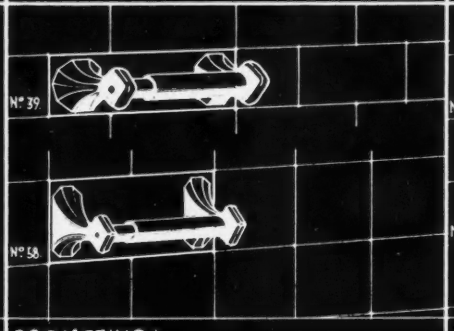
PROJECTING :
N° 11. 5" SHELF ON 3"x3" BASE.
N° 63. 5" SHELF ON 4"x4" BASE.
N°69. 5" SHELF ON 3"x3" BASE



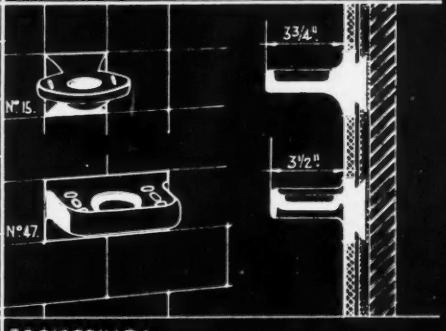
N° 16. OVAL MIRROR, 24" x 18½"
N° 17. CIRCULAR MIRROR 19" DIAM.
N° 18. RECTANGULAR MIRROR, & SHELF, 17½"x13½" AS SHOWN.
N° 41. RECTANGULAR MIRROR, 19"x15" NO SHELF.
N° 92. SHAPED MIRROR, 21½", 16½" AS SHOWN



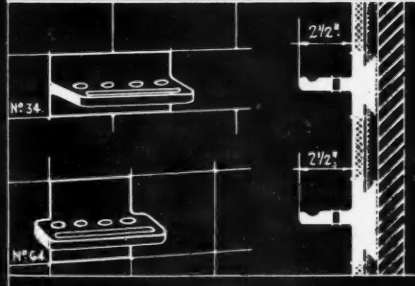
PROJECTING : 4"x4" BASE.
N° 59. TUMBLER & TOOTHBRUSH HOLDER.
N° 60. SOAP HOLDER.



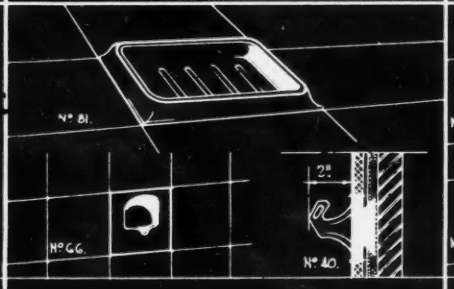
PROJECTING :
N° 39. TOILET PAPER HOLDER, 9"x3" BASE.
N° 58. TOILET PAPER HOLDER, 8"x4" BASE.



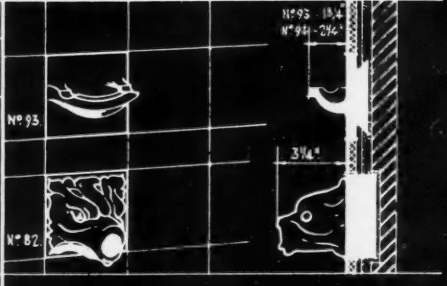
PROJECTING :
N° 15. TUMBLER & TOOTHBRUSH HOLDER, 3"x3" BASE.
N° 47. TUMBLER & TOOTHBRUSH HOLDER, 6"x3" BASE.



PROJECTING :
N° 34. TOOTHBRUSH & TOOTHPASTE HOLDER, 6"x3" BASE.
N° 64. TOOTHBRUSH & TOOTHPASTE HOLDER, 4"x4" BASE.



N° 40. RAZOR STROP HOOK, 3"x3" BASE.
N° 66. USED RAZOR BLADE RECEPTACLE, 3"x3" BASE.
N° 81. SILL SOAP DISH, 6"x4½"



PROJECTING :
N° 82. GARGOYLE, 4"x4" BASE.
N° 93. ASH TRAY, 4"x4" BASE.
N° 94. ASH TRAY, 6"x6" BASE.

Information from Richards Tiles Limited.

INFORMATION SHEET : BATHROOM EQUIPMENT : RECESSO FITTINGS. 3.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.1.

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

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BATHROOM EQUIPMENT

IN GLAZED EARTHENWARE

Name of Product : Recesso Fittings

Types Illustrated : Soap Holders, Tooth-brush Holders and Toilet-paper Holders, Mirrors, Coat Hooks, etc.

Colours :

These fittings can be supplied in white glaze and in an almost unlimited range of colour glazes, self-coloured or mottled. Fittings and wall tiling can be supplied to match, in the same colour and finish.

Finish :

Any colour of glaze can be obtained in either bright or matt finish.

Building-in :

The sizes and depths required for building-in are shown on the drawings.

Toilet-paper Holders :

Toilet-paper holders are fitted with removable spring rollers of either wood or nickel-plated metal.

Shelves :

Shelves are supplied in clear or opal glass 5″ wide and up to 36″ long.

Towel Rails :

Towel rails, both round and square, are supplied in celluloid covered wood, white or in colour to match brackets, and up to 36″ in length. Round towel rails can also be supplied in clear or opal glass.

Mirrors :

Mirrors are attached to the wall by means of concealed japanned iron brackets, engaging in slots in the back of the mirror frame.

List of Fittings :

Makers' Number		
1.	6×6″	Plain-lipped Soap Holder
2	,,	,, grip Soap Holder
3	,,	Flush-fronted Toilet-paper Holder
4	,,	,, Soap Holder
5	,,	Hooded Toilet-paper Holder
6	,,	Sponge Holder, without drip hole
7	6×3″	Flush-fronted Soap Holder
8	,,	Plain-lipped ,, ,,
10	,,	Tooth-brush Rack
11	3×3″	Shelf Brackets, for 5″ shelf
12	,,	Towel-rail Brackets, for square rail
12A	,,	Centre Bracket to ditto
15	,,	Tumbler and Tooth-brush Holder
19	6×6″	Tongue-lipped Soap Holder
20	,,	,, grip Soap Holder
21	,,	Flush-fronted ,, ,, ,,
22	6×3″	Tongue-lipped Soap Holder
23	6×6″	Plain-lipped Tumbler Holder
24	,,	Flush-fronted ,, ,,
25	12×6″	,, Sponge and Soap Holder
26	,,	Plain-lipped ,, ,, ,, ,,
27	,,	Tongue-lipped ,, ,, ,, ,,
28	,,	Flush-fronted grip Sponge and Soap Holder
29	,,	Plain-lipped ,, ,, ,, ,,
30	,,	Tongue-lipped ,, ,, ,, ,,
32	12×6″	Plain-lipped Tumbler and Soap Holder
33	9×3″	Tooth-brush, Tooth-paste and Tumbler Holder
34	6×3″	Tooth-brush and Tooth-paste Holder
35	3×3″	Towel-rail Brackets, for round rail
35A	,,	Centre Bracket to ditto
36	6×3″	Projecting Soap Holder
37	6×6″	Round-fronted Soap Holder, with drip hole
38	6×3″	Grip
39	9×3″	Projecting Toilet-paper Holder
40	3×3″	Razor Strop Hook
42	,,	Coat Hook
43	12×6″	Flush-fronted Sponge and Soap Holder, without partition
44	,,	Plain-lipped Sponge and Soap Holder, without partition
45	,,	Tongue-lipped Sponge and Soap Holder, without partition
46	6×3″	Coat Hook
47	,,	Projecting Tumbler and Tooth-brush Holder
52	8×4″	Flush-fronted Soap Holder
53	,,	Plain-lipped ,, ,,
54	,,	Tongue-lipped ,, ,,
55	,,	Flush-fronted grip ,, ,,
56	,,	Plain-lipped ,, ,, ,,
57	,,	Tongue-lipped ,, ,, ,,
58	,,	Projecting Toilet-paper Holder
59	4×4″	,, Tumbler and Tooth-brush Holder
60	,,	,, Soap Holder
61	4×4″	Coat Hook
62	,,	Towel-rail Brackets, for square rail
62A	,,	Centre Bracket to ditto
63	,,	Shelf Brackets, for 5″ shelf
64	,,	Tooth-brush and Tooth-paste Holder
66	3×3″	Used Razor Blade Receptacle
67	6×3″	Towel-rail Brackets, for round rail
67A	,,	Centre Bracket, to ditto
69	3×3″	Shelf Brackets, for 5″ shelf
70	6×6″	Semi-recessed Toilet-paper Holder
71	,,	,, ,, Hooded Toilet-paper Holder
72	6×3″	,, ,, Plain-lipped Soap Holder
73	,,	,, ,, Tongue-lipped ,, ,,
74	6×6″	,, ,, Plain-lipped ,, ,,
75	,,	,, ,, Tongue-lipped ,, ,,
76	,,	,, ,, Plain-lipped grip ,, ,,
77	,,	,, ,, Tongue-lipped,, ,, ,,
78	,,	,, ,, Plain-lipped Tumbler ,,
79	,,	,, ,, Sponge Holder
81	6×4½″	Sill Soap Dish
82	4×4″	Gargoyle
83	6×3″	Tongue-lipped projecting Soap Holder
86	6×6″	Toilet-paper Box
88	9×6″	Sponge Holder
89	6×6″	Toilet-paper Holder
90	6×4″	Lamp Bracket (with 4×4″ tile support)
91	6×6″	Projecting Soap Holder
93	4×4″	,, Ash Tray
94	6×6″	,, ,, ,,
95	12×6″	Plain-lipped grip Sponge and Soap Holder without partition
96	,,	Tongue-lipped grip Sponge and Soap Holder without partition
97	8×8″	Toilet-paper Holder
98	4×4″	Double Coat Hook

MIRRORS

16	Oval Mirror,	24×18½″
17	Round ,,	19″
18	Oblong ,,	17½×13½″, with shelf
41	,, ,,	19×15″, without shelf
92	"Octo" ,,	21½×16½″

Name of Manufacturers : Richards' Tiles, Limited

Address : Tunstall, Stoke-on-Trent

Telephone : Hanley 7215-8

London Office : 25 Victoria Street, S.W.1

Telephone : Victoria 9128

Glasgow Office: 53 Bothwell Street, Glasgow, C.2

Telephone : Central 1768

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CHECK LIST FOR WORKING DRAWINGS: ELEVATIONS & SECTIONS

DRWG Nº	DRWG Nº		DRWG Nº	DRWG Nº	
		LEVELS			**GENERAL**
		Natural Ground			Window Grilles
		Finished Ground			....., Decorative
		Pavements			....., Protective
		Entrances			Opening Sashes
		Entrance Steps			Transomes
		Floor Lines			Cills
		Landings			Jointing of Cills
		Setbacks			Lintols
		Projections			
		Cornices			Doors
		Parapets			Fanlights
		Penthouses			Push Bars
		Tops of Stacks			Cills
		Roofs			Steps
					Railings
		DIMENSIONS			Wall Vents
					Roof Vents
		Windows			Vent Stacks
		Reveals			Rainwater Pipes
		Entrances			Rainwater Heads
		Doors to Penthouses			Copings
		Floor Heights			Jointing of Copings
		Heights of Railings			Gutters to Main Roofs
		Heights of Parapets			Gutters to Penthouses
		Ventilation Grilles			
		Arches - Radii			Stairs dotted
		Arches - Springing			Hidden Roofs dotted
		Projections			Foundations dotted
		Balconies			
		Awnings			Stone Coursing
					Stone Jointing
					External Signs
		MATERIAL INDICATION			External Lighting
		Stonework			Dadoes
		Artificial Stone			Skirtings
		Marble Work			Architrave
		Brick			Picture Rails
		Concrete			Cornices
		Stucco			Furred Ceilings
		Metal Work			Special Lighting Fittings
		Flashing			Radiators
		Plaster			
		Tile Work			
		Wood Work			
		Special Finishes			

INFORMATION SHEET: GENERAL CHECK LIST FOR DRAWINGS. 2

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.1.

Supplement to THE ARCHITECTS' JOURNAL for April 12, 1934

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

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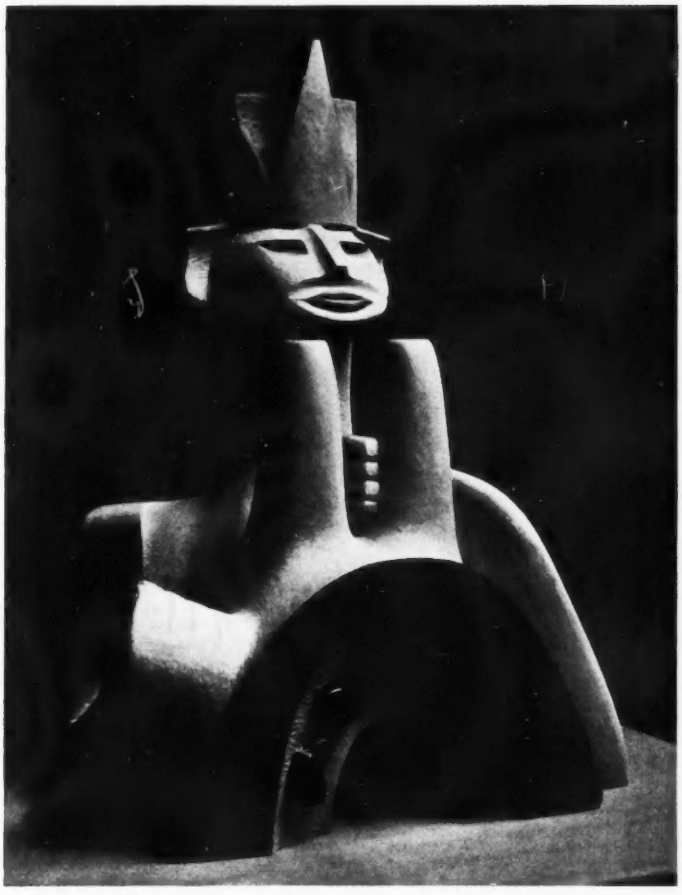
CHECK LIST FOR DRAWINGS

(ii)

The check list given on this Sheet is intended as a guide to the series of small items which require checking in any set of working drawings. It is generally preferable to prepare an individual check list for each job, as only in this way can the items peculiar to the job be included.

AN ENGLISH CATHEDRAL

A PROJECT IN REINFORCED CONCRETE



THIS project in painted wood for a cathedral in England is taken from Mr. Leon Underwood's current exhibition of painting and sculpture at the Leicester Galleries. "The design," writes Mr. Underwood, "projects a building 200 feet high in reinforced concrete. Its interior is divided into three planes or floors. A large nave on the ground plane and the two upper floors in the tower—formed by the head and neck—are connected by a well in the centre. Three organs of different register for each floor, High, Medium, *and* Low, *blend their sound in the nave. Each floor, decorated with mural paintings in its own colour, is lit entirely by artificial light."*

1

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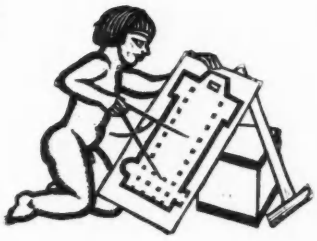
THE MODERN HOMES EXHIBITION, GIDEA PARK

The Modern Homes Exhibition at Gidea Park is to be open from July 31 to August 20. Designs for the 35 houses—some single and some in pairs, some with pitched roofs and some with flat—were selected as the result of a competition (organized last year by Gidea Park Ltd.) among members of the R.I.B.A.

The six photographs above show some of the houses in various stages of construction.

The houses are in five types ranging from £400 to £900. The illustrations show: 1: £400 class, houses in pairs, facing Eastern Avenue (north). 2: £400 class, as seen from the rear (south). 3: £500 class, houses in pairs, viewed from the rear (south). 4: £900 class, houses detached. 5: £900 class, reinforced concrete construction with internal wall lining of cork. 6: Small detached houses.



THE R.I.B.A. AND SLUM CLEARANCE

THE R.I.B.A. Committee on Slum Clearance has just presented its report. It is a timely as well as an authoritative contribution towards a practical solution of this most urgent of our social problems ; and it is timely, not because of a sudden decision on the part of the R.I.B.A. to join in the popular chorus of suggestion and denunciation that the subject of slum clearance has recently given rise to, but because the Institute anticipated two years ago the need for a representative professional opinion on the subject, and took early measures to have such an opinion available when the prospect of legislative action demanded it. The Committee was appointed by the Council of the Institute in December, 1931, and this report is the fruit of its two years of deliberation.

The Committee's appointment, the report reminds us, was primarily the suggestion of Sir Raymond Unwin, at that time President of the R.I.B.A., and Sir Raymond's own explanation of the function of the Committee is given thus on the first page : " to elucidate all the difficulties that might be encountered in a comprehensive housing and slum-clearance scheme." Doubt may have been felt at the time of the Committee's appointment as to the probability of practical results from terms of reference so inexactly defined. But one important point about them will be noticed : emphasis is laid on the obstacles to be overcome rather than on the eventual ideals to be aimed at, and the recommendations of the Committee are therefore worked out in terms, if not of our present administrative machinery, at least of conceivable modifications of it, and the practicability of every step examined has clearly been constantly before them.

The recommendations embodied in the report are, like the terms of reference, general in character rather than particular, but the complete factual evidence behind them is no doubt available and could be placed at the service of the Ministry of Health or any other investigating body that might have use for it. An immense amount of investigation must have been needed into very complicated matters, such as housing law and the procedure of local authorities, and into existing sociological conditions, in order to ensure the practicability of the recommendations—that they could be considered by authority in the light of immediate application. The most important clauses of the recommendations can be summarized as follows. In the first part of the report, dealing with slum clearance under existing powers :

1 : Acquisition of clearance and other land areas by agreement rather than by compulsory purchase (to avoid the loss of time due to arbitration proceedings).

2 : That an immediate housing survey should be made by all local authorities for the purpose of discovering available sites for alternative accommodation.

3 : The appointment of a whole-time official in large cities to superintend the survey and co-ordinate the work of the various departments and persons concerned.

In the second part, dealing with slum clearance in relation to replanning :

1 : Zoning of built-up areas.

2 : Transfer of industries not tied to central areas by geographical necessity to outer areas, garden cities or suburban towns.

3 : Authorities to be given powers to acquire such areas as will allow them to proceed with large re-housing projects.

With all such general recommendations, few will quarrel ; though it must be admitted that this report is but the broad introduction to a subject on which a large amount of practical investigation remains to be made. The advisability is mentioned, for instance, of modification of the bye-laws "to permit of the most expeditious and least expensive forms of construction that are consistent with public safety and health," and specific suggestions are next required to support this general resolution.

The Committee have recognized that their work is only a beginning, and the report concludes by suggesting that a joint conference be held " between representatives of the R.I.B.A., the Town Planning Institute and various bodies of similar interests " to discuss such questions as the necessity or otherwise of a national executive council and the means of bringing into consultation the various groups of industries which would be affected by a national plan, and all the controversial matters on which further discussion is needed. A conference on these lines promises to be of the greatest help, and is the logical means of continuing and, at the same time, expanding the labour this Committee has begun.

For the architectural profession the presentation of the report has an importance beyond the immediate usefulness of its recommendations. The R.I.B.A., the profession's accredited representative organization, has made a voluntary collective contribution to a question of national importance ; an indication to the Government and the public that architects *are* aware of some of their civic responsibilities. The existence of considered opinion on questions such as these, issued from such a source, gives architectural authority some claim to a place in the national councils.

The Architects' Journal
9 Queen Anne's Gate
Westminster, S.W.1
Telephones: Victoria
9212-7
Telegrams:
Buildable
Parl
London

NOTES & TOPICS

DAWN

AFTER criticizing a point of city planning, a leading article in *The Leicester Evening Mail* concludes by saying: "The advisory Art Committee . . . . need not be so fettered, if public opinion will endorse and actively support its ideals. If there are people who believe that Leicester is not being perceptively planned, it rests with them to produce something more than after-the-event wisdom."

*

From time to time, I give way to the impulse to reiterate what I have said so often; that of all people in this world, only the *architect* is, from his earliest days, *trained* to *plan*.

*

The verb "to plan," means, broadly speaking, not to start doing anything at all until you are quite (or at least reasonably) sure what you are going to do—and what the result will be. The verb implies an ability to *visualize* an effect, whether æsthetic, economic, sociological or anything else, before there is anything to show to the world.

*

Something has gone wrong in Leicester. I do not know whether it is the bit of planning complained of, or the views of the local paper. But I am quite certain that something has gone very *right* in Leicester, too. Somebody is not only conscious of shortcomings, but, (far, more important) has tumbled to the urgent need for doing things in an orderly way.

*

This expressed demand that the city should be "perceptively planned," is one of the most cheering things I have heard for a long time.

BATH "SEES RED"

Meanwhile, the charming and polite town of Bath is in a pother—but, regrettably enough, on the other tack.

Professor Reilly has been pungent again, and the locality resents his insinuation (not to say direct statement) that Bath, in spite of possessing a "clause," has absolutely failed to prepare a planning scheme.

*

The Professor says that this failure was due to the expense. Bath is angry.

*

The Professor goes farther. He says that the failure is in part due to the realization that, if a scheme were prepared, the activities of the speculative builders would be curtailed. Bath is rabid. Nevertheless, nobody denies that Bath has no plan in view.

NEW HONOUR FOR PROFESSOR REILLY

I am glad to see that Professor Reilly, is to receive the Honorary Degree of Doctor of Letters at Liverpool. This will be conferred on him on May 11 at a ceremony commemorative of the centenary of the incorporation of the Liverpool Medical School. Professor Reilly has long been an inspiration to architectural students, not only in West Lancashire, but all over the country.

THE AUSTRIAN EXHIBITION

We were warned last week, in a letter written by Josef Frank to this JOURNAL, not to take the Austrian Exhibition at Dorland Hall as truly representative of contemporary Austrian achievement. He explained that it had been organized by the reactionary *Neuer Werkbund*, which had broken away from the original *Oesterreichischer Werkbund* in an attempt to re-establish a vogue for ornamental craftsmanship.

*

I visited the exhibition on the opening day, and it was only too apparent how completely divorced from contemporary needs is the outlook of the designers here represented.

*

The objects exhibited in the *Industry and Trade* section are, I should imagine, especially manufactured for export—in most cases "luxury export," and it is perhaps a reflection on our own taste that such stuff as this is what we are reputed to like.

*

It would be interesting to see a comparable exhibition of *useful objects* intended for home consumption. Here are mostly "objets d'art"—even "objets de vertu."

*

The general effect of the *Industry and Trade* section is of Vienna at its vulgarest and most cosmopolitan—not the new post-war Austria whose determined practicality we so much admire.

*

Personally I thought the highest standard was attained in the *delicatesssen* department—but then food is the one province where even this Philistine community seldom allows snob appeal to interfere with straightforward quality.

*

Architecture was slightly represented: indirectly by some almost successful wall decoration in the entrance hall,

[Elliott and Fry

J. Reginald Truelove, A.R.I.B.A., author of the design placed first in the competition for municipal offices at Stoke Newington. See pages 559-563.

by some inviting posters in the *Travel* section in the basement and by a room full of photographs amongst the *Modern Art* on the top floor.

*

Here the sensible modernism of Professor Behrens is a welcome relief among the outmoded craftwork everywhere so abundant.

*

Also one real architectural treasure, that by itself (and, for architects, one might almost say alone) makes the exhibition worth visiting: on the ground floor amongst the rather depressing *Non-contemporary Art* are a couple of lovely drawings by Bibiena. The work of that prince of the Baroque is all too seldom seen.

*

I believe, as a matter of fact, that the R.I.B.A. library possesses some fine examples of his work. No doubt when the new R.I.B.A. building is completed advantage will be taken of the greater space available to display some of the Library's hidden treasures of this kind.

UNIT ONE

I visited also another current exhibition, which no one, however opiniated, could say was anything but Modern. I refer to the Unit One exhibition at the Mayor Gallery.

*

It has never been quite clear to me, even when expounded by Mr. Herbert Read, exactly what Unit One as a group *does* stand for. The two sculptors, seven painters and two architects of which it is composed seem to have so little in common.

*

However, any exhibition that brings together some of the most adventurous of our modern painters, particularly in conjunction with architects, is to be welcomed. I suppose, too, they do represent the nearest approach to a surrealist movement that we have in this country.

*

One common quality the painter-members, despite their varying methods, seem in this show to possess—that is, when their work is examined collectively: they are making, deliberately or accidentally, patches of decoration rather than isolated works of art. The most successful pictures, those of Paul Nash and John Armstrong, are wall-decoration before anything else.

*

That being admitted, their connection with architecture is not only valuable but essential; and this show at least gives architecture a more responsible position among the arts generally allowed.

GARDEN CITY FINANCES.

Next Monday there is to be a meeting to discuss the re-organization of finances of Welwyn Garden City.

*

The meeting is being held under the direction of Mr. Justice Eve. The company was reorganized three years ago but, owing to the slump, and the large number of empty houses at Welwyn, it has been found necessary again to advise a drastic reduction of capital. The 6 per cent. Debenture Stock holders are being asked to accept ordinary shares and the 7 per cent. income stock holders £41 shares for every £100.

*

These proposals are made at a most inopportune time from the point of view of those who hope that the committee presided over by Lord Marley will recommend the establishment of more garden cities in this country.

ART AND INDUSTRY

Please read Mr. Edmund Dulac's letter on *Taste in Industry* that appeared in last Friday's *Times*. It is reprinted, I understand, on page 558 of this issue. I think the facts have never been so well set out before.

ADVERTISING AND TASTE

I was discussing the responsibility of industry for giving the public decently designed things with one of the most intelligent and progressive young advertising men recently. He said: "Taste doesn't matter. Manufacturers have to make what will sell, and if I thought a client of mine could sell more things that were bad in design, and that they could best be sold by using ugly typography and vulgar illustrations, I should urge him to go ahead."

*

I hinted that he took his civic responsibilities lightly, and I recalled a similar conversation with the late Sir Lawrence Weaver, who was a Fellow of the Incorporated Institute of Practitioners in Advertising. He had a passionate belief that the public was always ready to accept well-designed things, and a big proportion of his crowded time was spent in persuading manufacturers and retailers that this was so.

*

Are there, I wonder, many men of Sir Lawrence's calibre or with his special knowledge of design in the business of advertising today? So much the worse for design in industry if there aren't.

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

The R.I.B.A. Committee on Clearance, appointed by Sir Raymond Unwin in 1931, has just presented its report 555

"*No progress can be made until the manufacturer has had the good sense to cast off the time-honoured legends about the public's taste.*" 558

The premiated designs in the competi- for municipal offices at Stoke Newington 560

"*We confidently await that the present wave of cultural regeneration which Fascism is bringing to Europe will produce an inspired artistic form of its own.*"..... 566

METROPOLITAN BUILDING SOCIETIES' ASSOCIATION

Sir John Gilmour, the Home Secretary, speaking at the annual luncheon of the above association, held in London on April 16, referred to the housing question. He said that in his own constituency many houses which were originally built for manual workers were now, by force of circumstances, occupied by rather a different class of people. Was there nothing they could do to fill up the gap and devise houses which could be rented at a reasonable price? The Government and people like himself who were trying to direct by legislation the solution of the problem realized that what legislators could do was limited by the amount of loyal support they would receive from such bodies as that association.

NATIONAL HOUSING AND TOWN PLANNING COUNCIL

At a meeting of the above Council at Manchester last week, a resolution was adopted expressing disappointment at the 1933 Act's failure to produce an adequate supply of satisfactory houses at rents within the means of the lower-paid workers.

The meeting also approved of a resolution protesting against the suggestion of a lower standard of houses as regards superficial area, construction, equipment, and amenity, and calling on the Ministry of Health to give local authorities full freedom of action in these matters under the provisions of the 1923 Act.

LIVERPOOL AND AVIATION

A series of resolutions which open up considerable possibilities in the architecture and planning of Liverpool was passed at last week's meeting of the Finance Committee of the Corporation, and the leader of the City Council, Sir Thomas White, showed in a subsequent interview that he appreciated the fact that aviation will have a big effect on city architecture.

The Town Clerk, the City Engineer, and the City Surveyor, are to report on the question of quick road communication between the centre of the city and Liverpool Airport at Speke. The possible construction of a new road through virgin land to avoid the congestion on existing roads is not ruled out, though, as far as is compatible with having an uninterrupted run, existing roads will probably have to be used. A move forward was urgent, Sir Thomas said, especially in view of the fact that rapid building developments are taking place in the suburbs and just over the city boundary.

Another report is to be prepared on the best means of transit between Speke and the site on the East Lancashire Road which the Corporation has in mind for a large-scale exhibition centre. The use of Mr. J. A. Brodie's great encircling Queens Drive is to be borne in mind.

Last year a scheme was prepared privately for an exhibition centre with sports grounds and other amenities, but after considerable discussion inside and outside the City Council its backers became discouraged so far as Liverpool was concerned and transferred their attentions to the Manchester district, whose Corporation is reported to have passed their plans.

Liverpool Finance Committee, however, has now armed itself with a unanimous resolution that it is desirable that the city should have a large-scale exhibition hall and that it should be located on the East Lancashire Road. The advantages of this Corporation-owned site for such purposes have lately been much stressed in municipal circles, and it is pointed out that with the opening of the Mersey Tunnel in July it will be at the centre of a vast network of important roads. The question of whether the exhibition hall should be owned municipally or privately was left undetermined.

Sir Thomas White's vision of the future Liverpool includes flat roofs for the service of air-taxis running between the airport and the centre of the city. He could foresee the time, he said, when the railway stations would be provided with flat roofs which would be leased by the airport authority for use by air-taxis meeting the air liners at Speke.

THE ARCHITECTS' DIARY

Thursday, April 19

INSTITUTION OF STRUCTURAL ENGINEERS. *At 10 Upper Belgrave Street, S.W.1. "The Surface of the Earth as a Material of Construction." By H. H. Leys.* 6.30 *p.m. (Yorkshire Branch.) At the Hotel Metropole, Leeds. Annual General Meeting and paper on "Surface Treatment of Concrete." By N. B. Liversedge.* 7 *p.m.*

Friday, April 20

INSTITUTION OF STRUCTURAL ENGINEERS. *At 10 Upper Belgrave Street, S.W.1. Lecture on Welding. By A. Ramsay Moon.* 6.30 *p.m. (Western Counties Branch.) At the Merchant Venturers' Technical College, Bristol. "Structural Engineering in Relation to Architecture." By J. H. Hollier.* 7.15 *p.m.*

Monday, April 23,

R.I.B.A. *At 9 Conduit Street, W.1. Dramatic Entertainment.* 8.30 *p.m.*

Tuesday, April 24

ARCHITECTURAL ASSOCIATION. *At 36 Bedford Square, W.C.1. "Slums." By the Rt. Hon. Lord Balfour of Burleigh.* 8 *p.m. Exhibition "Slums." Until May* 12.

INSTITUTION OF STRUCTURAL ENGINEERS. *At 10 Upper Belgrave Street, S.W.1. Lecture on Welding. By C. Helsby.* 6.30 *p.m.*

TASTE IN INDUSTRY

Mr. Edmund Dulac, in a letter in *The Times* for April 13, discussed the question of taste in industry. He said:

The manufacturer alone can solve the problem, but it is not by the muddling process of casual collaboration with artists that he will improve matters. No progress can be made until he has had the good sense to cast off the time-honoured legends about the public's taste, which are still his gospel in spite of their obvious fallacy; until he has had the courage to ignore the middleman—agent, traveller, buyer—who "knows what the public wants," and whose word is law in spite of innumerable failures.

The history of popular and industrial art, especially in recent years, shows clearly that the public itself does not know what it wants and that developments are mostly the result of compulsion of some kind. Up to the nineteenth century that compulsion came from the Court and the rich, who set the standards of taste. Since the advent of the manufacturer it is the taste of the inevitable middleman that has controlled the taste of the public. And only a new form of compulsion can alter it.

This sometimes occurs naturally when the compelling force is of an essentially human nature, such as fashion. Designs in feminine dress materials, for instance, have, in recent years, considerably improved because the middleman could only sell goods conforming to the standards fashion had set, and these standards happened to require materials of better design of a modern type. In a short while such designs were therefore imposed on a public which, so far, has not been known to storm drapers' shops in an attempt to get back the old materials.

There is no reason why this success, so easily obtained, should not extend to other branches of industry. Compulsion is no doubt more difficult when it is not backed by such a powerful determinant as fashion. It could nevertheless be quite successfully applied by half a dozen leading manufacturers coming together under a solemn pact to ignore the middleman's "knowledge" and give him to distribute only such goods as would fulfil modern requirements of good taste. They would obviously not be expected to effect such a change without help, and it would be necessary at the start to refer to some central committee of artists who would act as guides and censors.

Nowadays, artists who can turn out a good commercial design are in the majority, although a few only find employment. If the manufacturers can be induced to give up the idea that Royal Academicians or portrait and landscape painters with an established reputation are of any value to them, they will find it easy to select their committee and to exploit a source of good taste that is at their door, practically untapped.

Should the usual objection to such a committee be made, I can only reply that the safeguarding of public taste plays, in the health of a nation, as important a part as the safeguarding of morality.

ROYAL ACADEMY WINTER EXHIBITION, 1935

Mr. Herbert E. Taylor, Secretary of the Furniture Advisory Committee of the Royal Academy Exhibition of British Art in Industry, in a letter to the Editor, points out that "contemporary furniture, exclusively designed and made by British artists and

manufacturers, will occupy an important place at the Exhibition, and the opportunity of putting forth their best efforts is one which will undoubtedly make a compelling appeal to all furniture designers and manufacturers throughout the land."

Mr. Taylor also states that prospectuses of the Furniture and Interior Decoration Section are now ready, and may be obtained from him at 280, Euston Road, N.W.1.

CAMBRIDGE CHAPTER OF ARCHITECTS

At the annual meeting of the Cambridge Chapter of Architects, held recently, the following officers were elected for the ensuing year: Chairman, Mr. N. T. Myers, F.R.I.B.A.; vice-chairman, Major C. F. Skipper, F.R.I.B.A., F.R.SAN.I.; hon. secretary, Mr. Norman Hurst, P.A.S.I.; hon. treasurer, Mr. I. T. Sifton, A.R.I.B.A.; hon. librarian, Mr. C. W. Craske; Executive Committee, Messrs. G. P. Banyard, J. D. Bland, A.R.I.B.A., H. H. Dunn, F.R.I.B.A., H. C. Hughes, M.A., F.R.I.B.A., and H. H. Parker, L.R.I.B.A.

DEVON AND CORNWALL ARCHITECTURAL SOCIETY

The annual meeting of the above society was recently held at Plymouth. Mr. B. Priestley Shires, F.R.I.B.A. (President) occupied the chair.

Mr. Shires, in the course of his address said: "We have in Plymouth, and I believe you have in Exeter, mutually instituted an Architects' and Builders' Joint Consultation Committee which meets as occasion requires to discuss matters of interest to builders and the architectural profession. Nothing but good can come of such meetings as they tend to promote understanding which is of very great benefit to everyone concerned in building, including the building owner."

The following members were elected as officers for the ensuing session—President: Mr. W. J. M. Thomasson, A.R.I.B.A. (Exeter); vice-presidents: Messrs. F. G. Catchpole, A.R.I.B.A. (Plymouth) and E. Kemeys Jenkin, F.R.I.B.A. (Exeter); past-president: Mr. B. Priestley Shires, F.R.I.B.A. (Plymouth); hon treasurer: Mr. John Bennett, F.R.I.B.A. (Exeter); hon auditor: Mr. L. F. Tonar, L.R.I.B.A. (Exeter) and hon. secretary.: Mr. J. Challice, A.R.I.B.A. (Exeter).

The Branches elected the following Members of Council for the ensuing year: Exeter Branch—Fellows: Messrs. A. H. Ough, F.R.I.B.A., R. M. Challice, J. C. C. Bruce, F.R.I.B.A., H. M. R. Drury, A.R.I.B.A., G. S. Bridgman, A.R.I.B.A., A. Cunes, L.R.I.B.A., and H. Alban Peters, A.R.I.B.A. (ex-officio). Associate: Mr. A. Palfrey. Plymouth Branch—Fellows: Messrs. A. S. Parker, F.R.I.B.A., H. S. Haughton, L.R.I.B.A., E. U. Channon, A.R.I.B.A., C. Lloyd Jones, L.R.I.B.A, and Miss K. I. Maynard, A.R.I.B.A. Associate: Mr. C. M. Bond.

ANNOUNCEMENTS

Messrs. J. Stanley Beard and Clare, of 101-3, Baker Street, London, W.1, have dissolved partnership. Mr. J. Stanley Beard, F.R.I.B.A., is now practising at the same address in partnership with Mr. W. R. Bennett, late Chief Assistant to the firm. Mr. A. Douglas Clare, M.C., A.R.I.B.A., is practising on his own account at 19, Holly Park, N.3, until he acquires a West End Office, and will be pleased to receive trade catalogues, etc., at that address.

R. I. B. A.

ELECTION OF MEMBERS

At a recent meeting of the Council of the Institute, the following members were elected.

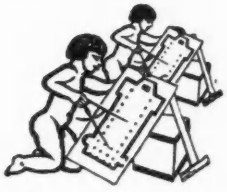
As HON. ASSOCIATE (1): Mr. G. F. Webb, M.A. (Cantab.).

As FELLOWS (8): Messrs. S. P. Bush; H. J. Connal; W. H. Hamlyn; J. E. Marshall; R. Dann; W. H. Mackenzie; R. A. P. Pinckney; and F. G. S. Thomas.

As ASSOCIATES (16): Messrs. D. L. Couves; (Miss) M. B. Crowley; G. S. Dadarker; G. D. Denbigh; E. A. Grove; J. R. Hilton; G. T. Holden; R. A. Leftwich; S. G. R. Marsh; J. Patterson; R. A. Scott; W. J. Smith; G. S. Thomas; W. K. Thomson; R. L. Townsend, and L. Whitaker.

As LICENTIATES (7): Messrs. H. W. Binns; C. Button; E. Crellin; J. F. Hunt; N. B. W. Irwin; J. Kay, and D. Olive.

COMPETITION



NEWS

ELEMENTARY SCHOOL, BEDFORD

The Borough of Bedford Education Committee invite architects willing to compete in a limited competition, for a New Elementary School to be erected on the London Road Housing Estate, Bedford, to communicate their names to Mr. S. George, Education Secretary, 32 Bromham Road, Bedford, not later than noon on April 26 next.

Six architects will be chosen to submit designs; and Mr. J. R. Leathart, F.R.I.B.A., has been appointed assessor.

The author of the selected design will (*a*) be employed to carry out the work and be paid a commission of £5 per cent. upon the total cost of the building, together with reasonable travelling expenses; or (*b*) if his plans are not used, be paid a fee of 1½ per cent. on estimated cost of building.

Each unsuccessful competitor will be paid a fee of 25 guineas provided he submits a *bona-fide* set of plans.

PUBLIC HALL, WOLVERHAMPTON

Conditions of the competition for the proposed public hall, Wolverhampton, are shortly to be issued. Mr. C. Cowles-Voysey, F.R.I.B.A., is the assessor; and the premiums to be offered are: £350, £250 and £150 for designs placed first, second and third, respectively.

COMPETITION RESULT

MUNICIPAL BUILDINGS, STOKE NEWINGTON

On Tuesday last, the result of the competition for municipal buildings, etc., Stoke Newington (of which Sir Edwin Lutyens, R.A., P.I.A.A.S., was the assessor), was announced as follows:

DESIGN PLACED FIRST (£250): MR. J. REGINALD TRUELOVE, A.R.I.B.A., of 30 Barons Court, W.14.

DESIGN PLACED SECOND (£100): MESSRS. HOWES AND JACKMAN, AA.R.I.B.A., of 10 Gray's Inn Square, W.C.

DESIGN PLACED THIRD (£50): Messrs. W. CURTIS GREEN, R.A., F.R.I.B.A., AND PARTNERS, of 5 Pickering Place, St. James's Street, S.W.1.

The other competitors were: Messrs. Benslyn and Morrison, F. and A.R.I.B.A.; Bradshaw Gass and Hope, FF.R.I.B.A.; L. H. Bucknell, F.R.I.B.A.; H. J. Chetwood, F.R.I.B.A.; W. R. Davidge, F.R.I.B.A.; R. A. Duncan, A.R.I.B.A.; H. Haylock Golding, A.R.I.B.A.; Stanley Hall and Easton and Robertson, FF.R.I.B.A.; P. D. Hepworth, F.R.I.B.A.; L. R. Hiscock, F.R.I.B.A.; Hobden and Porri, F.R.I.B.A.; Hutchinson and Payne, AA.R.I.B.A.; Cameron Kirby, A.R.I.B.A.; A. S. Knott, A.R.I.B.A; Leathart and Granger, FF.R.I.B.A.; W. A. S. Lloyd, A.R.I.B.A.; D. F. Martin-Smith, A.R.I.B.A.; J. Douglas Mathews and Sons; E. C. P. Monson, F.R.I.B.A.; Pakington and Enthoven, FF.R.I.B.A.; F. R. Priest, A.R.I.B.A.; L. Bedall Smith, A.R.I.B.A.; L. de Soissons, F.R.I.B.A.; G. Streatfield, F.R.I.B.A.; E. Berry Webber, A.R.I.B.A.; and Whinney, Son and Austen Hall, FF.R.I.B.A.

The premiated designs are illustrated on the following pages.

The buildings are to be erected on a site in Church Street, Stoke Newington.

The Winner's Report

Following are some extracts from the report presented by the author of the winning scheme.

GENERAL ARRANGEMENT: The principal problem of planning this scheme lay in the disposition and arrangement of the Assembly Hall. For the accommodation required, a large area was necessary, and the condition which called for the main entrance of the Hall to Church Street seemed in itself to exclude the possibility of placing the main entrance to the offices on axis with Albion Road, which might otherwise have been done.

The scheme as shown acknowledges the existence of the two churches by turning the main façade of the offices towards them, which also gives a perfect south-westerly aspect to the committee rooms and main offices. Also, by turning the committee rooms away from the busy main road, the effect would be to achieve a peaceful atmosphere for these important rooms. In addition (and not the least important consideration), was the effect the long simple curved front of the building would have, when closing the tree-lined vista between the churches as viewed from the western part of Church Street.

From the eastern end of Church Street (by reason of the turning away towards the north of this road, and by reason of the projection of the Public Library) no long view of the proposed building can be had. There remained, therefore, the view from the west as being of importance, and also the approach from Albion Road. This latter has been acknowledged by the placing of the office entrance on its axis,

STOKE NEWINGTON COMPETITION:

the main entrance (to the Council Chamber, etc.) looking out towards the west between the churches.

It would seem that great importance is attached to the older of the two churches, since the coat of arms of the borough carries its reproduction. What could be more appropriate than to cause a representation of this borough symbol to appear in the future as an adjunct to any view of the main front of the Town Hall and so complete a very pleasing composition?

This, of course, would be less the case if the main façade ran parallel with Church Street and showed its mere side to the churches.

ENTRANCES: There are two main "business" entrances: one on the axis of Albion Road for visitors from the south of the borough, and one in Lordship Terrace for those from the north. The ceremonial entrance is approached from the open space next the Church Yard, and if desired might be used exclusively for the Council without interference with the official business of the departments.

Other entrances are for the public to the Council Chamber, for the caretaker, for easy access to the Assembly Hall, and an engineers' entrance to the basement, all in accordance with the conditions.

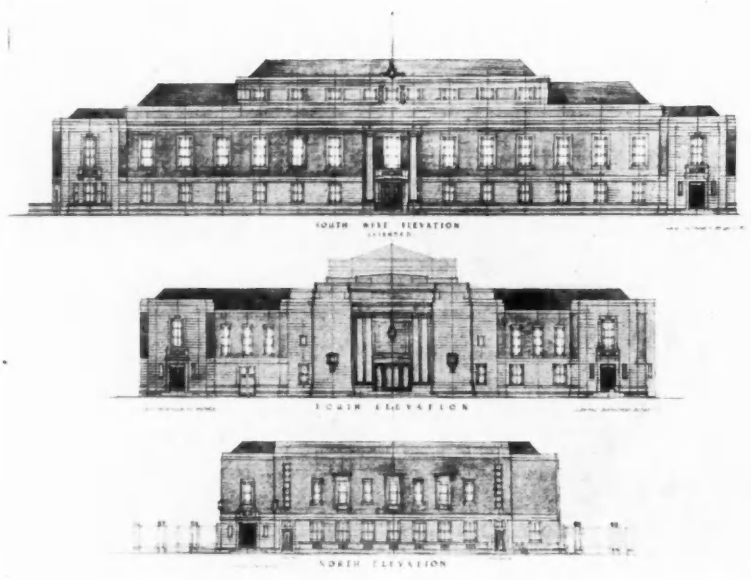
PLANNING OF DEPARTMENTS: All departments are shown on the floors specified and have substantially the area of accommodation required. The heads of departments are placed in positions of importance varying according to the nature of their occupations.

The Rates Office is particularly notable. It is within a few yards of the Lordship Terrace entrance, and is also very directly approached from the entrance opposite Albion Road. The Town Clerk's Department is just at the head of a short flight of stairs immediately adjoining this same entrance.

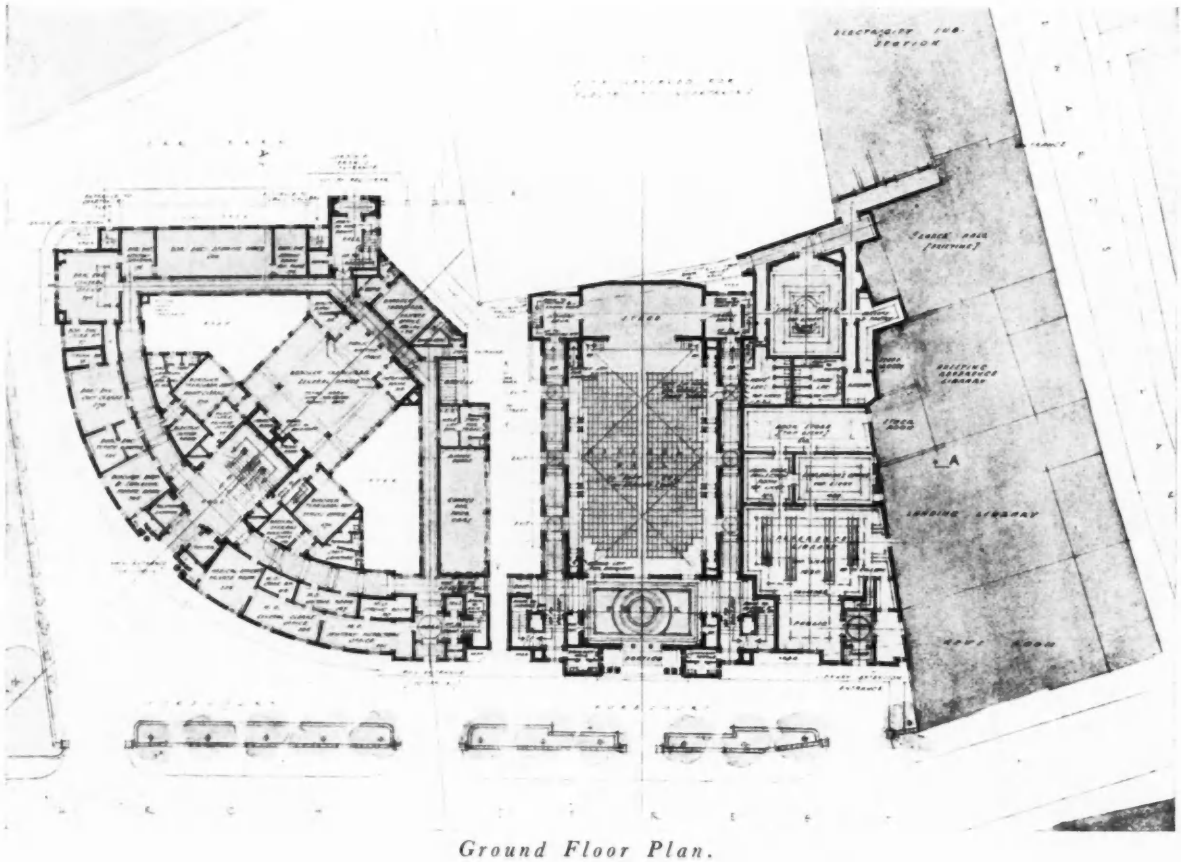
The Marriage Room is on the north side, very directly approached from the Lordship Terrace Entrance Hall, and arranged in such a way that visitors need not enter the Town Hall itself.

The Council Suite on the first floor is compactly arranged with the entrances to the anteroom from the members' rooms. Since the conditions called for lockers (presumably for all the members) and the area allocated was only 500 ft. for the men, and 300 ft. for the women, there was a difficulty of providing suitable locker rooms, and also adequate members' rooms. This has been overcome by exceeding the area somewhat for this accommodation.

The condition specifying the provision of refreshments for the committee room No. 3 has been obeyed by the planning of this room to come over the kitchen which supplies the staff mess room, thus centralizing the cooking, and, in addition, there is direct access to the

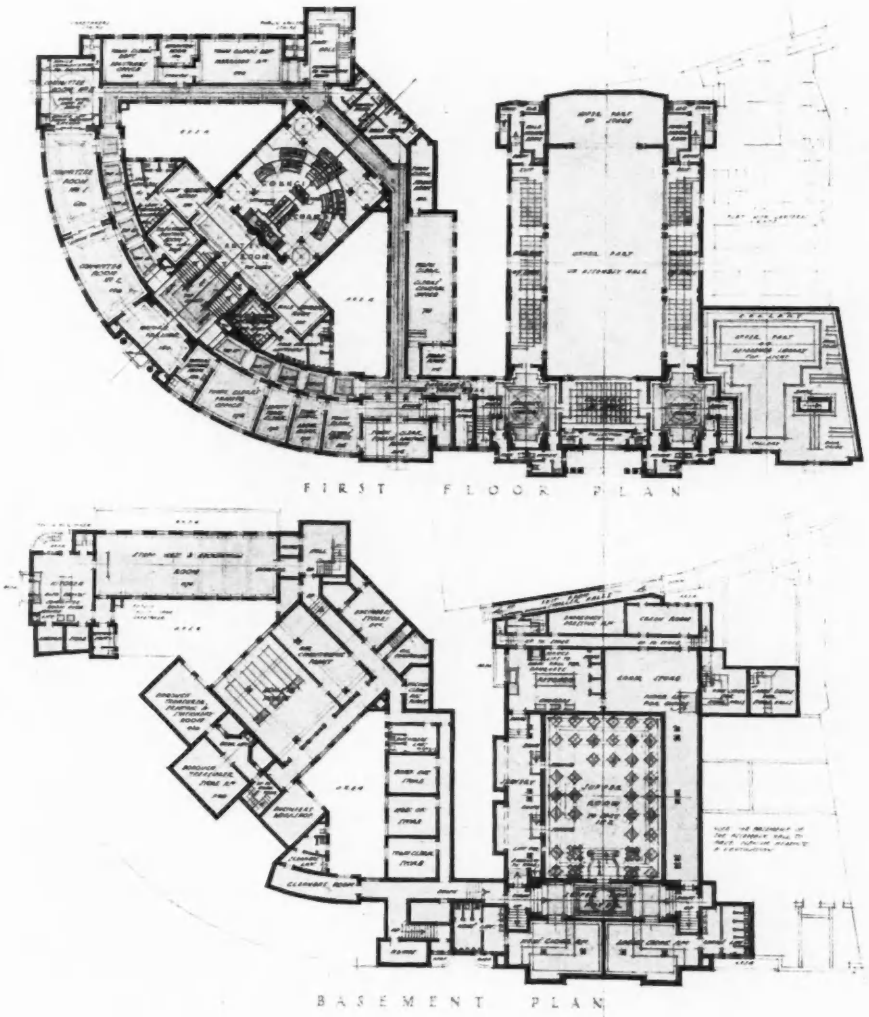


Elevations.



Ground Floor Plan.

WINNING DESIGN BY J. R. TRUELOVE



Basement and First Floor Plans.

caretaker's flat, since it is assumed that the caretaker, or his wife, might supervise the catering arrangements.

It should be noted also that the caretaker's stair serves as access from the kitchen in the basement to this committee room, the food, etc., being conveyed by a lift where shown on the plan.

Attention is drawn to the Borough Surveyor's drawing office which faces north, and is very adequately lighted.

THE ASSEMBLY HALL: As mentioned elsewhere, the placing of the entrance to this Hall seemed the key of the whole problem, this, and the area of the land reserved for the electrical undertaking.

Also, the use to which the Hall is to be put was a difficulty. What is really suitable for a dancing hall is hardly appropriate for a cinema, and less so for a theatrical representation; in addition, a town hall should be a dignified chamber of good proportion. It seemed intolerable to have a great overhanging balcony or anything remotely resembling the ordinary cinema. There are to be banquets in this Hall, probably men's banquets, at which women may only attend as spectators. Two hundred ladies attending such a banquet grouped at one end in a balcony (quite suitable for a cinema) was not to be thought of. So, in order to maintain the dignity of the Hall, the gallery accommodation has been divided, and some of it has been placed at the sides.

It is admitted that this is not a profoundly good scheme for a cinema or a theatrical representation, but it is good for a banquet, and it makes for good sitting out accommodation for a dance.

It is also admitted that in order to maintain the proportion of a double cube for this Hall, columns have been shown from floor to entablature. These columns are for this reason only. If the promoters felt very strongly on the matter (it is admitted that the view of the stage from the side balconies would be interfered with) they might be dispensed with, but it is believed that the dignity of the Hall would suffer.

In order to help to overcome the difficulty, provision has been made to accommodate an extra 40 persons in the balconies to compensate for those seats which might not be as good as the others on certain occasions.

It will be seen, therefore, that a great deal of thought has been given to the arrangement of this Hall in order to compromise between the diverse uses to which it will be put.

Lifts for the supply of food and crockery from the kitchen and servery in the basement directly to the Hall have been provided for use on the occasions of banquets.

The acoustic qualities of the balconies would be given great consideration; it is proposed that reverberation be eliminated by means of soft or acoustic plaster, curtains in front of the windows, etc., and that the diminution of sound values in consequence be rectified by means of amplifiers suitably sited.

The supper room in the basement has been planned to allow for its renting as a separate unit. It is in direct communication with the kitchen and servery, and has easy access to the cloak rooms and lavatories.

Note that the Assembly Hall has only one short elevation to the street. The other façades are not seen and would be very economically treated.

Note the planning of the exits to this Hall. The car park on the north side can easily be reached from one of the exits. This should be a source of great convenience for owner-drivers who may have parked their cars in the space provided.

THE LIBRARY EXTENSION: The conditions and the area of the land apportioned allowed almost no margin for any other treatment than that shown. The small hall at the rear is conveniently planned for access from the Edwards Lane entrance, and can be let as a separate unit or in combination with the existing larger Hall (of the Library Building). There seemed insufficient space for the planning of cloak rooms in the allocated area, consequently these have been placed in the basement

COMPETITION FOR MUNICIPAL OFFICES,

DESIGN PLACED SECOND:

BY

HOWES AND JACKMAN

under the lavatories for men and women respectively.

The emergency exit from the Hall and from the existing larger Hall has been planned to debouch on to the car park by passing under the stage of the main Assembly Hall. Owing to the levels, this entails the few steps shown.

NOTES AS TO COST, ETC.: Owing to the amount available, the design of the building generally has been kept as simple as possible consistent with the importance of the undertaking as a municipal centre. Even if desirable, no tower has been proposed. The spire of the newer of the churches is 273 ft. high, and no competition with this was possible.

The elevations as shown are in brick, with Portland stone dressings (since the buildings generally face south-west). The bricks would be silver grey; and roofs, where pitched, would be covered by Westmorland slates.

The Assembly Hall, as already mentioned, has only one façade, which need be anything but of the simplest materials: it is more than two-fifths void, the actual figure of void to total cube being 210,768 cube ft. to 507,959 cube ft. In case of necessity the façade might be simplified and the interior scaled down somewhat.

It may be mentioned here that the western boundary of the 40 ft. specified width for the Library Extension has been slightly amended by a give and take line, which gives substantially the same area.

METHOD OF CONSTRUCTION: Generally of Building Act walls, except where it would be more economical to use steel framing, notably in the Assembly Hall and the Council Chamber. Floors to be in concrete, with wood block finishes.

If the cost permitted, the committee rooms and Mayor's Parlour, and to some extent the Council Chamber, would be panelled to a certain height with woods of Empire origin. The remainder of the offices would have a very simple finish devoid of unnecessary ornamentation.

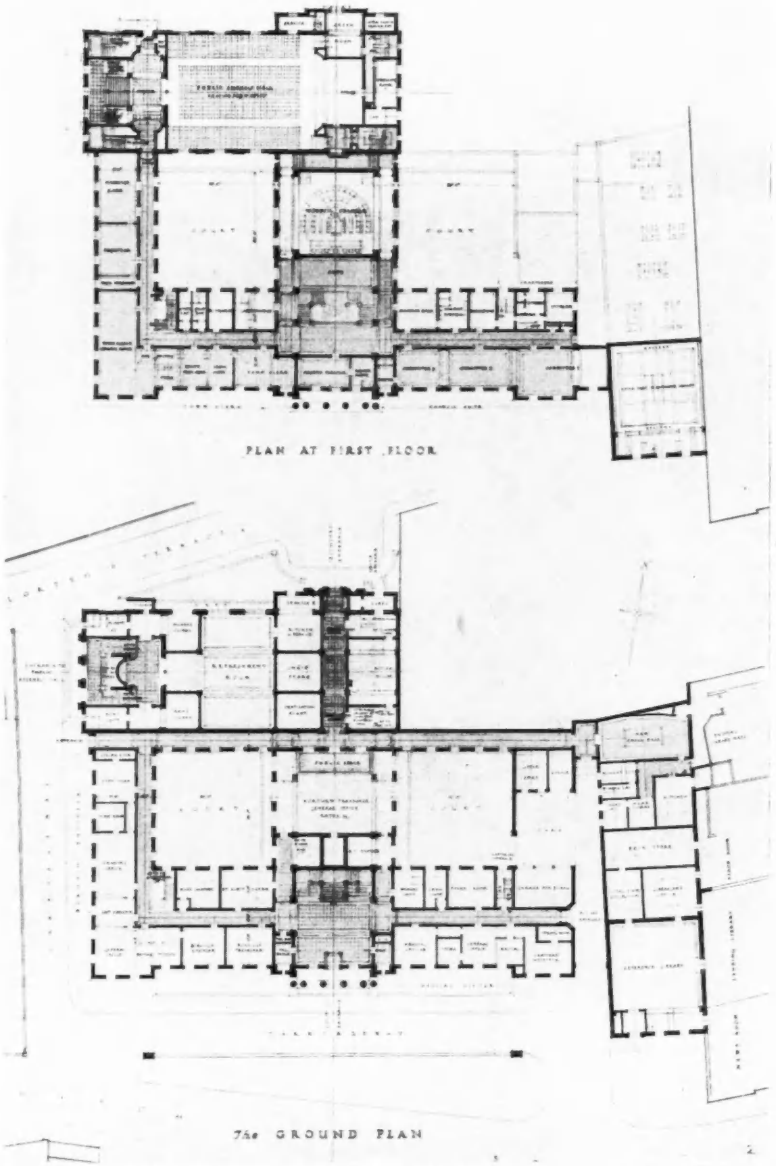
The heating generally would be panel heating arranged in the ceilings. The Council Chamber and the Assembly Hall, the lesser Hall and those underground rooms of the Assembly Hall would have a system of plenum heating and ventilation supplied from the chamber in the Municipal Offices under the Council Chamber. An endeavour would be made to include a vacuum-cleaning plant throughout if the amount available would be sufficient.

The time necessary for the various building operations from the date of the signing of the contract, it is calculated, would be:

Municipal Offices ..	12 to 15 months.
Assembly Hall	10 to 12 months.
Library Extension ..	9 months.

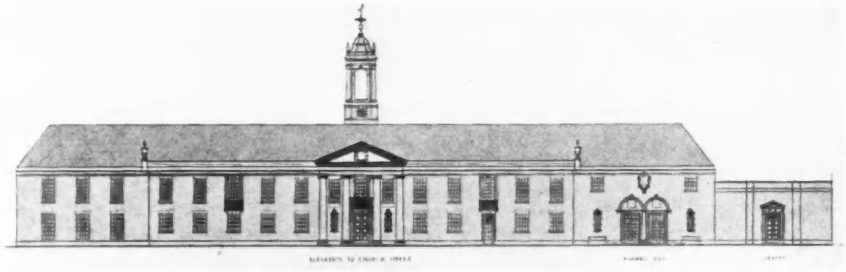
ESTIMATED COST:

1. Municipal Buildings ..	£57,439	4 9
2. Assembly Hall ..	29,630	18 10
3. Extension to Library ..	9,680	2 6
Cost of Entire Scheme ..	£96,750	6 1



Elevations to Church Street, Churchyard and Lordship Terrace; and ground and first floor plans.

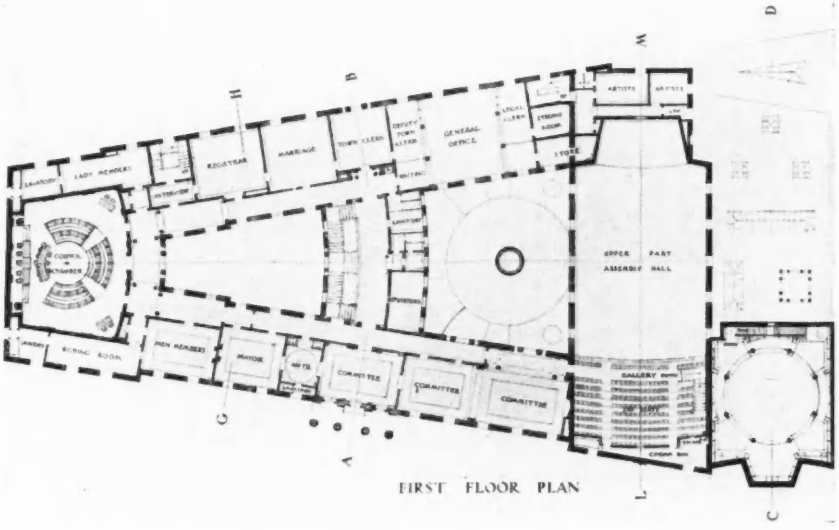
STOKE NEWINGTON: THE PREMIATED DESIGNS



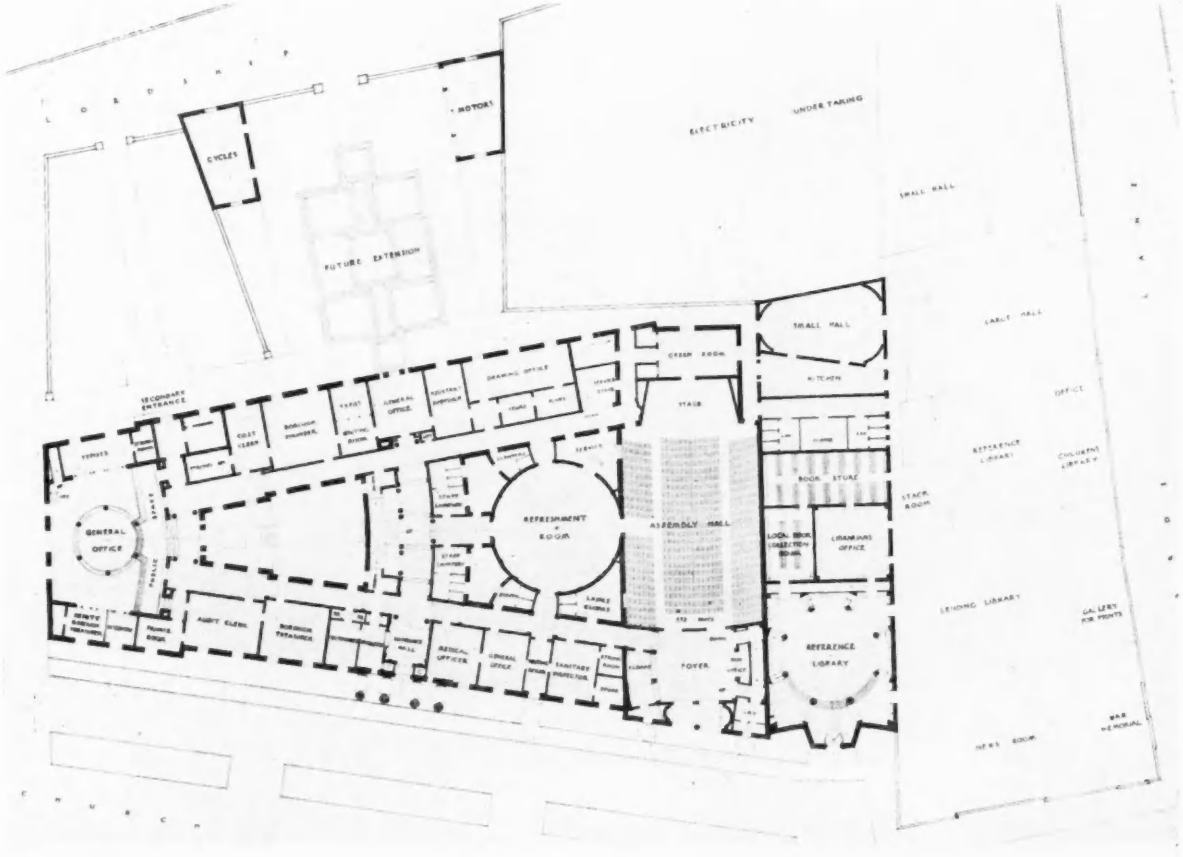
DESIGN PLACED THIRD:

BY

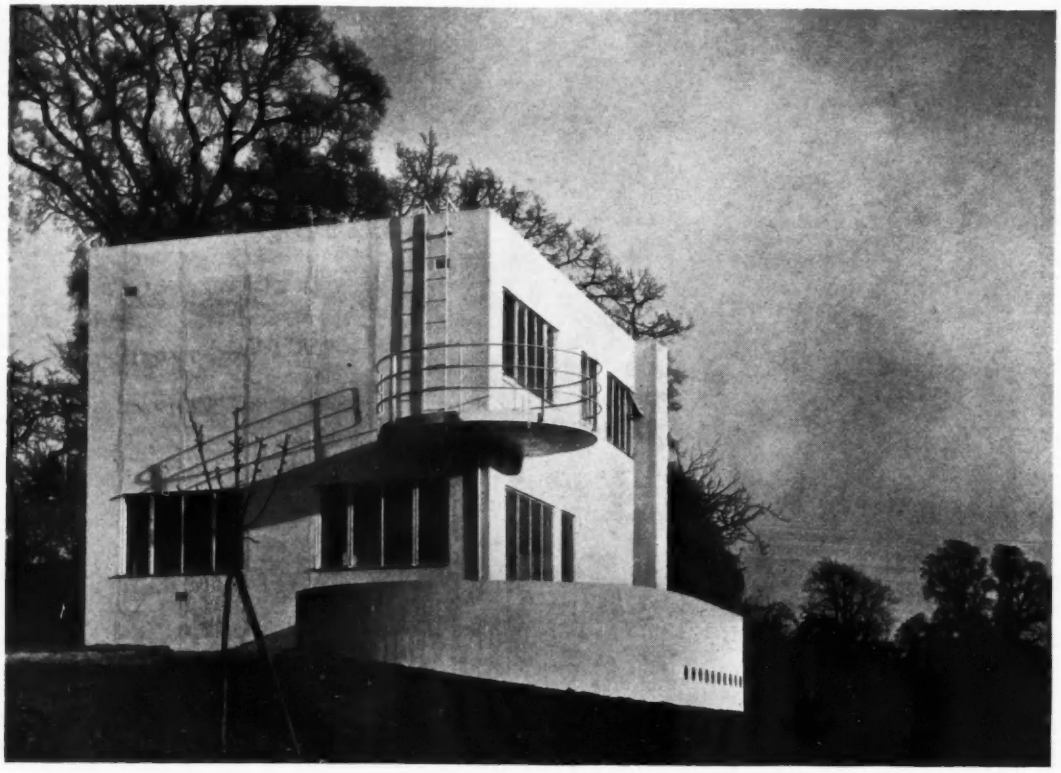
W. CURTIS GREEN, R.A., AND PARTNERS

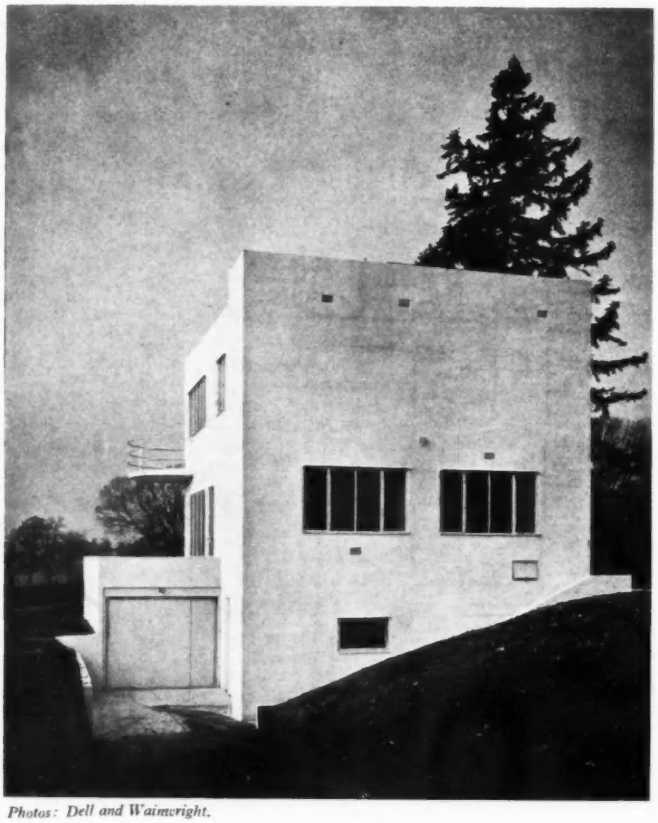


Elevation to Church Street; and ground and first floor plans.



HOUSE AT RUGBY:





Photos: Dell and Wainwright.

The programme was to provide a small house, complete with modern equipment and central heating, at a minimum cost for a family who do not keep a servant. The total cost, including terracing, drive, built-in furniture and equipment, was £1,400.

The natural slope of the site has been utilized to accommodate the garage under the terrace at living-room level.

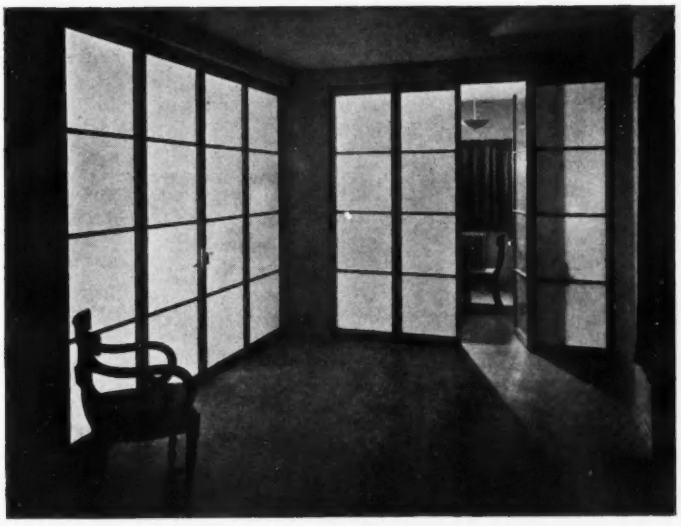
The house is constructed with 4-in. reinforced concrete walls acting as beams, insulated on the inside with wallboard, and sprayed externally with a waterproof protective finish. Floors and roof are of hollow tile. Internal stanchions and beams are 8-in. reinforced concrete. Solid partitions are of hollow block, and the partitions between hall and living-room and between living-room and dining-room are glazed in wood framing, with flashed opal glass.

The central heating is fed by a coke boiler in the basement. Provision has been made for future conversion for oil fuel.

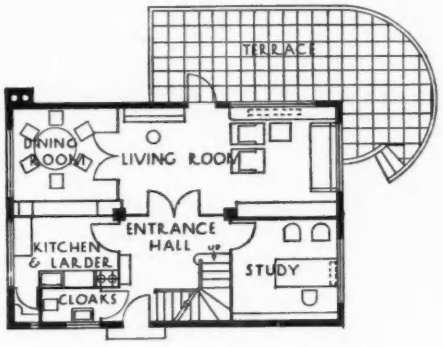
The two photographs on this page show the house from the west and from the south-east, the latter showing the garage entrance.

DESIGNED BY SERGE CHERMAYEFF

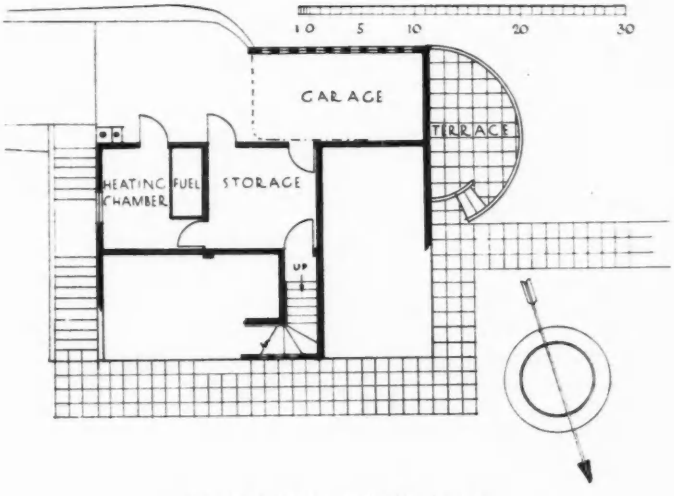
FIRST FLOOR PLAN



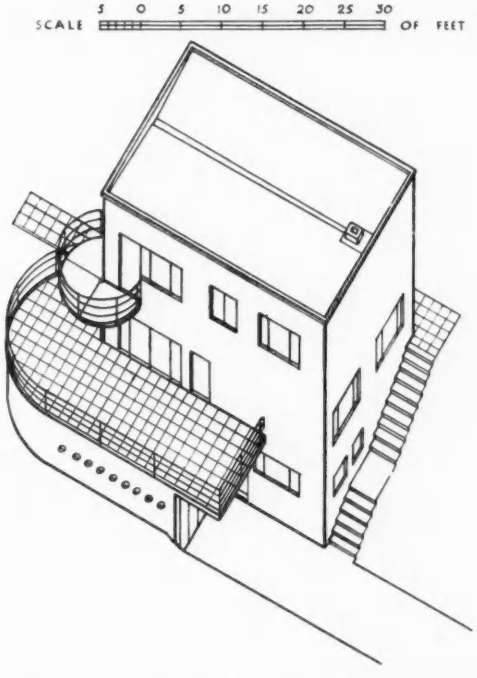
The living room, looking into the dining room, showing the glazed screens.



GROUND FLOOR PLAN



BASEMENT FLOOR PLAN



An isometric drawing of an earlier scheme for the house, placing the main entrance at ground level, with hall and cloakrooms adjacent, and providing larger kitchen and service accommodation. The cost of this version would have been £1,700.

FASCIST ARCHITECTURE

A REPLY TO "A QUESTION TO SIR OSWALD MOSLEY"

In the leading article in our issue for February 22 a suggestion was made, under the heading "A Question to Sir Oswald Mosley," that the Fascist party should indicate its attitude towards architecture.

We have received the following replies from the Secretary General of the British Union of Fascists. The first has been compiled, the Secretary writes, "by some members of the British Union of Fascists who are architects by profession," and the second, "by another leading member of our organization who is a philosopher but not an architect."

We print the two contributions without comment.

1: BY A NUMBER OF FASCIST ARCHITECTS

A recent leading article in THE ARCHITECTS' JOURNAL invites the British Union of Fascists to indicate its attitude towards questions of architecture.

The full bearing of Fascism on all questions of architecture cannot be stated in the course of a brief reply. In order to discuss the general attitude of British Fascism to architecture it is necessary briefly to review the position of architecture in this country at the present day.

On the one hand the general run and practice of architecture has sunk to a deplorably low level. Mean and meaningless, false and pretentious, at best a reminiscence, with merely a material reason for its existence, it fails to come home as an inspiration to men's thoughts and minds. On the other hand, there is a movement towards an architecture of hopeful and encouraging vitality. It is this movement, seen as yet only as the endeavour of a minority, that Fascism is concerned to foster and develop. On the one hand a soulless architecture lost to tradition; on the other a vital architecture finding in tradition the source of its reality.

This word "tradition" has suffered at the hands of those who fail to understand its meaning. Too often the word "tradition" is used to imply a reminiscence, a harking back, an imitation of something that has had its day. That is not tradition. Tradition is a force, coming from the past if we perceive it; living in the present if we live it; growing outwards to the future if we make it. Tradition, inspired always by the same intrinsic spirit, is ever in a state of change and growth.

The basis of vital modern architecture is an understanding, by deep experience, of the fundamental spirit of tradition, and a spirited determination to express that tradition, at its highest pitch, in forms significant of our own times and in terms appropriate to our own day.

That is where Fascism and vital modern architecture join hands. Both, in objective, are revolutionary, in the sense that revolution implies change and growth. This change and this growth are necessary and inevitable if we are to go forward and save ourselves from rottenness and stagnation.

Tradition is not dead, but those who should have kept it have abandoned it. Fascism, with respect for the past, understanding of the present, and courage for the future, intends to carry this tradition to its glorious fulfilment.

2: BY A. RAVEN THOMSON

(Deputy Director of Policy, British Union of Fascists.)

In a recent article in THE ARCHITECTS' JOURNAL we have been challenged to make public our architectural policy. The strange suggestion has been made that we should enforce some particular national style, or else that we intend to borrow our architectural ideas from Italy.

Actually, Fascism will make no endeavour to enforce some particular style of architecture as an authoritative ruling. We shall not try to revive Tudor architecture, much as we may admire the Tudor spirit. Nor will we condemn the experiments of Soviet Russia in new modern materials, although we are convinced that sheer materialistic utilitarianism can never form the basis of a true artistic style.

Taking a long historic perspective of the subject we view the future of architecture as follows. There is little doubt that the personality of European culture during the mediæval period found its highest manifestation in Gothic architecture, and that the Renaissance was a most unfortunate break with that early originality.

The Renaissance, in its deliberate imitation of classical forms, could never rise to the heights of Gothic inspiration. On the other hand, attempts during the nineteenth century to revive Gothic architecture after a long interval of neglect inevitably proved as restrictively imitative as Renaissance architecture itself. Such atrocities as the Albert Memorial and the various museums in South Kensington are grotesque examples of this inevitable failure.

Today it is not possible to trace any organic architectural style in this country. The disintegrating influences of democratic individualism during the past century have led to a hopeless divergence of architectural forms, into blind alleys of personal idiosyncrasy and imitative ingenuity. The changes of general artistic design during this period have been more in the nature of changes of fashion, when some individual tendency has momentarily gained public favour, than any organic sequence of development, such as can be traced through the Gothic and Renaissance periods.

The fact is that every great architectural epoch has been the product of communal, and not individual, inspiration. During the height of Gothic architecture builders all over Europe were producing essentially similar structures, subject to only slight regional modifications. All these buildings manifest the common source of inspiration which was shared by all the leading architects of the day.

The failure of modern architecture is in our view to be attributed to the lack of a communal purpose and the aggrandisement of individual liberty. As great spiritual movements of the past have not only imbued communities with a corporate purpose and a cultural meaning, but have invariably been reflected in new virile styles of art, we confidently await that the present wave of cultural regeneration which Fascism is bringing to Europe will produce an inspired artistic form of its own. Architecture, as one expression of this new artistic inspiration, will adopt a new organic sequence within which the individual will express his personality. To restore organic continuity to architecture it will be necessary according to the analogy of the development of Gothic architecture to get back to the sheer fundamentals of actual structural essentials and follow such logical forms of decoration as may arise from the subject itself. In this direction experiments in the new building materials—reinforced concrete, glass, etc.—are of extreme interest, as the revival of architecture must be inherent in itself,

and arise from the natural craftsmanship of the architect, working with modern materials for a modern purpose. The new materials give an opportunity of breaking with the effete traditions of the past, turning away from sterile imitation and entering upon a new epoch of artistic achievement, unfettered by the conceits and conventions of today.

The essential difference between the Fascist outlook upon architecture and that of democracy lies in the corporate ideology of Fascist thought. Instead of allowing each individual architect to have recourse to his own whim and the transient fashion of the age, Fascism will encourage a new corporate spirit of architectural harmony. Owing to the present chaos of individual artistic disunity that essential harmony can only be attained by a self-denying decorative restraint and the return to the basic simplicity of structure. From this origin it will be possible for the architects of the future, working within the new civilization of Fascism, to evolve the revitalized corporate artistic form.

●

THE VILLAGE

A week-end course on "the Village" will be held at the Bonar Law College, Ashbridge, Berkhampstead, from Friday, May 11 to Monday, May 14, when the following lectures will be given: "The Village as it was," by Mr. Arthur Bryant, M.A.; "Housing, with special reference to the Village," by Professor A. E. Richardson, F.R.I.B.A.; and "Rural Disfigurement and its remedy," by Professor Patrick Abercrombie, F.R.I.B.A. Full particulars are obtainable from the Secretary of the College.

C.P.R.E.

The annual general meeting of the Council for the Preservation of Rural England will be held at 9 Conduit Street, W.1 on Tuesday, May 8, at 3.30 p.m.

MINISTRY OF HEALTH

Sir Hilton Young, the Minister of Health, has appointed Mr. J. A. Lawther, M.B.E., of the Ministry of Health, as Secretary to the Departmental Committee on the cost of hospital and other public buildings and all communications relating to the work of the Committee should be addressed to him at 2, Whitehall Gardens, London, S.W.1.

B.I.F. DATE CHANGE

The Department of Overseas Trade announces that the Birmingham Section of the British Industries Fair, 1935, will be held from May 20 to 31 inclusive. The London Section will, however, as formerly, open on the third Monday in February, i.e., February 18, 1935.

This decision follows a recommendation of the "ad hoc" Committee of representatives of the London and Birmingham Sections of the Fair set up by Colonel John Colville, M.P., Secretary to the Department of Overseas Trade, to consider the question of the date of the Birmingham Section.

LETTERS *FROM* READERS

MAURICE E. WEBB, F.R.I.B.A.
R. E. COOPER
P. ALAN LAMBOURN
H. T. BROCK GRIGGS
W. R. GORDON
(Director, Coal Utilization Council)
ALEXANDER H. HAYES
WILFRID BOND, F.R.I.B.A.

R.I.B.A. and A.A.S.T.A.

SIR,—In your correspondence columns and your own notes, reference is made to the demand made by the A.A.S.T.A. that the R.I.B.A. should fix minimum scales of pay for architects' assistants. May I plead for very full consideration by all concerned before such a step is taken?

At the present time those of us who are employers and value the help and co-operation of our staffs, would, I am convinced, hate to see any reduction in salaries. Every assistant should realize that this is what the A.A.S.T.A. are in effect asking the R.I.B.A. to do. They want a scale fixed—a minimum scale. Such a scale would inevitably become a maximum scale as it has done in every sphere of work where scales are fixed. An architect's 6 per cent. is a minimum scale; how often will his clients pay him more? A bricklayer's scale is fixed; how often is he paid more?

In London, at any rate, I believe the salaries paid to our loyal staffs are in the vast majority of cases higher than would be the case if the A.A.S.T.A.'s scale were adopted; but as far as I know this scale has never been published. Why not?

I write this not as a member of the R.I.B.A. but as an architect who is interested in the welfare and freedom from rules and regulations of those who help us in our work.

MAURICE E. WEBB

SIR,—The letter from A. Seymour Reeves in your issue for April 5, in which he states that the A.A.S.T.A. must cease to be a body officially "associated" with the R.I.B.A., is of vital importance to every salaried architect.

Mr. Reeves states that the attitude of the R.I.B.A. with regard to the two proposals raised by the A.A.S.T.A. stamps it as an employers' organization.

It is obvious that the profession in its present condition cannot absorb the number of students turned out every year by the schools, and it is equally obvious that a glut of architects in the profession automatically lowers the market price of their services. This benefits no one but the practising architects, and affects adversely approximately 60 per cent. of R.I.B.A. members.

The R.I.B.A. could counteract this by adopting the proposal of the A.A.S.T.A.—i.e., by insisting upon its practising members paying their assistants a reasonable wage on a scale basis, in the same way as it insists upon its members adhering to its scale of charges for professional services. This, however, the R.I.B.A. refuses to do.

On the face of it, Mr. Reeves's statement seems to be justified, but it would be interesting to hear what reasons the R.I.B.A. give for not adopting these proposals which affect so many of its members.

R. E. COOPER

SIR,—The letter from the Secretary of the A.A.S.T.A., Mr. A. Seymour Reeves, must have aroused widespread interest. Unfortunately interest is hardly enough to carry any weight or help towards the end which they have in view.

Most of us have realized that our profession must be overcrowded, but who has tried to help the situation before?

I personally have very little right to waste space in THE ARCHITECTS' JOURNAL, but having had experience—and costly experience—of how crowded things are, I would like to suggest that the real root of the matter is the pupilage system which allows our architects to have more than one pupil at a time.

P. ALAN LAMBOURN

SIR,—I should like to make a few comments on the severance of the Association of Architects, Surveyors and Technical Assistants from the Royal Institute of British Architects.

It is difficult to understand the action of the R.I.B.A. in referring matter No. 1—i.e., the suggestion for a reduction of students in architectural schools by a fixed ratio, to the R.I.B.A. Board of Architectural Education. As this Board is largely composed of directors of architectural schools, the utter futility of such an action must be obvious. An instant rejection of such a proposal by such a Board, the very existence of whose members depending

on a bulging student personnel, was surely a foregone conclusion.

With regard to matter No. 2—i.e., the problems of salaried members, we are driven, justifiably, to the conclusion that the R.I.B.A. is not interested in them. The Institute's attention has been drawn to the glaring instances of victimization of members which is going on at the present moment.

The Institute has been challenged to show that they are meeting this serious situation with action. They have not met this challenge.

The A.A.S.T.A. deserves the widest support for its efforts on behalf of the salaried member.

H. T. BROCK GRIGGS

Modern Heating Systems

SIR,—In the article on Modern Heating systems, which forms part of the Information Supplement to your issue for March 22, there is a reference, under "Fuels for Central Heating," to automatic stokers for solid fuel.

The passage reads as follows: "properly graded coal, coke and anthracite are amenable to some degree of combustion control and automatic firing, by means of motor driven feeders attached to the furnace. For controlled rate of firing the motor speed can be controlled by thermostats and rheostatic controllers. With reasonably large installations this is quite a practicable method of reducing the cost of attendance and stoking, and maintaining a fairly close regulation of heating temperatures."

I suggest, Sir, that the phrases "some degree" and "fairly close" are quite unwarrantable examples of damnation by faint praise. It would almost appear as if the writer of the article felt that he must mention these appliances, but was determined to do so in such a way as to deter his readers from any further and independent investigation of their merits.

In fact a great number of mechanical stokers are in use today and giving complete satisfaction. Imperial Chemical House and the Grosvenor House Hotel are but two examples of modern buildings in which they have been installed.

I do not know, of course, what Mr. Hayes has in mind as a "reasonably large installation," but a conversion from a consumption of 500 tons per annum of oil to 750 tons per annum of coal, with oil at, say 80s. per ton and coal at, say, 30s. per ton, would represent an annual saving of £875.

W. R. GORDON

[*We have submitted the above letter to Mr. Hayes, the author of the article referred to, who sends the following reply.*—ED., *A.J.*]

SIR,—Mr. W. R. Gordon objects to what he terms unwarrantable examples of faint praise. I am not prepared to adopt superlatives in respect of automatic control of solid fuel firing for the majority of central heating installations. Electric heating can be thermostatically controlled, cut off instantly and restarted, with relatively simple appliances, and the temperature of the room kept within very close limits. Oil firing can be started quickly, controlled, cut off and restarted automatically, in response to temperature fluctuations; but a definite, if short, time lag is inevitable when the heat is transmitted through a water circulating system. Solid fuel firing cannot be stopped and started instantly; the control is essentially more gradual and though the response is definite and the time lag unimportant with moderate fluctuations of temperature, instant response to big fluctuations of demand is impracticable. Control of solid fuel firing involves control of fuel supply and also control of the rate of air supply, and it is not practicable to shut off the air supply to an incandescent bed of fuel in order to suspend combustion. The rate of heat generation can merely be reduced to a safe minimum. Further, the cost of automatic fuel and draught control is high for small installations such as those burning, say, 50 tons a year.

This does not mean that oil firing, by reason of a somewhat greater flexibility of automatic control, is preferable to or cheaper than coal and coke. I clearly indicated that, at its present price, oil fuel could be justified only under special conditions. Mr. Gordon's reference to large installations like those at Imperial Chemical House and the Grosvenor Hotel is pointless in regard to central heating generally. Special cases make bad law. The average installation consumes far less than 750 tons of coal a year, and in most cases solid fuel is preferable, even without the use of mechanical stokers and automatic control. Coal utilization cannot be assisted by objecting to a reasoned statement of relative values.

ALEXANDER HAYES

Lighting in Churches

SIR,—May I be allowed to make a few observations on the above subject as suggested by Mr. Wheat's paper and Mr. Powys's diatribe in your issue for March 29.

I thoroughly appreciate much that Mr. Wheat has done for church lighting even if his enthusiasm carries him away at times. I am glad that Mr. Powys agrees that our churches' purpose is what they were built for: the churches were built for worship embodied in the Mass, which was practically always celebrated in daylight, as were all other parochial offices.

Now, many years ago I heard (as possibly Mr. Powys did) one of our most learned archæologists express the opinion that in the case of old buildings which were in use and therefore living, this generation had as much right as any other to leave its impress on them and to adapt or even to add to them to serve its needs.

Church lighting is a case in point. Modern habits, as well as needs, dictate that there shall be services by artificial light, and common sense demands that this lighting shall be efficient and abundant enough not to make the church less attractive than secular buildings. We may like it or not, but the motto of the present age is, like Caxton's, "Fiat Lux," and its demand for light must be met even in church.

The Eternal verities, being supernatural, are not dispelled by light as possibly the Pagan sentimentalities of Nature, so well expressed by Mr. Powys, might be. Personally I appreciate a dim light as much as anyone and love candle light, but this age will not have it.

As to method of application each church must be judged on its own merits, and to rule out entirely one form, which certain persons are said to dislike, is childish. I cannot quite understand Mr. Powys when, after denouncing the providers of flood and concealed lighting, he appeals for their co-operation and help. I fear the co-operation he thinks of on his part is that of the tiger on whom a lady most incautiously went for a ride.

The powerful lights now possible are a discomfort and a danger to the eyes, so that possibly there are some advantages in "pendant globes of light," being not too low down and even at times concealed. When lights of low power have been put in nothing can stop local energy from inserting larger ones.

I should like Mr. Powys to visualize the church he has fitted with "low globes of light" with modest (I am sure they would be modest) lights when they have been replaced by cut glass containers with lights of the largest possible size, and those which "shine from staves" when fitted with fearsome torch lights two feet long and two inches wide.

The end of Mr. Powys's letter is more helpful when he advises us to help people to what they desire in a seemly and dignified manner; which really is the conclusion of the whole matter. I do not know why the decade following 1870 should be singled out for disapproval (that following 1881 was quite as bad) but I quite appreciate and try to follow the rule that what you put into an old church should be what the next generation can remove without harm if they know better, as they probably will.

WILFRID BOND

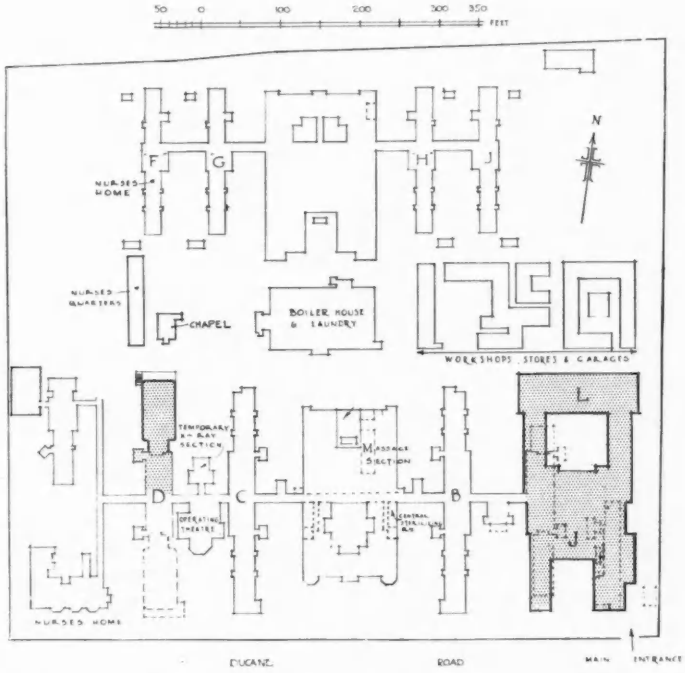
EXTENSIONS TO HAMMERSMITH HOSPITAL

The extensions to the L.C.C. Hospital at Hammersmith are now under construction, and should be completed by the end of the year. They are the result of a decision to establish an entirely new post-graduate medical school in the London area.

The scheme for the attachment of the new medical school to the existing L.C.C. Hospital is the joint concern of H.M. Government, the University of London and the London County Council. The extensions comprise a new hospital wing containing a group of operating theatres, a casualty and out-patients' department and the medical school.

The British Post Graduate Medical School, admission to which is restricted to persons already holding a qualification to practise medicine, will provide general courses by its professorial and other staff and concentrated refresher courses for practitioners who can only devote for example a fortnight to this purpose, but who wish to keep in touch with new developments in medicine and surgery.

The perspective reproduced above shows the new school and out-patients' block from the main road.



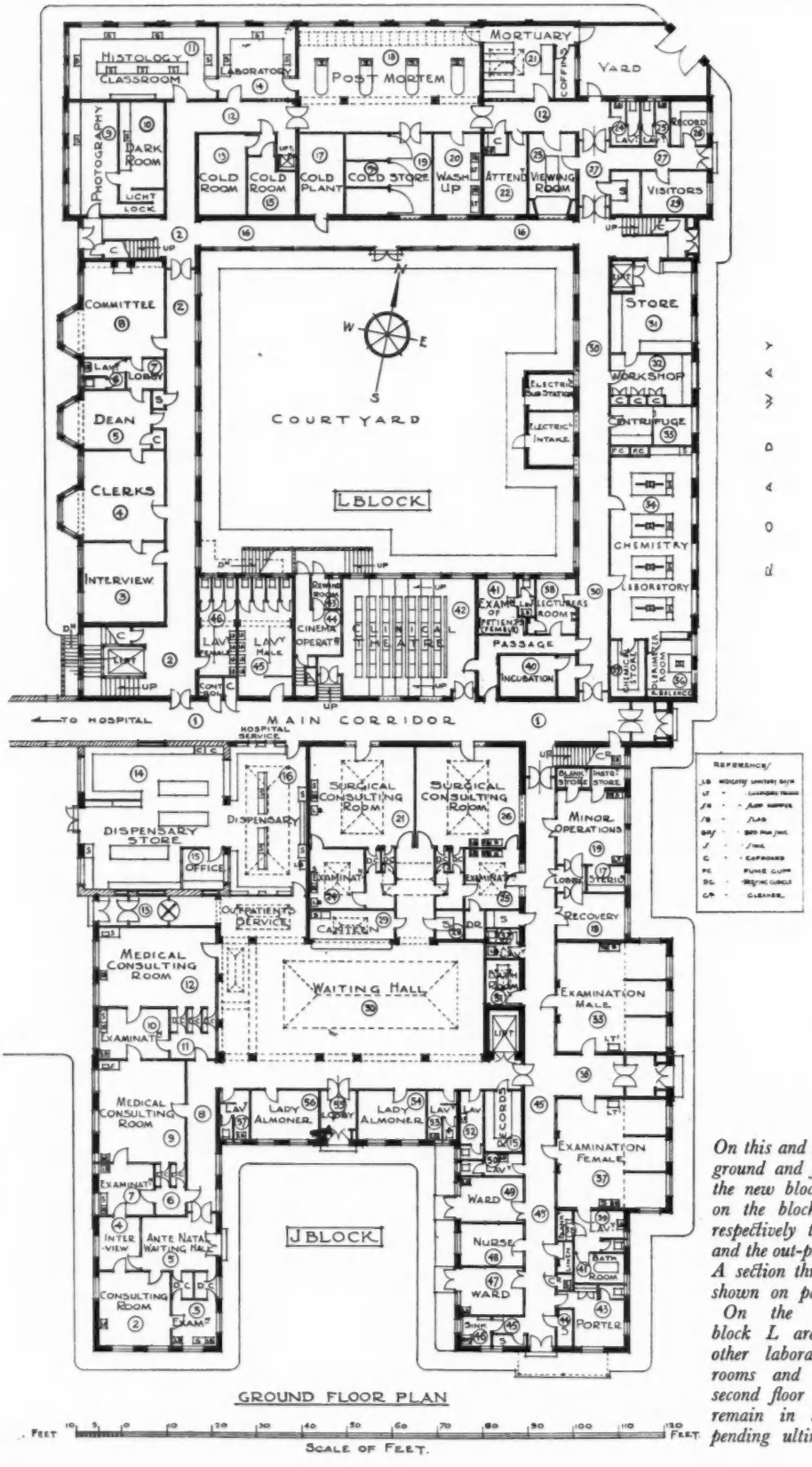
Block plan of the hospital. The new buildings are tinted: D, new ward block; L, medical school; J, out-patients' department.

DESIGNED BY

G. TOPHAM FORREST, F.R.I.B.A., F.R.S.E.

(Architect to the L.C.C. and the Governing Body)

EXTENSIONS TO HAMMERSMITH HOSPITAL:



GROUND FLOOR PLAN

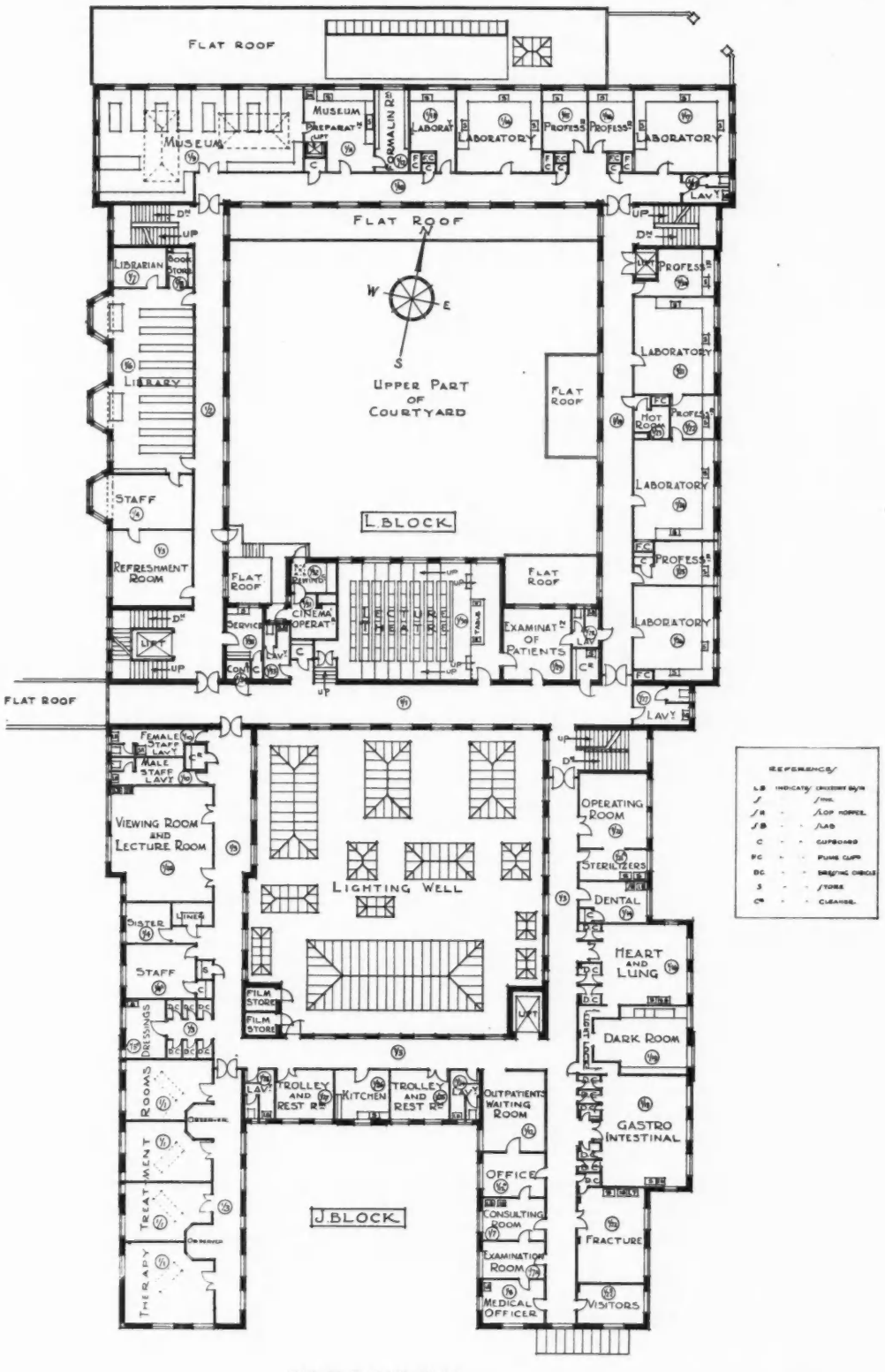
FEET 10 5 0 10 20 30 40 50 60 70 80 90 100 110 120 FEET

SCALE OF FEET.

On this and the facing page are ground and first floor plans of the new block marked L and J on the block plan, containing respectively the medical school and the out-patients' department. A section through this block is shown on page 572.

On the second floor of block L are microscopic and other laboratories, with hot rooms and autoclaves. The second floor of block J will remain in the carcase stage pending ultimate requirements.

DESIGNED BY G. TOPHAM FORREST



FIRST FLOOR PLAN

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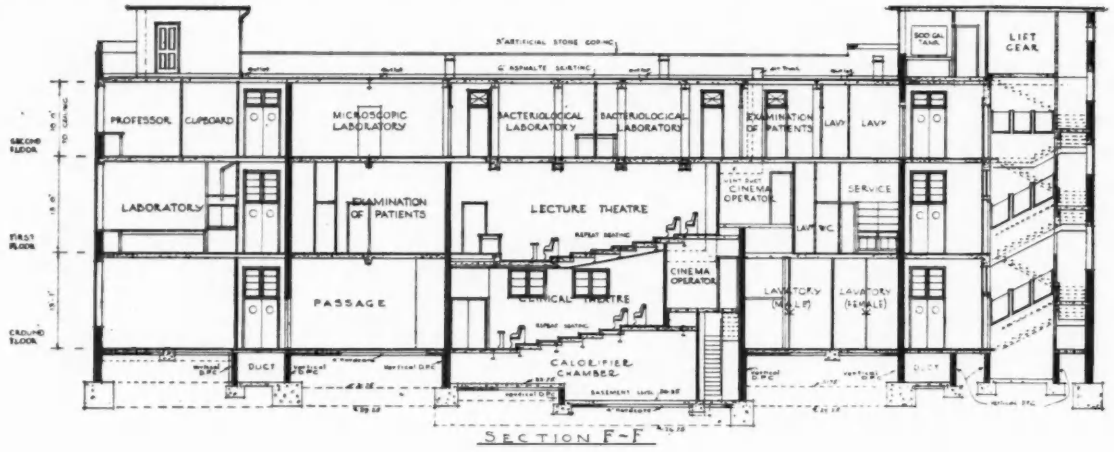
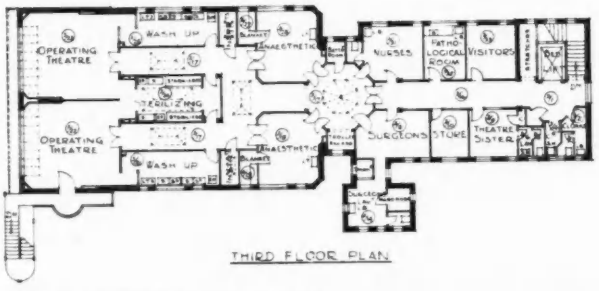
SCALE OF FEET

EXTENSIONS TO HAMMERSMITH HOSPITAL



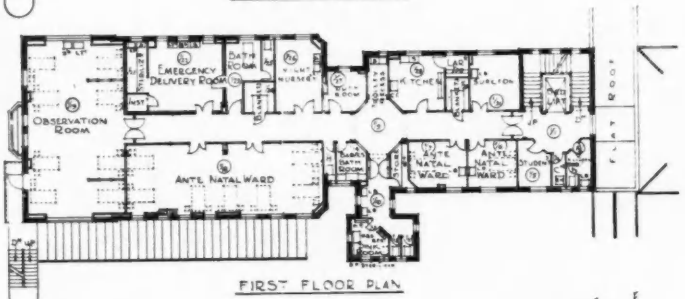
SECTION F-F

SCALE OF FEET

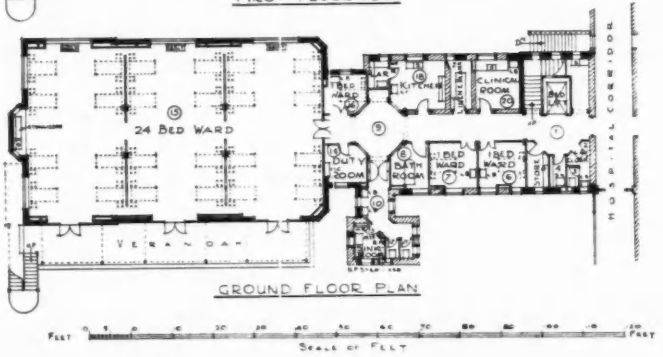


THIRD FLOOR PLAN

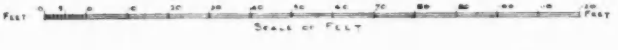
SECOND FLOOR PLAN



FIRST FLOOR PLAN



GROUND FLOOR PLAN



SCALE OF FEET

Above: a transverse section through the medical school portion of the new block, of which plans are given on the two preceding pages.

Right: plans of the new ward block, containing a group of operating theatres, marked D on the block plan.

This block is an extension in four storeys of the northern wing of an existing block of the hospital. It abuts directly on the main east-west corridor and has a full-sized lift which will make it possible for a bed to be wheeled from any part of the hospital to any floor of the new block. On the ground floor is a surgical ward of 24 beds, and on this floor there are also three small one-bed wards. The first and second floors are occupied by the maternity department. The third floor contains two identical operating suites.

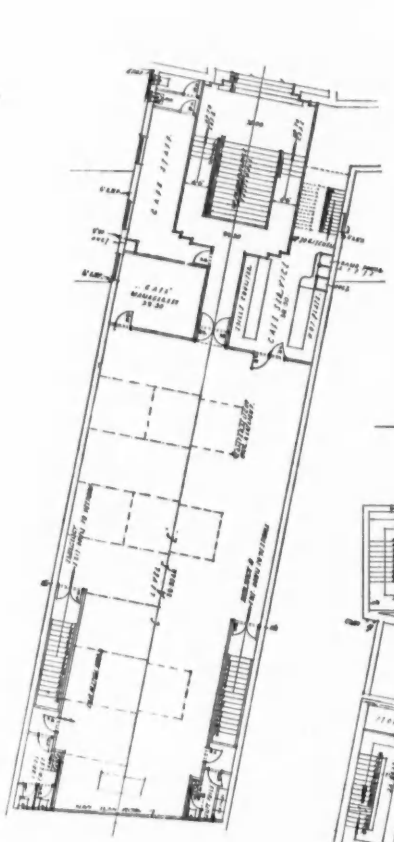
GAUMONT CINEMA, WOOD GREEN

[Photo: Spender and Edmiston

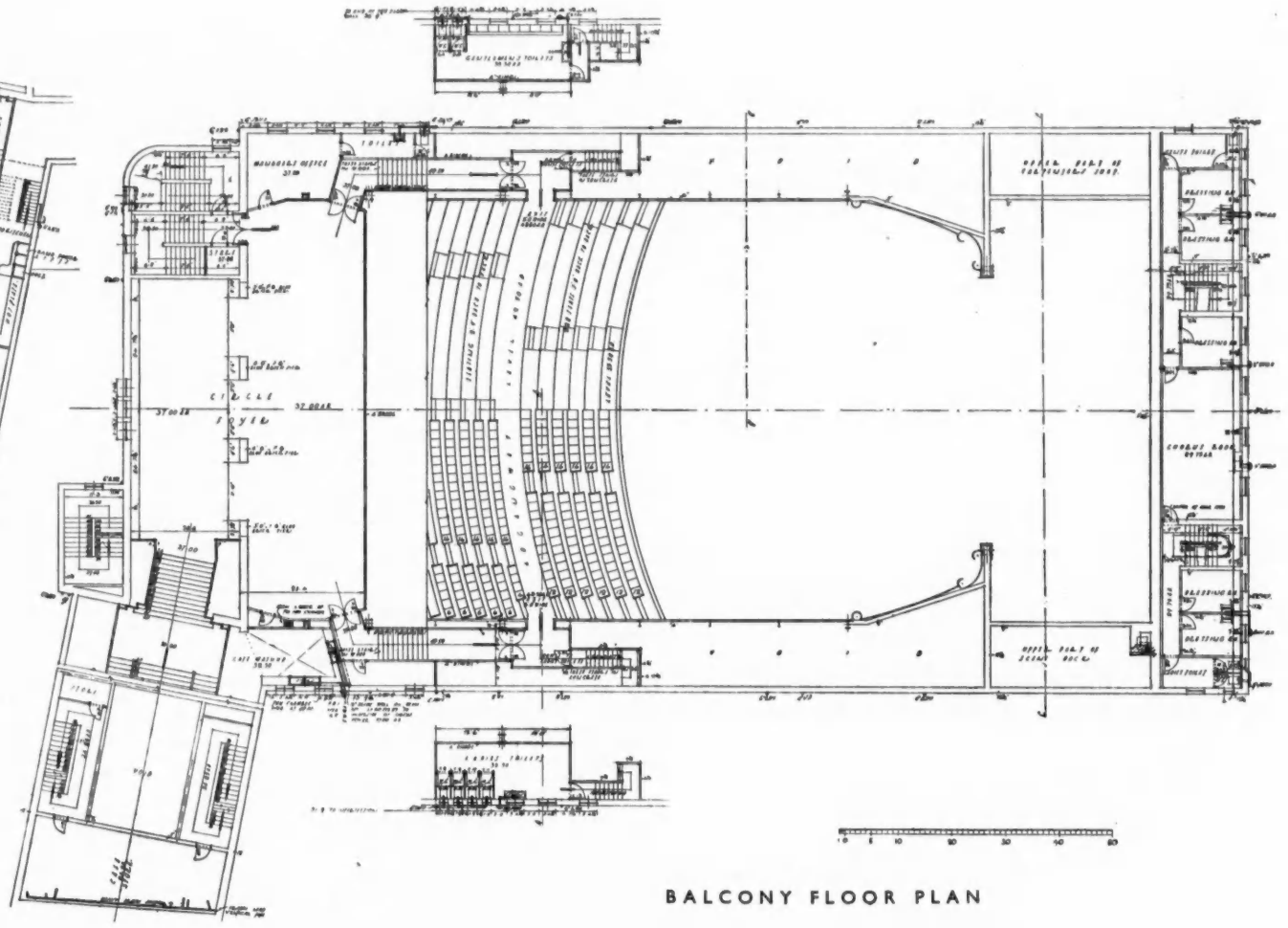
The auditorium, looking from the balcony towards the proscenium. The auditorium seats 1,800 persons on the ground floor and 850 in the balcony. It is decorated in graduated tones of beige, relieved with blue-green and silver; the decoration being varied by means of a system of three-colour lighting from the fittings seen in the photograph. The lighting is controlled from the projection room on the stage with a motor-driven dimmer control.

DESIGNED BY W. E. TRENT (E. TULLEY, ASSISTANT)

GAUMONT CINEMA, WOOD GREEN, N.



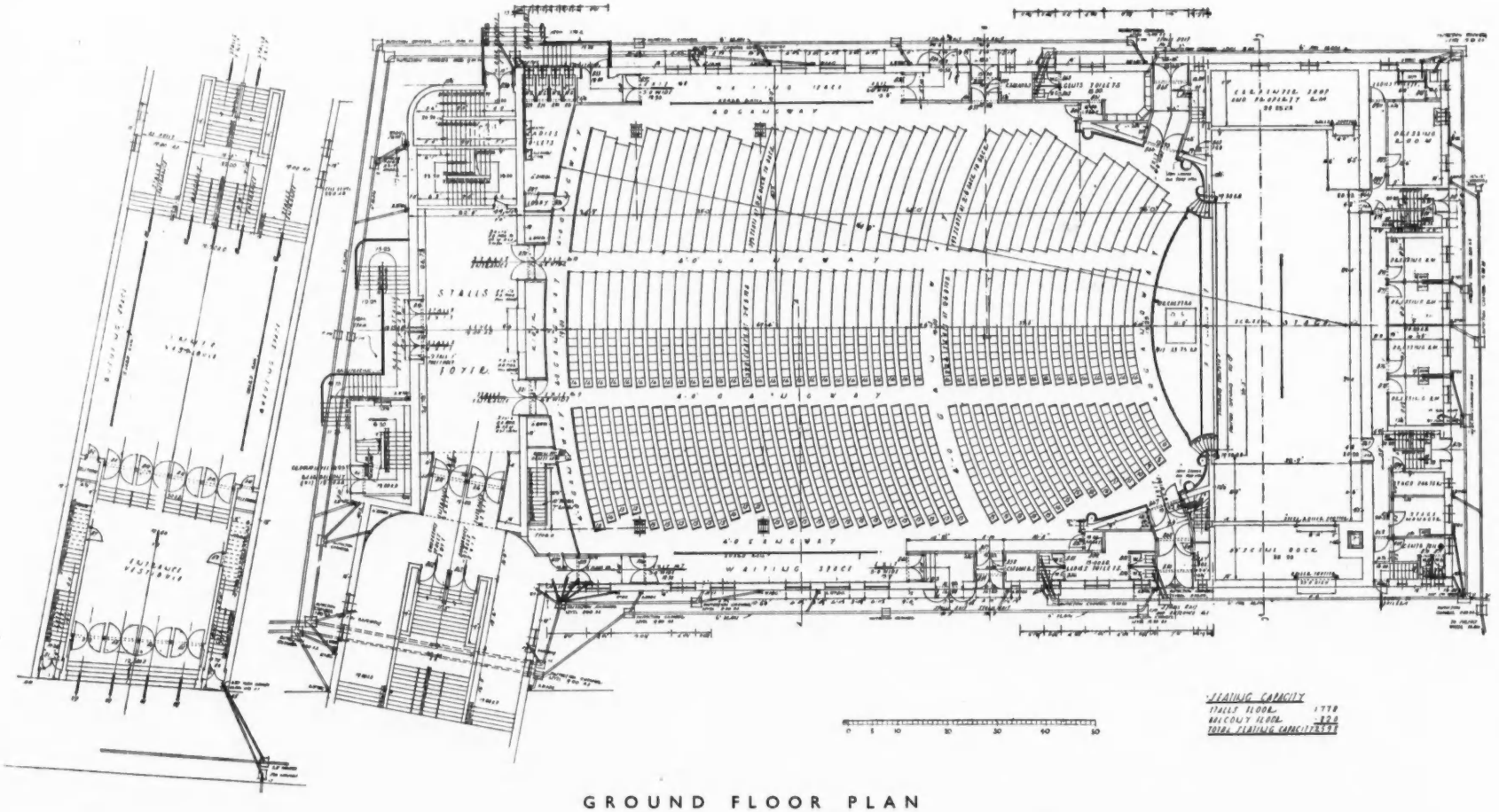
PLAN OF CAFÉ



BALCONY FLOOR PLAN

The plans on this page show the balcony and balcony foyer and the café, which is placed over the main entrance hall. The café can be approached either directly from the street or from the main staircase of the cinema. It is capable of seating 170 persons, and is served by a kitchen on the floor above. (For lay-out of kitchen and details of equipment see this week's WORKING DETAILS, *pages 577 and 580.)*

The balcony is supported on two girders of 81 ft. span; one of solid web type weighing 22 tons, the other latticed weighing 25 tons—the latter being 13 ft. 7½ in. deep. Two wing girders are arranged from the foremost balcony girder, spanning to the sides of the auditorium, with a secondary plate girder between; these girders form the fulcrum for the cantilever rakers which support the front portion of the balcony.



GROUND FLOOR PLAN

The ground floor plan can be divided into three sections; the entrance portion approximately at right angles to the main building, consisting of inner and outer vestibule, at the end of which are the pay-boxes (see WORKING DETAILS, *page 578), the auditorium and foyer and the stage with its service accommodation.*

The stage is 80 ft. in width and 30 ft. deep, with a height of 70 ft. to the "grid." It is provided with a scene dock, property room, dressing and rehearsal room, etc., so that stage entertainments can be produced. On such occasions the screen is raised and with it the two loud-speakers behind, weighing two and a half tons.

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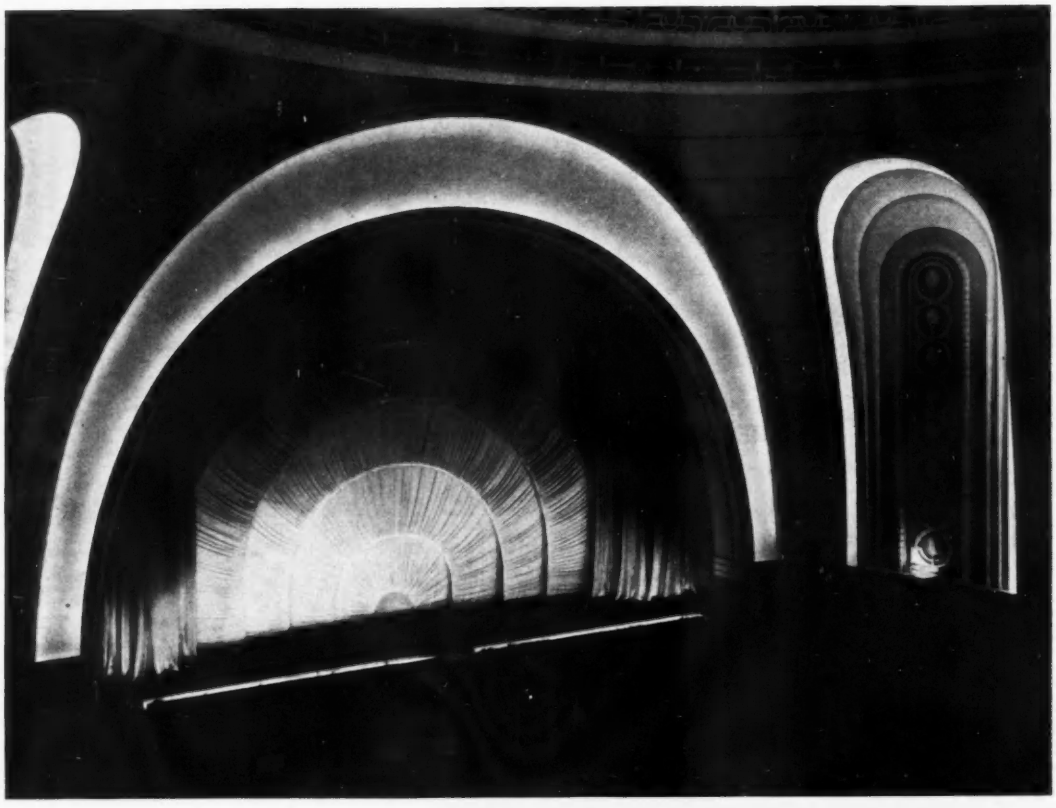
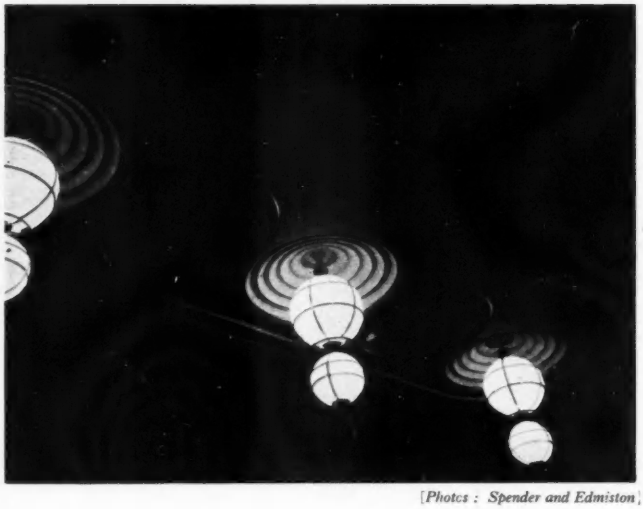
GAUMONT CINEMA, WOOD GREEN





[Photos: Spender and Edmiston]

Top: The auditorium, showing the decoration of the proscenium arch. Bottom: left, the exterior; right, light fittings in the auditorium. The entrance front is faced with deep red brick, with the café window on the first floor framed with terrazzo, coloured cream and light green. The doors are surrounded with black terrazzo.

DESIGNED BY W. E. TRENT (E. TULLEY, ASSISTANT)

WORKING DETAILS : 37

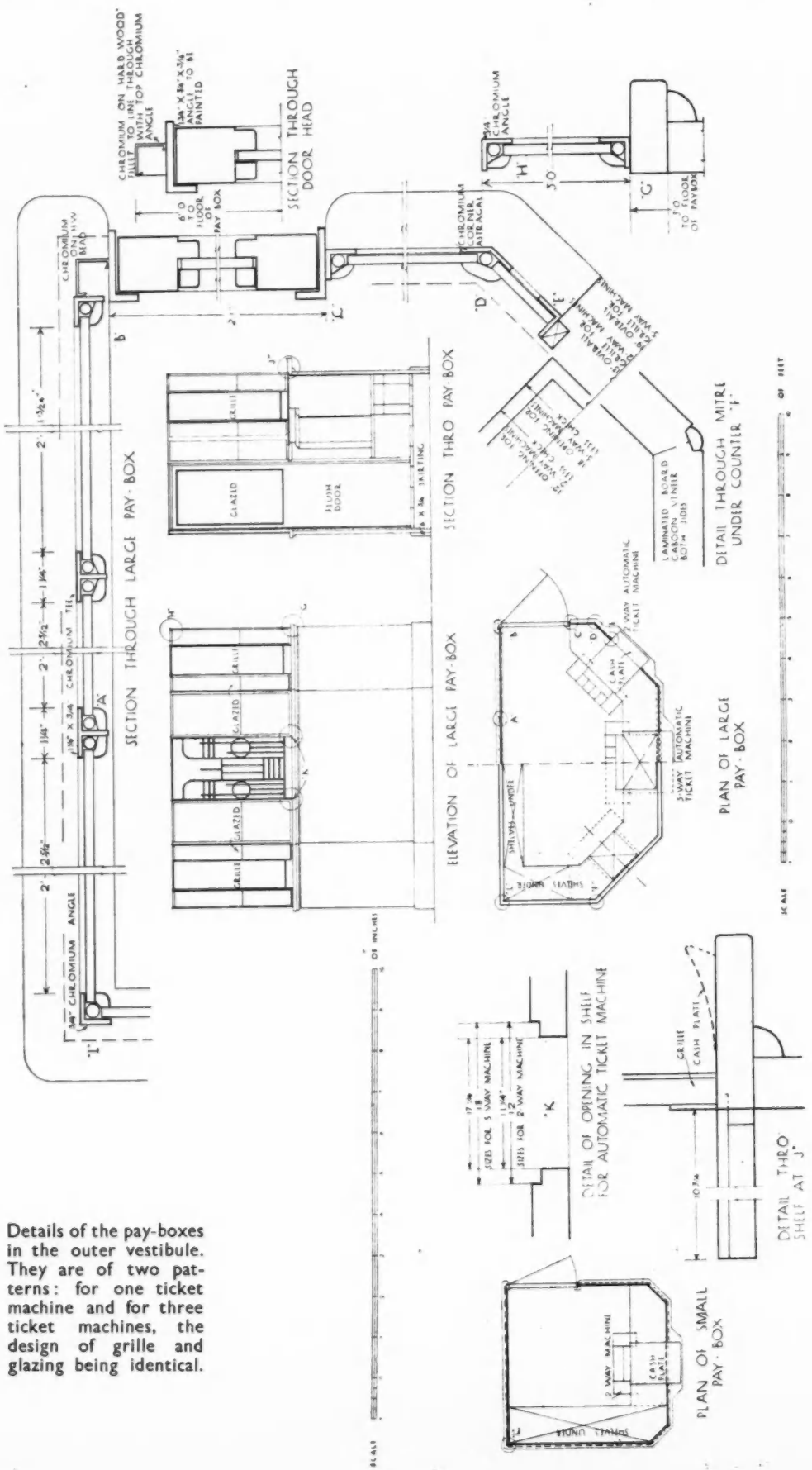
PAY-BOXES • CINEMA AT WOOD GREEN • W. E. TRENT (E. TULLEY, ASSISTANT)

One of the pay-boxes at the end of the entrance vestibule, in laminated hardwood and chromium steel. Drawings of the two types of pay-box installed, for one and two ticket machines, are given overleaf.

FILING REFERENCE:

WORKING DETAILS : 38

PAY-BOXES • CINEMA AT WOOD GREEN • W. E. TRENT (E. TULLEY, ASSISTANT)



Details of the pay-boxes in the outer vestibule. They are of two patterns: for one ticket machine and for three ticket machines, the design of grille and glazing being identical.

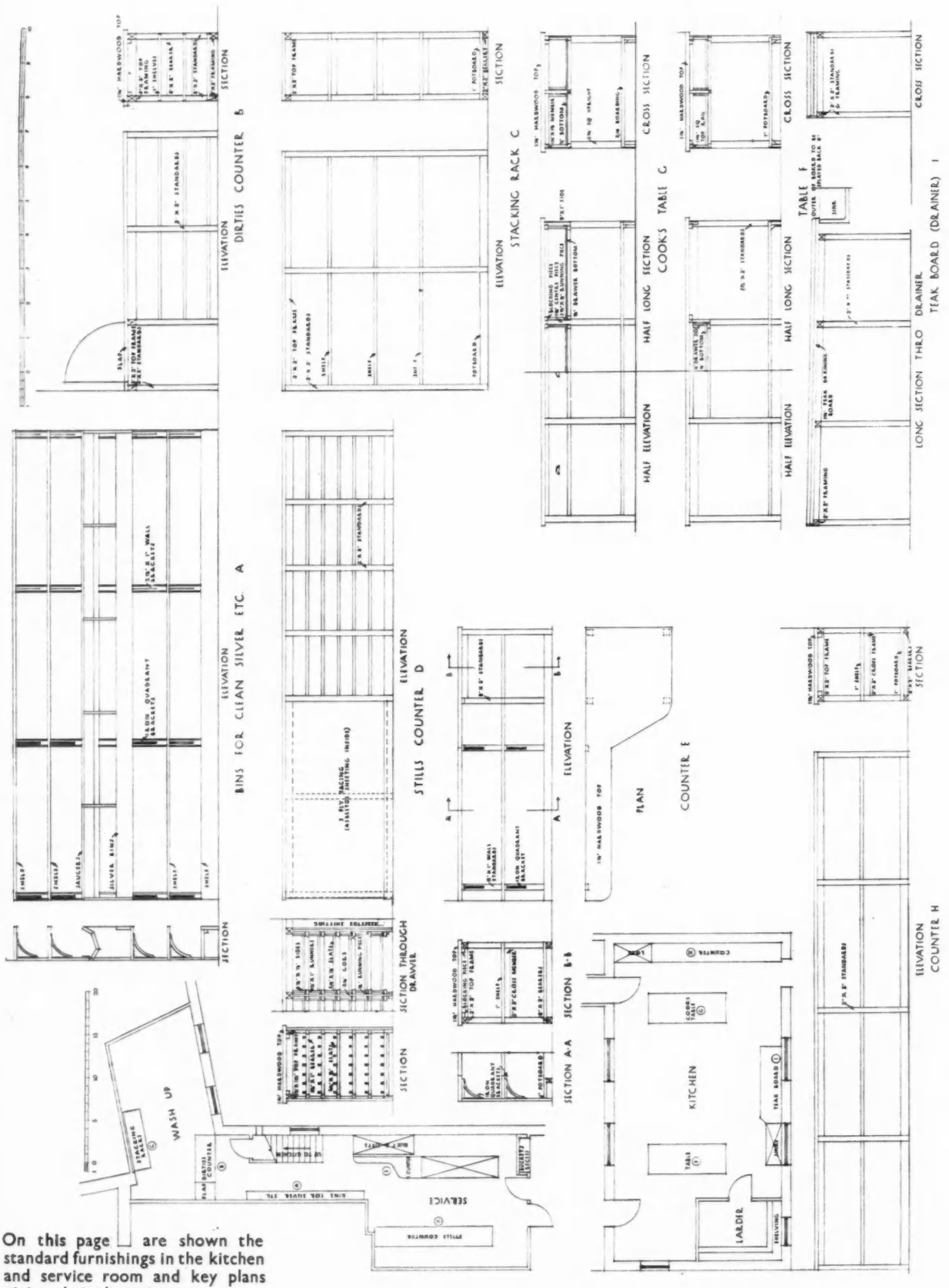
WORKING DETAILS : 39

KITCHEN FURNITURE • CINEMA AT WOOD GREEN • W. E. TRENT (E. TULLEY, ASSISTANT)

The interior of the kitchen: details of the kitchen furniture are given overleaf.

WORKING DETAILS : 40

KITCHEN FURNITURE • CINEMA AT WOOD GREEN • W. E. TRENT (E. TULLEY, ASSISTANT)



On this page are shown the standard furnishings in the kitchen and service room and key plans giving their disposition.

ECONOMY IN SMALL HOUSE CONSTRUCTION

[*BY FRANK H. HEAVEN, A.R.I.B.A., P.A.S.I.*]

This is the third of a short series of articles on small house construction, in which the author sets out to show how savings in building costs may be made through minor but cumulative economies, whilst departing little from normal building practice.

CARPENTER

PRACTICALLY all the soft wood used in building construction has to be imported into this country, yet, its extravagant use in methods of construction, largely those of an age when timber was home-grown and cheap, is persisted in still.

Further, in addition to economic considerations, any reduction in the amount of timber used enhances the value of the expectation of life of a building, because a certain amount of perishable and combustible material has been eliminated.

Boarded ground floors offer an opportunity for some such economy. If sleeper walls are made 3 in. in width, as suggested previously and illustrated in Fig. 7 (*A. J.* for April 5, page 504), the wall plates and damp-proof course below the same need not be of a greater width. A reduction equal to one-third of the sectional area of the plate, and in the width of the damp-proof course is an immediate result.

Again, if the wall plates are not to be notched to receive the floor joists—and why notch plates in these days of cheap nails?—these could be reduced in depth from the usual 3 in. to 2 in. A well-bedded 3 in. by 2 in. wall plate is amply strong enough to distribute any weight likely to be brought on to it, and to give adequate fixing area to the joists when securely nailed to it. Also, it has the advantage of reducing the amount of settlement which takes place when the plate shrinks, there being less of it to shrink.

The amount of timber so saved is more than 50 per cent., when 4½ in. by 3 in. and 3 in. by 2 in. plates are compared. The difference in sectional area being 7½ sq. ins., and equals 0·052 of a cubic foot for each lineal foot of plate.

The strength of a beam varies directly as the square of its depth, therefore the use of joists deeper in section than the usual suggests another source of possible economy, and from a constructional point of view there can be no objection to such a change.

Wood joists, 7 in. by 2 in., set at about 4 ft. centres over short spaces are quite adequate to carry all the load likely to be placed on any ordinary ground floor, especially if stiffened by strutting, and by the use of tongued and grooved flooring in place of the usual straight-edged variety. Tongued and grooved floor boards have a remarkable stiffening effect, when properly laid and nailed.

The reduction in the amount of timber used in the naked floor, in such a case, will amount to 43 per cent., or 0·16 of a cubic foot for each superficial yard of floor, as indicated by the following calculation :—

A square yard measuring 4 ft. by 2 ft. 3 in. requires :—

	c. ft.
a Under the orthodox method, 3/4 in. by 2 in. by 2 ft. 3 in. ..	= 0·37
b Under the manner suggested, 1/7 in. by 2 in. by 2 ft. 3 in. ..	= 0·21
Difference	0·16

The constructional members of a suspended wood floor cannot be reduced, where ordinary plastered ceilings are to be attached to them, owing to the need of keeping the framed timbers as firm and stiff as possible to avoid the development of cracks in the plaster ; but, where ceilings of matched-boards, plywood, pulp-board or similar substances which are not subject to cracking on the slightest movement of the sub-structure are used, then there are possibilities of economy.

For instance, in such cases, the floor-ceiling joists need only to be placed at 2 ft. centres instead of the usual 16 in. centres. Such increased spacing reduces the amount of timber required by 33⅓ per cent., or 0·22 of a cubic foot for each superficial yard of floor or ceiling, as calculated below for an area of 4 ft. by 2 ft. 3 in. (one super yard) when the joists are :—

	c. ft.
a Set at 16 in. centres = 3/7 in. by 2 in. by 2 ft. 3 in. ..	= 0·65
b Set at 24 in. centres = 2/7 in. by 2 in. by 2 ft. 3 in. ..	= 0·43
Difference	0·22

Simple plastered ceilings are affected by the same considerations as in the last instances, so that there can be little or no change in the form of construction so long as plastering is retained for the finished surface, but, where substitutes, similar to those mentioned above, can be used, then the spacings of the joists can be similarly increased from 16 in. to 24 in. centres with advantage.

Here, again, the amount of timber required will be reduced by 33⅓ per cent., or 0·12 of a cubic foot for each superficial yard of ceiling, as indicated hereunder.

For all area 4 ft. by 2 ft. 3 in. (one super yard), the amounts are :—

	c. ft.
a When set at 16 in. centres = 3/4 in. by 2 in. by 2 ft. 3 in. ..	= 0·37
b When set at 24 in. centres = 2/3 in. by 2 in. by 2 ft. 3 in. ..	= 0·25
Difference	0·12

Either of the materials suggested above as substitutes for plaster is much lighter than the latter, and each has the additional advantage of a considerable stiffening effect on the joists when properly laid and secured, consequently a further economy could be effected by using 3 in. by 2 in. joists in place of the more usual 4 in. by 2 in. The reduction in the amount of timber will be nearly 50 per cent., as shown below.

For a superficial yard of ceiling (4 ft. by 2 ft. 3 in.) the timber required will be as follows :—

	c. ft.
a With ordinary spacing and size of joist, 3/4 in. by 2 in. by 2 ft. 3 in.	= 0·37
b With suggested spacing and reduced size of joist, 2/3 in. by 2 in. by 2 ft. 3 in. ..	= 0·18
Difference	0·19

In the construction of roofs with plates, rafters, purlins, ridge piece, etc., a certain amount of economy can be practised with equanimity.

Where not required to be notched, the wall plates can be reduced from 4½ in. by 3 in. to 4 in. by 2 in. and a saving of 41 per cent. effected.

By increasing the spacings of the rafters from the usual 16 in. to 24 in. centres, accompanied by an increase in depth of the slate battens from ¾ in. to 1½ in. to take up the extra bending moment involved by the greater space, a further economy is the result.

For instance, in a roof covered with 22 in. by 12 in. slates, nailed at the centre, with about 3 in. lap, over a superficial yard (4 ft. by 2 ft. 3 in.) the amount of timber required for ordinary spacing and construction is :—

	c. ft.
a In rafters at 16 in. centres, 3/4 in. by 2 in. by 2 ft. 3 in. ..	= 0·37
b In slate battens at about 9½ in. centres, 3/¾ in. by 1½ in. by 4 ft.	= 0·093
Total	0·463

But under the method suggested above it is :—

	c. ft.
a In rafters at 24 in. centres, 2/4 in. by 2 in. by 2 ft. 3 in. ..	= 0·25
b In slate battens at about 9½ in. centres, 3/1½ in. by 1½ in. by 4 ft.	= 0·19
Total	0·44

The difference between the totals is 0·023 c. ft. for every superficial yard of roofing ; not very much in itself, but appreciable when repeated many times.

As an alternative to a roof constructed of rafters and purlins, one of boards and

purlins offers certain advantages which are worth considering.

For sake of argument, take a roof slope of 18 ft. 3 in. and a width of 5 ft. 6 in. to make an area of one "square" of 100 ft. Here, 5½ in. by 2 in. purlins, at 3 ft. 8 in. centres, covered with ½ in. sawn boarding shows, when compared with 7 in. by 3 in. purlins, at 6 ft. centres, 4 in. by 2 in. rafters at 16 in. centres, and 1½ in. by ¾ in. battens at about 9 in. centres, a saving in the quantity of timber required of 0·70 c. ft. Further, the boards act as an insulator against changes of temperature, wind, etc., and can be fixed with greater dispatch.

The comparative quantities are as follows :—

a Under ordinary methods of construction :—

	c. ft.
In purlins, 2/7 in. by 3 in. by 5 ft. 6 in.	= 1·60
In rafters, 4/4 in. by 2 in. by 18 ft. 3 in.	= 4·05
In battens, 23/1½ in. by ¾ in. by 5 ft. 6 in.	= 0·98
Total	6·63

b Under the suggested alternative method of construction :—

	c ft.
In purlins, 4/5½ in. by 2 in. by 5 ft. 6 in.	= 1·68
In boards, 18 ft. 3 in. by 5 ft. 6 in. by ½ in.	= 4·25
Total	5·93

The difference between the totals is 0·70 of a cubic foot for each square of roofing.

In all the cases cited above, there is a further saving in labour, nails, handling and transport charges, reduced weight and reduced overhead charges by reason of

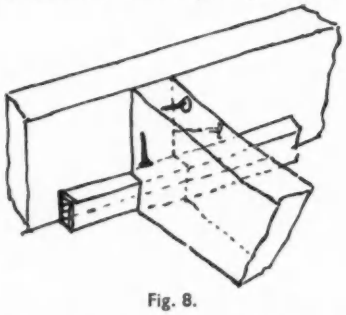


Fig. 8.

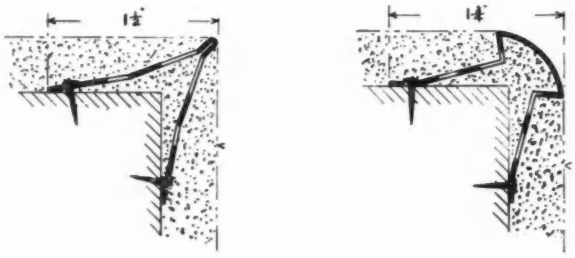
speedier execution ; all of which have an effect upon the all-in cost of any building.

There are other directions in which changes could be made with advantage. Joints in carpentry offer food for thought. The usual tusk-tenon joint between trimmer joists, at ends of purlins, etc., is a relic of by-gone days when nails were unheard of. Their employment persists, however, with consequent waste of material and labour.

A simple fillet with three or four wire nails 5 in. to 6 in. in length are enough to make a really sound connection, as shown in Fig. 8.

Provided the nails are carefully set at an angle to gain the maximum advantage of their engagement with the fibres of the timber (50 degrees is a good one), nothing short of an earthquake will sever the joint.

[*To be continued*]



TRADE NOTES

[*BY F. R. S. YORKE, A.R.I.B.A.*]

Metal Trim

I HAVE received from Joseph Sankey and Sons a 10-page brochure illustrating the various standard metal sections now obtainable for interior trim. Such trim has hitherto been little used in this country, except as reinforcement to plaster angles, replacing the ineffective wood staff-bead ; but in America it has been employed for some years and has apparently proved satisfactory.

•

Metal trim is made from sheet steel, pressed to suitable standard sections to take the place of wood in the interior finishing of buildings, in such parts as skirtings, door and window linings or frames, picture rails and other members that are fixed by the builder as the work proceeds, and become an integral part of the building.

•

Metal is particularly suitable for the work because it is strong, durable, fireproof, and less likely to shrink and twist than wood ; and if, by standardization of sections, it can be produced as cheaply as wood, there is no reason why it should not be adopted universally as a superior material. It seems there is an especial field for it in new slum clearance work, where wood is not an ideal material.

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It is important, however, that the design of a section be excellent if it is to be produced in millions of feet. It is therefore

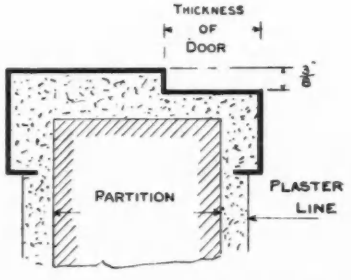

Diagram 2. Method of fixing pressed steel door frame ; fixing lugs are welded to frame.

disappointing to find the manufacturers, in some cases, reproducing wood mouldings in metal. It is significant that the recessed picture rail section (diagram 4) in which metal is treated as metal, costs 3s. less per

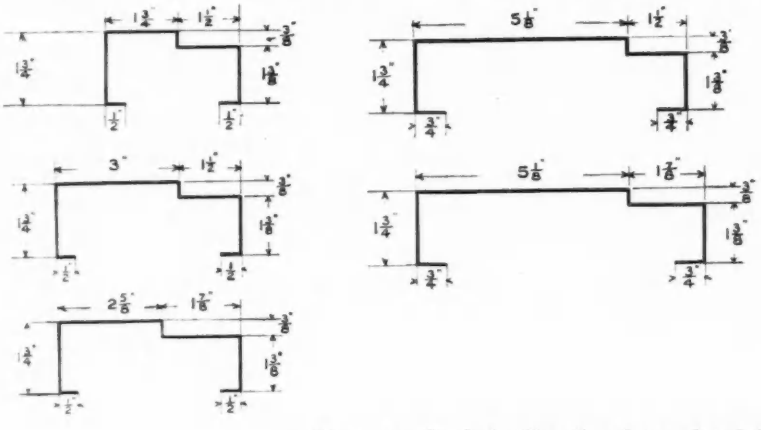

Diagram 1. Standard sections through pressed steel door frames for 2 in., 3 in., and 4½ in. partitions.

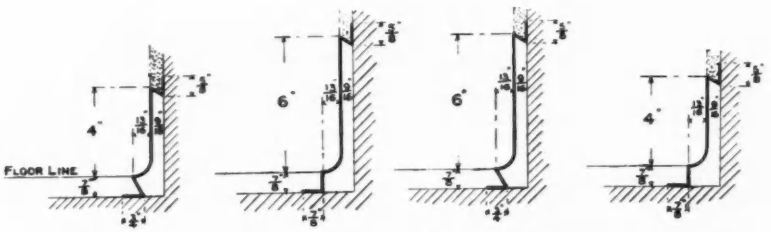

Diagram 3. Standard 4 in. and 6 in. coved skirting sections in 20 gauge pressed steel.

100 ft. than the picture rail that is pressed in the form of a wood moulding.

•

The trim is pressed from mild steel sheet, in gauges varying from 18 to 26, according to the purpose for which it is required.

•

Door frames are supplied in complete units, with mitred and welded joints; sole-plate and lugs are provided so that the unit is ready for building-in. The frame is drilled and tapped to take hinges and striking-plate for lock-catch.

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Prices vary from 16s. 6d. for a frame to take a 6 ft. 4 in. by 2 ft. 4 in. by 1½ in. door in a

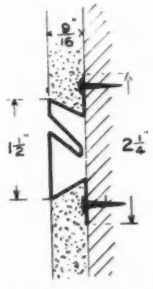

Diagram 4. Recessed pressed steel picture rail.

2 in. partition, to 23s. for a frame to take a 6 ft. 6 in. by 2 ft. 8 in. by 1¾ in. door in a 4½ in. partition. Standard door frame sections are shown in diagram 1 and a typical section in position in diagram 2.

•

Skirtings are made in several standard sections (diagram 3) and special pressings are made for finishing at internal and external angles. These are either in the form of overlapping corner pieces, which allow for reasonable variations in brickwork measurements when the skirting is ordered in cut lengths, but are, I think, rather clumsy in appearance. A neater finish is obtained with flush corner pieces, but when these are used, skirtings must be sawn to exact length on the job.

•

The skirting costs 30s. and 36s. per 100 ft. for 4 in. and 6 in sections respectively, and flush type corner pieces cost 33s. to 39s. per 100 ft.

•

Angle-bead for plaster reinforcement is made from 22-gauge galvanized steel sheet in stock lengths of 8 ft. and 10 ft. Two standard sections are illustrated at the head of these notes. That giving a sharp angle costs 18s. per 100 ft., and that for a rounded angle 21s. per 100 ft.

•

I understand from the manufacturers that their catalogue prices are subject to sub-discounts.

Cellular Latex Upholstery

At the Ideal Home Exhibition the Dunlop Rubber Company are showing their "Dunlopillo" cellular latex mattresses and upholstery cushions. This material, first used for the seating of the Shakespeare Memorial Theatre, is now available for ordinary furniture, and seems to have several advantages, in that it is fully porous, germ resisting and vermin proof.

•

For furniture "Dunlopillo" may be specified in the ordinary way, since numerous furniture manufacturers stock it, and it may be easily cut or mitred if the sizes do not happen to coincide with the standard dimensions stocked. For benches or window-seats three standard widths are available, 16 in., 18 in. and 21 in., the last costing 6s. 6d. per foot run. The cost of mattresses compares favourably with the more usual spring-filled types.

Refrigerators

A new air-cooled refrigerator has recently been introduced by Electrolux, Ltd., and is shown on their stand: its capacity is 2·2 cubic feet, the freezing rate can be controlled from outside the cabinet, and the price is only £29 10s. The Electrolux Minor ("L 2") is also available, either on feet for ordinary use, or with brackets for wall fitting or building-in. A particular point about all the Electrolux models is that there are no moving parts and therefore no possibility of noise, and all types can be operated by electricity, gas or paraffin.

•

It should be remembered that only models L1 and L2 are air-cooled, the remainder needing a small flow of water.

Gas and Electric Fires

I referred some months ago to Messrs. Bratt Colbran's "Portcullis" gas fires; these can now be seen at Olympia in a great variety of models and finishes.

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The fires, it will be remembered, have a new type of radiant which is different from the usual "candle," and the number of "thorns" or pips has been increased in order to give a better scrubbing of the flame. I was also shown a new portable convection heater which requires no flue and uses only 12 cubic feet of gas per hour.

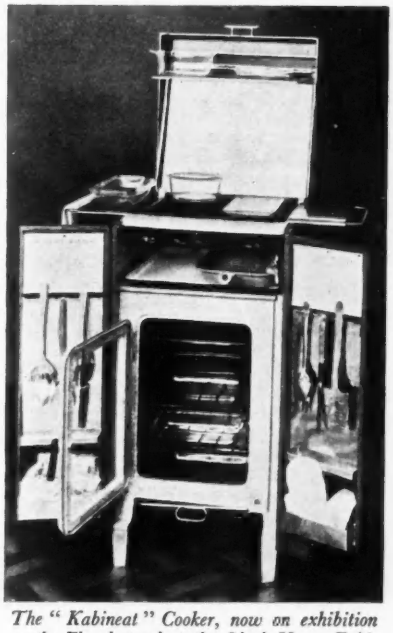
Questions that Arise

SURFACING OVER FACTORY FLOORS

A. B. writes: "*Is there a good method of surfacing over factory floors paved with 3 in. flags? Some are impregnated with oil and grease, others are not, but in most cases the joints are worn into hollows varying in width and depth. Perhaps your expert will let me have some idea of cost, or advise me where such information may be got. Can he recommend anything with greater lasting properties than oil mastic for pointing factory wooden window frames?*"

Querist should obtain from such firms as Kerner-Greenwood, etc., particulars of their method of resurfacing floors subject to heavy wear. This involves cleaning off oil or grease, but not chipping or hacking the floor, the process consisting of a preliminary coating of a special primer, followed by a mixture of two parts clean sand, one of Portland cement, and one of a concrete hardener.

Pointing round wooden factory window frames. A plastic adhesive such as Farotex might give more lasting results than oil mastic.



The "Kabineat" Cooker, now on exhibition on the Flavel stand at the Ideal Home Exhibition. A photograph of the cooker, when closed, was published in our last issue.

IN PARLIAMENT

[BY OUR SPECIAL REPRESENTATIVE]

Housing

Mr. George Hicks, in the House of Commons last week, raised the question of housing, and said that there was widespread discontent with the existing conditions. Much of the housing legislation was a dead letter and might just as well not have been passed.

Sir Hilton Young, the Minister of Health, said that the policy contained in the Government's recent White Paper would be carried out. The thing necessary for the fulfilment of the programme in the White Paper was that they should have behind them the steady support of public opinion and the same frame of mind as existed at present. They were still at the period of acceleration when the great new effort had not come to the peak as regarded pulling down the slums and putting fresh houses in their place. As regarded the actual acceleration of the work of slum clearance, they had aleady achieved such an increase of speed as to assume that if that was continued they would achieve the programme in five years. They were going fast enough already to get the work done in five years. The acceleration of the work of slum clearance was best shown by the figures showing the resolutions actually declaring slum clearance areas. In the first year of what we might call the dawn of the idea of a campaign on slums, the year which began on January 1, 1933, when they were just starting on the work, 200 local authorities declared 894 fresh areas. In the three years that had followed from last January 1 to the end of last March the number of fresh areas declared had been nearly 1,000. So it would be seen that in the last three months they had declared more fresh slum areas than in the whole of the preceding year. In other words they had multiplied the rate of progress in slum clearance already by four in the carrying out of the programme. That curve was going up, because the biggest figures they had ever had were the figures for last March, when 347 fresh areas were declared. That carried with it the promise of a future increase sufficient to enable them to work up to the peak to get the programme achieved in the five years.

He believed that the fears which had been expressed with regard to the actual organization of the work of building to be totally groundless. In the experience which had now been gained of the working of the Act it was not too much to hope that they would be able to shorten the time in which to get the schemes through. The slum inquiry was a stage in the proceedings which it was impossible to cut out, or even cut short. For the last 18 months they had been seeing a most remarkable activity in house building. It was a remarkable coincidence that the abolition of the general subsidy had been followed by a boom, and he would not be illogical if he saw some connection between the two facts. In the six months to the end of September last, the number of smaller houses built by local authorities and private enterprise combined, for the lower paid wage-earners, was between 55,000 and 60,000. That compared very favourably with previous years. The lesson of experience was that uncontrolled subsidy was useless to cure the housing problem. That was the whole basis of Government policy as it had been developed stage by stage. The subsidy was being used when the Government came into office to build houses, generally speaking, for the better paid wage-earners. The first thing was to check that enormous misdirection of public funds. The next in order of importance was to turn the whole force of the housing energies of the country and of public funds to get rid of the disgraceful sore of the slums, and to register the national resolution that it would no longer be content to tinker with housing here and there and leave the slums unremedied. That was the second foundation stone of the Government's policy. It was the biggest evil which could be defined and limited, and on which an attack could be launched at once. They were just beginning to get the organization complete, and when the attack was launched they could go on to the last and most intractable and difficult stage of the use of controlled instead of subsidy where necessary to deal with overcrowding. That was a matter which before very long the time would be ripe to develop to the House. No effort which could usefully be taken to remedy the evils of housing would be neglected by the Government.

Building Materials

Mr. Leonard asked the Minister of Health if he would state whether the increase in the prices of building materials during the past two years had been due to production costs or was the result of trade combinations aiming at price control.

Sir Hilton Young said that it was not the fact that there has been a general increase in the prices of building materials during the last two years. While some materials had increased in price, others had declined in price within that period and he had received no report from the Inter-Departmental Committee appointed to survey the Prices of Building Materials suggesting any improper increase of price resulting from the operation of any trade combination, trust or agreement.

Mr. Graham White asked the Minister of Health if he had any evidence at present that men in the building industry were unemployed owing to shortage of bricks or that building operatives were anywhere delayed by shortage of materials.

Sir Hilton Young said he had received no such evidence.

Tenement Building

Mr. Fleming asked the Minister of Health whether he had anything further to report of the committee which he intended to set up to consider the construction of tenement buildings on slum sites which had been or were to be cleared.

Sir Hilton Young said he hoped to announce the composition and terms of reference of this committee at an early date.

Manufacturers' Items

Work has commenced on the erection of a two-storey extension of the M.K. Electrical Co., Ltd.'s factory in Wakefield Street, Edmonton. The new building will be a steel-framed structure with brick filling. It will have a hollow tiled floor and asbestos roof on steel trusses and wood purlins. Standard metal windows will be fitted, ample glazing, and other features will include granolithic floors and staircase.

The building, which will take approximately three months to erect, has been designed by Messrs. Wigglesworth and Marshall Mackenzie, FF.R.I.B.A., and the general contractors are Messrs. Commercial Structures, Ltd.

Obituary

We regret to record the death of Mr. Thomas James McDowell, the founder of the Empire Stone Co. and its Chairman and Managing Director.

THE BUILDINGS ILLUSTRATED

Sub-Contractors' List

Following are the names of the specialists, general contractors and some of the sub-contractors for the buildings illustrated in this issue.

House at Rugby (pages 564-565). General contractors, Foster and Dicksee, Ltd. who were also responsible for the flush doors. Sub-contractors: Diespeker & Co., Ltd., composition flooring; James Gibbons, Ltd., metal door furniture; Crittall Manufacturing Co., Ltd., windows, including sliding and folding window to living-room; Chance Bros. & Co., Ltd., straw coloured opal glass in screens; John Slater (Stoke), Ltd., sanitary fittings; Celotex Co. of Great Britain, Ltd., insulation board used as shuttering; Spraytextures, Ltd., external finish to concrete; Ruberoid Co., Ltd., roofing; Docker Bros., synthetic resin paints, interior, and interior balustrading and steel window frame paint; Best and Lloyd, Ltd., and Troughton and Young, Ltd., lighting fittings; The Educational Supply, Ltd., garage doors; Pilkington Bros., circular pavement lights to garage.

Hammersmith Hospital Medical School (pages 569-572). General contractors, Prestige & Co., Ltd. Sub-contractors: Ragusa Asphalte Paving Co., Ltd., asphalt; Dorman Long & Co., Ltd. constructional steelwork; T. W. Palmer & Co., external iron staircases; Carter & Co., (London), Ltd., glazed wall tiling; R. Gay & Co., paint; Leeds Fireclay Co., Ltd., sanitary fittings; James Gibbons, Ltd., steel casements and screens; Mellowes & Co., Ltd., steel lantern lights; Marbello and Durus, Ltd., terrazzo pavings; H. J. Cash & Co., Ltd., heating, hot water, steam, condenser and gas services; Pinching and Walton, electric lighting; J. and E. Hall, Ltd., electric lifts.

Gaumont Palace, Wood Green (pages 573-576). General contractors, McLaughlin and Harvey. Sub-contractors: Archibald D. Dawnay and Sons, constructional steelwork; J. Jeffreys & Co., Ltd., heating and ventilation; Knight & Co., safety curtain; Clarke and Vigilant Sprinklers, sprinklers; Benham and Sons, kitchen fittings; F. De Jong & Co., fibrous plaster, decorating and metal bracketing; Mather and Platt, roller shutters; SMS Express Lifts Ltd., hand power lift to café; Haywards, Ltd., wrought steel windows and laylights; Ingram and Kemp, light fittings; Cellulin Flooring Co., cork carpet dadoes; Fenning & Co., Ltd., terrazzo to facing of front; Frank Burkitt, Ltd., fusible links; Garton and Thorne, Ltd., canopy and poster frames; Potter Rax Gate Co., Ltd., radiator grilles; Adrian Stokes & Co., handrails and balustrading; Harris and Sheldon, pay-boxes; G.-B. Equipments, proscenium curtains, etc.; Plastering, Ltd., solid plastering; E. G. Walters & Co., composition flooring; Universal Metalling, Furring and Lathing Co., metal bracketing; Lawford Ashpalte Co., asphalt; James Gibbons, Ltd., ironmongery; Compton Bros., glazing; V. Ramsden, tiling and terrazzo; Bayliss, Jones and Bayliss, iron centering; Laminated Wood Products, flush doors; W. H. Earley, sanitary fittings plumbing and drainage; W. James & Co., metal windows; The Universal Asbestos Manufacturing Co., asbestos roofing.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILE RADIUS)

CATERHAM. *Houses.* Plans passed by the U.D.C. : 16 houses, Tillingdown Lane, for Mr. C. H. Harrington ; four houses, Chaldon Common, for Mr. H. M. Gifford ; two houses, St. Michaels Road, for Mr. W. R. Quested ; four houses, Campbell Road, for Mr. C. S. Dawes ; three houses, Court Road, for Mr. C. Cooper ; 26 houses, Markfield estate, for Mr. F. W. Thomas ; two houses, Stanstead Road, for Mr. J. Osborn ; garages and car park, Crescent Road, for Mr. H. Marment.

CATERHAM. *Houses.* The U.D.C. is in communication with E. Plaice, of Farnborough, regarding the development of 32 acres in Limpsfield Road, Warlingham, by the erection of 189 houses.

ENFIELD. *Fire Station.* The U.D.C. is to prepare plans for the erection of a central headquarters fire station, at an estimated cost of £30,000.

ENFIELD. *Houses.* Plans passed by the U.D.C. : Two houses, Layard Road, for Messrs. Bowyer and Bowyer ; four houses, Florence Drive, for Mr. K. Mortar ; 22 houses, Uplands estate, Grange Park, for Mr. R. Prior ; six houses, Unity Road, for Messrs. Bethell and Swannell ; four houses, Holtwhites Hill, for Mr. J. F. Dove ; two houses, Connop Road, for Mr. J. Neilson ; two houses, Malvern Road, for Mr. H. D. Flint ; two houses, St. Georges Road, for Messrs. M. Gilbert and Son ; 16 flats, Old Park Ridings, for Mr. G. Morgan ; two houses, Ferndale Road, for Messrs. French Bros.

FINCHLEY. *Houses and Flats.* Plans passed by the Corporation : Four houses, Vivian Way, for Messrs. C. N. B. and C. A. Partridge ; six flats, Creighton Avenue, for Mr. J. Brown ; nine houses, Chessington Avenue, for Mr. P. J. Preston ; three shops and flats, Great North Road, for Messrs. McManus & Co., Ltd. ; two houses, Vivian Way, for Mr. C. Read ; three houses, Kingsley Way, for Mr. W. S. Gibson ; nine houses, Wentworth Avenue, for Messrs. F. W. Bristow and Son, Ltd. ; 12 houses, off Ossulton Way, for Co-Partnership Tenants, Ltd.

HAMPSTEAD GARDEN SUBURB. *Flats.* Lloyds Properties, Ltd., have prepared plans for the erection of 24 flats in Lyttelton Road.

HAMPTON. *Houses.* Plans passed by the U.D.C. : 17 houses, Cambridge Road, for Messrs. W. and A. J. Ellis ; 26 houses, Park Road, for Mr. R. B. Powell ; three houses, High Street, for Messrs. Parker and Loveland.

ILFORD. *Houses.* Plans passed by the Corporation : 223 houses, Parkside estate, Longridge Road, for Messrs. Lord and Mellowdew, Ltd. ; 18 houses, Northwood Gardens, for Mr. A. Smith ; development, Claybury Park estate, for Messrs. Atkinson and Marler ; nine houses, New North Road, for Mr. G. F. Seigerts ; three houses, Roy Gardens, for Mr. J. Giles ; five houses, Vine Gardens, for Mr. C. J. Manning ; 16 houses, Trenance Gardens, for Mr. J. T. Perrin ; nine houses, Chadwell Heath Lane, for Padnall Estates, Ltd. ; 16 houses, Natal Road, for Mr. W. L. Thompson ; 15 houses, Grange View Gardens, for Mr. C. Fryatt ; six houses, Netley Road, for Mr. L. A. Warner ; 406 houses, Mossford Park estate, for New Ideal Homesteads, Ltd. ; two houses, The Drive, for Mr. A. P. Griggs ; four houses, Falmouth Gardens, for Mr. W. M. Edwards.

WOOD GREEN. *Lay-out of Playing Fields.* The Corporation is considering the lay-out of the New River playing fields. The cost of the complete scheme is £39,310, but it is suggested that part shall be undertaken if grant can be obtained.

SOUTH-WESTERN COUNTIES

BRISTOL. *Houses.* The Corporation is to obtain tenders for the erection of 300 houses on the Horfield estate.

PLYMOUTH. *Houses and Flats.* Plans passed by the Corporation : Two houses, off Old Laira Road, for Messrs. Blatchford and Son ; two bungalows, Edgecombe Park estate, for Messrs. S. Tellam and Son ; six houses, Sturdee Road, for Mr. W. Bates ; two houses, Tor Meadow estate, for Mr. W. H. Webb ; eight houses, Bernice Terrace, for Mr. L. Edwards ; four houses, Orchard Road, for Mr. A. T. Collicott ; two shops and houses, Vicarage Road, for Mr. W. Andrews ; four houses, Hermitage Road, for Mr. A. G. Jackson; flats, Lambhay Street, and alterations and additions, Palace Street schools, for Corporation ; three houses, Bradley Road, for Mr. C. Tozer ; development, Sunny Hill estate, for Messrs. Coad Bros.

PLYMOUTH. *Hospital Extensions.* The Corporation is to prepare plans for the further extension of the mental hospital, including the provision of convalescent blocks, and a medical superintendent's house.

SOUTHERN COUNTIES

GRAVESEND. *Flats.* The Corporation has approved a scheme for the erection of 42 flats in connection with the development of the West Street area.

HASTINGS. *Houses.* Plans passed by the Corporation : three houses, Canute Road, for Mr. D. Newton Padgham ; 32 houses, Clifton Road, for Mr. Bernard F. Pennells ; two houses, Fairlight Avenue, for Mr. T. F. Smith.

NEWPORT, I.O.W. *Houses.* Messrs. Smith and Whitehead, Ltd., are to erect 34 houses on the Heytesbury Farm estate.

PORTSMOUTH. *Guildhall Extensions.* The Corporation has now agreed upon a scheme for extensions at the Guildhall, at a cost of £40,000, and proposes preparing detailed plans for the scheme.

PORTSMOUTH. *Houses and Bungalows.* Plan, passed by the Corporation : Four housess Havant Road, for Messrs. G. McCormick and Son ; two houses, Hayling Avenue, for Messrs. Dye Bros. ; 10 houses, Baffins estate, for Mr. E. E. Wilson ; six houses, Hillsdown Avenue, for Messrs. Carter and Fancey ; two bungalows, Laburnum Avenue, for Mr. J. F. Jerome ; two bungalows, Carshalton Avenue, for Mr. E. W. Payne ; six houses, Widley Square, Cosham, for Mr. E. Fullick ; two houses, Firgrove Crescent, for Mr. F. D. McLaren ; 19 houses, Park Grove, for Messrs. Dye Bros. ; 13 garages, Southwood Road, for Mr. R. J. Winnicott ; two houses, off Havant Road, for Mr. C. Hibberd ; 66 houses, Chatsworth Avenue, for Messrs. G. and W. Mitchell ; two houses, Frederick Street, for Mr. J. Macdermott ; two houses, Craneswater Park, for Mr. H. Sotnick.

EASTERN COUNTIES

COLCHESTER. *Houses.* The Corporation is to erect 36 houses on the Ipswich-Harwich Roads site, at a cost of £9,592.

COLCHESTER. *Houses.* Plans passed by the Corporation : 12 houses, De Vere Road, Lexden, for Mr. C. Brown ; two houses, Park Farm, for Mr. C. H. Green ; two houses, Mersea Road, for Mr. G. Wells ; two houses, Hubert Road, for Mr. H. C. Kenn.

MIDLAND COUNTIES

BIRMINGHAM. *School.* The Corporation is to erect a senior school at Audley Road, Yardley, at a cost of £17,900.

BIRMINGHAM. *Library.* The Corporation is to proceed with the erection of a library at Yardley Wood, at a cost of £13,750.

BIRMINGHAM. *Flats.* The Corporation is to redevelop the Emily Street area, and erect flats at a cost of £89,130.

BIRMINGHAM. *Houses, etc.* The Corporation is to erect 12 houses on the fever hospital site, College Road, at a cost of £5,481, and maisonettes in Norton Street, at a cost of £7,416.

The Corporation recommends the compulsory purchase of 187 acres at various districts, for housing schemes.

NORTHERN COUNTIES

BOLTON. *Road and Sewer Works.* The Corporation is to construct road and sewer works in connection with the civic centre improvement scheme, at a cost of £66,000.

RAWTENSTALL. *Houses.* Plans passed by the Corporation : Two houses, Newchurch Road, for Messrs. H. Trickett and Son, Ltd. ; 10 houses, New Road, Waterfoot, for Mr. J. E. Edmondson ; four houses, Haslingden Old Road, for Messrs. O. Oasworth, Ltd.

ROTHERHAM. *Dwellings.* The Corporation has approved a scheme for the erection of dwellings for 22 persons on the Westgate estate.

SHIPLEY. *Houses.* Plans passed by the U.D.C. : 46 houses, Grosvenor Road, for Mr. H. Chippindale ; shop, Shipley Fields Road, for Mr. J. A. White ; 34 houses, Wrose Road, for Messrs. Walton Bros.

STRETFORD. *Houses.* Plans passed by the Corporation : Six houses, St. Georges Road, for Messrs. Ward and McKeon ; 18 houses, King's Road, for Messrs. Littler and Rich.

STOCKTON-ON-TEES, ETC. *Schools, Clinics, etc.* The Durham County Education Committee is to acquire compulsorily a site for the erection of a secondary school. The Durham County Education Committee has purchased a site at Billingham-on-Tees, for the erection of a school, clinic and child welfare centre. The Rev Robert Thornton is to erect a Catholic school for 250 children, at Ragworth Road, Norton, County Durham. Canon Thornton is to erect a catholic school for 240 children, at Springwell Hall, Durham.

TYNEMOUTH. *Houses.* Plans passed by the Corporation : Four houses, Willoughby Road, for Messrs. Reed and Dunleavy ; 12 houses, Bolingbroke Road, for Messrs. G. W. and S. Black ; four bungalows, Heaton Terrace, for Mr. H. P. Woodall ; eight houses, Mowbray Road, for Messrs. J. A. Whitelaw, Ltd. 18 houses, Berkeley Road, for Messrs. H. D Burton, Ltd. ; eight houses, Mowbray Road, for Mr. W. Stockdale ; four bungalows, Preston Avenue, for Messrs. Williamson Bros. ; four houses, Fern Avenue, for Messrs. Smith and Parsley ; two houses, Tynemouth Park East, for Mr. W. Moore ; 12 houses, Milton Terrace, for Mr. W. Bower.

TYNEMOUTH. *Houses.* The Corporation is to prepare plans for the erection of 238 houses of two-bedroom type ; 20 houses of three bedrooms ; and 46 houses of four bedrooms, on the Ridges estate.

WAKEFIELD. *Houses.* The Corporation is to erect 140 houses on the various council estates.

WALLSEND. *Houses and Shops.* Plans passed by the Corporation : 36 houses, Kings Road estate, for Mr. W. C. Leech ; shop and house, Howden Lane, for Mrs. M. M. Smith ; shop and house, Shafto Street, for Mr. H. Turner.

WALES

SWANSEA. *Houses.* Plans passed by the Corporation : 26 houses, Brynawel Crescent, for Mr. R. W. K. Colley ; shops and offices, Heathfield Street, for Mr. S. Stride ; two houses, Jersey Road, for Messrs. Rosser and Owen.

SWANSEA. *Flats.* Estateways Builders, Ltd., propose to erect 40 flats at Walter Road.

*

The Merchant Trading Company, Ltd., have supplied doors to the various showhouses at Olympia as follows :—Universal Housing Company Ltd. (Britco interior and exterior doors, Metco all flush interior and Saro front door) ; John Laing and Son, Ltd. (Britco interior doors) ; Morrell (Builders) Ltd. (Metco all flush interior, Britco interior and exterior).

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I	II
			s. d.	s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A_1	Abergavenny ..	S Wales & M.	1 5	1 0½
A_2	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1½
A_2	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1½
A	Airdrie ..	Scotland	•1 5½	1 1½
C	Aldeburgh ..	E. Counties	1 1½	10½
A	Altrincham ..	N.W. Counties	1 5½	1 1½
B_2	Appleby ..	N.W. Counties	1 2	10½
A	Ashton-under-Lyne	N.W. Counties	1 5½	1 1½
A_2	Atherstone ..	Mid. Counties	1 4	1 0
B_2	Aylesbury ..	S. Counties	1 2½	11
B_1	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_2	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1½
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow ..	N.W. Counties	1 5½	1 1½
A	Barry ..	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke ..	S.W. Counties	1 3	11½
A_2	Bath	S.W. Counties	1 4½	1 0½
A	Batley ..	Yorkshire	1 5½	1 1½
A_2	Bedford ..	E. Counties	1 4½	1 0½
A_2	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_2	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	•1 7	1 2½
A	Birmingham	Mid. Counties	1 5½	1 1½
A_1	Bishop Auckland	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1½
A	Blackpool ..	N.W. Counties	1 5½	1 1½
A	Blyth ..	N.E. Coast	1 5½	1 1½
B_1	Bognor ..	S. Counties	1 3	11½
A	Bolton ..	N.W. Counties	1 5½	1 1½
A_2	Boston ..	Mid. Counties	1 4	1 0
A_2	Bournemouth ..	S. Counties	1 4	1 0
B_2	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1½
A_1	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M.	1 5½	1 1½
B_1	Bridgwater ..	S.W. Counties	1 3	11½
A_1	Bridlington ..	Yorkshire	1 5	1 0½
A	Brighouse ..	Yorkshire	1 5½	1 1½
A_2	Brighton ..	S. Counties	1 4	1 0
A	Bristol ..	S.W. Counties	1 5½	1 1½
B_2	Brixham ..	S.W. Counties	1 2½	11
A_2	Bromsgrove ..	Mid. Counties	1 4½	1 0½
E_2	Bromyard ..	Mid. Counties	1 2	10½
A	Burnley ..	N.W. Counties	1 5½	1 1½
A	Burslem ..	Mid. Counties	1 5½	1 1½
A	Burton-on-Trent	Mid. Counties	1 5½	1 1½
A	Bury ..	N.W. Counties	1 5½	1 1½
A_1	Buxton ..	N.W. Counties	1 5	1 0½
A_1	CAMBRIDGE	E. Counties	1 5	1 0½
B_1	Canterbury ..	S. Counties	1 3	11½
A	Cardiff ..	S. Wales & M.	1 5½	1 1½
A	Carlisle ..	N.W. Counties	1 5½	1 1½
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Carnforth ..	N.W. Counties	1 5½	1 1½
A	Castleford ..	Yorkshire	1 5½	1 1½
B	Chatham ..	S. Counties	1 3½	11½
A_2	Chelmsford ..	E. Counties	1 4	1 0
A_2	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester ..	N.W. Counties	1 5½	1 1½
A	Chesterfield ..	Mid. Counties	1 5½	1 1½
B_1	Chichester ..	S. Counties	1 3	11½
A	Chorley ..	N.W. Counties	1 5½	1 1½
B_1	Cirencester ..	S. Counties	1 3	11½
A	Clitheroe ..	N.W. Counties	1 5½	1 1½
A	Clydebank ..	Scotland	1 5½	1 1½
A	Coalville ..	Mid. Counties	1 5½	1 1½
A_2	Colchester ..	E. Counties	1 4	1 0
A	Colne ..	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_1	Consett ..	N.E. Coast	1 5	1 0½
A_2	Conway ..	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1½
A_2	Crewe ..	N.W. Counties	1 4½	1 0½
A	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1½
A	Darwen ..	N.W. Counties	1 5½	1 1½
B_1	Deal	S. Counties	1 3	11½
A_2	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby ..	Mid. Counties	1 5½	1 1½
A	Dewsbury ..	Yorkshire	1 5½	1 1½
B	Didcot ..	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1½
B_2	Dorchester ..	S.W. Counties	1 2½	11
A	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley ..	Mid. Counties	1 5½	1 1½
A	Dundee ..	Scotland	1 5½	1 1½
A	Durham ..	N.E. Coast	1 5½	1 1½
A_2	EASTBOURNE	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1½
A_1	E. Glamorgan-shire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter ..	S.W. Counties	•1 4½	1 0½
B	Exmouth ..	S.W. Counties	1 3½	11½
A_3	FELIXSTOWE	E. Counties	1 4	1 0
A_2	Filey	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1½
B_1	Folkestone ..	S. Counties	1 3	11½
A	Frodsham ..	N.W. Counties	1 5½	1 1½
B_2	Frome	S.W. Counties	1 2½	11
A	GATESHEAD	N.E. Coast	1 5½	1 1½
B	Gillingham ..	S. Counties	1 3½	11½
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole ..	Yorkshire	1 4½	1 0½
A_2	Gosport ..	S. Counties	1 4½	1 0½
A_3	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0½
A	Greenock ..	Scotland	•1 5½	1 1½
A	Grimsby ..	Yorkshire	1 5½	1 1½
B	Guildford ..	S. Counties	1 3½	11½
A	HALIFAX ..	Yorkshire	1 5½	1 1½
A	Hanley ..	Mid. Counties	1 5½	1 1½
A	Harrogate ..	Yorkshire	1 5½	1 1½
A	Hartlepools ..	N.E. Coast	1 5½	1 1½
B	Harwich ..	E. Counties	1 3½	11½
B_1	Hastings ..	S. Counties	1 3	11½
A_2	Hatfield ..	S. Counties	1 4½	1 0½
B	Hereford ..	S.W. Counties	1 3½	11½
A_2	Hertford ..	E. Counties	1 4½	1 0½
A	Heysham ..	N.W. Counties	1 5½	1 1½
A	Howden ..	N.E. Coast	1 5½	1 1½
A	Huddersfield ..	Yorkshire	1 5½	1 1½
A	Hull	Yorkshire	1 5½	1 1½
A	ILKLEY ..	Yorkshire	1 5½	1 1½
A	Immingham ..	Mid. Counties	1 5½	1 1½
A_2	Ipswich ..	E. Counties	1 4½	1 0½
B_2	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1½
A	KEIGHLEY ..	Yorkshire	1 5½	1 1½
B	Kendal ..	N.W. Counties	1 3½	11½
B	Keswick ..	N.W. Counties	1 3½	11½
A_2	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster ..	Mid. Counties	1 4½	1 0½
B_1	King's Lynn ..	E. Counties	1 3	11½
A	LANCASTER ..	N.W. Counties	1 5½	1 1½
A	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester ..	Mid. Counties	1 5½	1 1½
A	Leigh	N.W. Counties	1 5½	1 1½
B_2	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln ..	Mid. Counties	1 5½	1 1½
	Liverpool ..	N.W. Counties	•1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly ..	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12-15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1½
A	Loughborough	Mid. Counties	1 5½	1 1½
A_2	Luton	E. Counties	1 4	1 0
A	Lytham ..	N.W. Counties	1 5½	1 1½
A_1	MACCLES-FIELD	N.W. Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11½
A_2	Malvern ..	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1½
A	Mansfield ..	Mid. Counties	1 5½	1 1½
B_1	Margate ..	S. Counties	1 3	11½
A	Matlock ..	Mid. Counties	1 4	1 0
A_1	Merthyr ..	S. Wales & M.	1 5	1 0½
A	Middesbrough	N.E. Coast	1 5½	1 1½
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth ..	S. Wales & M.	1 2½	11
	& S. and E. Glamorganshire			
A	Morecambe ..	N.W. Counties	1 5½	1 1½
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson ..	N.W. Counties	1 5½	1 1½
A	Newcastle ..	N.E. Coast	1 5½	1 1½
A	Newport ..	S. Wales & M.	1 5½	1 1½
A	Normanton ..	Yorkshire	1 5½	1 1½
A	Northampton	Mid. Counties	1 5½	1 1½
A	North Staffs ..	Mid. Counties	1 5½	1 1½
A	North Shields ..	N.E. Coast	1 5½	1 1½
A_1	Norwich ..	E. Counties	1 5	1 0½
A	Nottingham ..	Mid. Counties	1 5½	1 1½
A	Nuneaton ..	Mid. Counties	1 5½	1 1½
A_2	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham ..	N.W. Counties	1 5½	1 1½
A_2	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford ..	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	•1 5½	1 1½
B_2	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth	Scotland	•1 5½	1 1½
A_2	Peterborough ..	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	•1 5½	1 1½
A	Pontefract ..	Yorkshire	1 5½	1 1½
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_2	Portsmouth ..	S. Counties	1 4½	1 0½
A	Preston ..	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate ..	S. Counties	1 3½	11½
A_2	Retford ..	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A_3	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1½
B	Rochester ..	S. Counties	1 3½	11½
A_1	Ruabon ..	N.W. Counties	1 5	1 0½
A	Rugby	Mid. Counties	1 5½	1 1½
A_2	Rugeley ..	Mid. Counties	1 4½	1 0½
A	Runcorn ..	N.W. Counties	1 5½	1 1½
A_1	ST. ALBANS ..	E. Counties	1 5	1 0½
A	St. Helens ..	N.W. Counties	1 5½	1 1½
B_2	Salisbury ..	S.W. Counties	1 2½	11
A_1	Scarborough ..	Yorkshire	1 5	1 0½
A	Scunthorpe ..	Mid. Counties	1 5½	1 1½
A	Sheffield ..	Yorkshire	1 5½	1 1½
A	Shipley ..	Yorkshire	1 5½	1 1½
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton ..	Yorkshire	1 4½	1 0½
A_2	Slough	S. Counties	1 4½	1 0½
A_1	Solihull ..	Mid. Counties	1 5	1 0½
A_2	Southampton ..	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport ..	N.W. Counties	1 5½	1 1½
A	S. Shields ..	N.E. Coast	1 5½	1 1½
A_1	Stafford ..	Mid. Counties	1 5	1 0½
A	Stockport ..	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud	S.W. Counties	1 3½	11½
A	Sunderland ..	N.E. Coast	1 5½	1 1½
A	Swadlincote ..	Mid. Counties	1 5½	1 1½
A	Swansea ..	S. Wales & M.	1 5½	1 1½
A_3	Swindon ..	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton ..	S.W. Counties	1 3½	11½
A	Teesside Dist. ..	N.E. Counties	1 5½	1 1½
A_3	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1½
A_1	Torquay	S.W. Counties	1 5	1 0½
B_2	Truro	S.W. Counties	1 2½	11
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall ..	Mid. Counties	1 5½	1 1½
A	Tyne District ..	N.E. Coast	1 5½	1 1½
A	WAKEFIELD	Yorkshire	1 5½	1 1½
A	Walsall	Mid. Counties	1 5½	1 1½
A	Warrington ..	N.W. Counties	1 5½	1 1½
A_1	Warwick	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid. Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby	Yorkshire	1 4½	1 0½
A	Widnes	N.W. Counties	1 5½	1 1½
A	Wigan	N.W. Counties	1 5½	1 1½
B	Winchester ..	S. Counties	1 3½	11½
A_2	Windsor	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_2	Worksop ..	Yorkshire	1 4	1 0
A_1	Wrexham ..	N.W. Counties	1 5	1 0½
A_2	Wycombe ..	S. Counties	1 4	1 0
B_2	YARMOUTH ..	E. Counties	1 3	11½
B_1	Yeovil	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	1 1½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	£ s. d.
Bricklayer . . . . . per hour	1 7
Carpenter . . . . . ,,	1 7
Joiner . . . . . ,,	1 7
Machinist . . . . . ,,	1 8
Mason (Banker) . . . . . ,,	1 7
,, (Fixer) . . . . . ,,	1 8
Plumber . . . . . ,,	1 7
Painter . . . . . ,,	1 6
Paperhanger . . . . . ,,	1 6
Glazier . . . . . ,,	1 7
Slater . . . . . ,,	1 7
Scaffolder . . . . . ,,	1 3
Timberman . . . . . ,,	1 3
Navvy . . . . . ,,	1 2½
General Labourer . . . . . ,,	1 2½
Lorryman . . . . . ,,	1 5
Crane Driver . . . . . ,,	1 6
Watchman . . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£ s. d.
Grey Stone Lime . . . . per ton	2 2 0
Blue Lias Lime . . . . ,,	1 16 6
Hydrated Lime . . . . ,,	3 0 9
Portland Cement . . . . ,,	2 6 0
Rapid Hardening Cement . . . ,,	2 13 6
White Portland Cement . . . ,,	8 15 0
Thames Ballast . . . . per Y.C.	6 3
¾" Crushed Ballast . . . ,,	6 9
Building Sand . . . . ,,	7 3
Washed Sand . . . . ,,	8 3
2" Broken Brick . . . . ,,	8 0
¾" ,, ,, ... ,,	10 3
Pan Breeze . . . . ,,	6 6
Coke Breeze . . . . ,,	8 9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

	4" s. d.	6" s. d.
Straight Pipes . . per F.R	0 9	1 1
Bends . . . each	1 9	2 6
Taper Bends . . ,,	3 6	5 3
Rest Bends . . ,,	4 3	6 3
Single junctions . . ,,	3 6	5 3
Double ,, . . ,,	4 9	6 6
Straight channels . per F.R.	1 6	2 6
4" Channel bends . each	2 9	4 0
Channel junctions . ,,	4 6	6 6
Channel tapers . ,,	2 9	4 0
Yard gullies . ,,	6 9	8 9
Interceptors . ,,	16 0	19 6

IRON DRAINS:

Iron drain pipe . . per F.R.	1 6	2 6
Bends . . . each	5 0	10 6
Inspection bends . ,,	9 0	15 0
Single junctions . ,,	8 9	18 0
Double junctions . ,,	13 6	30 0
Lead wool . . lb.	6	—
Gaskin . . ,,	5	—

BRICKLAYER

	£ s. d.
Flettons . . . . . per M.	2 18 0
Grooved do. . . . . ,,	3 0 0
Phorpres bricks . . . . ,,	2 17 3
Phorpres Cellular bricks . . ,,	2 17 3
Stocks, 1st quality . . . ,,	4 11 0
,, 2nd ,, . . . ,,	4 2 6
Blue Bricks, Pressed . . . ,,	8 17 6
,, Wirecuts . . ,,	7 17 6
,, Brindles . . ,,	7 0 0
,, Bullnose . . ,,	9 0 0
Red Sand-faced Facings . . ,,	6 18 6
Red Rubbers for Arches . ,,	12 0 0
Multicoloured Facings . . ,,	7 10 0
Luton Facings . . . . ,,	7 10 0
Phorpres White Facings . . ,,	3 17 3
Phorpres Rustic Facings . ,,	3 12 3
Midhurst White Facings . . ,,	5 0 0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:	
Stretchers . . . . . ,,	0 0
Headers . . . . . ,,	20 10 0
Bullnose . . . . . ,,	27 10 0
Double Stretchers . . . ,,	29 10 0
Double Headers . . . ,,	26 10 0
Glazed Second Quality, *Less* . ,,	1 0 0
,, Buffs and Creams, *Add* . ,,	2 0 0
,, Other Colours . . ,,	5 10 0
2" Breeze Partition Blocks . per Y.S.	1 7
2½" ,, ,, ,, . . ,,	1 10
3" ,, ,, ,, . .	2 1
4" ,, ,, ,, . . ,,	2 6

MASON

	s. d.
The following d/d F.O.R. at Nine Elms:	
Portland stone, Whitbed . . F.C.	4 4½
,, ,, Basebed . . ,,	4 9
Bath stone . . . . ,,	2 11
York stone . . . . ,,	6 6
,, ,, Sawn templates . . ,,	7 6
,, ,, Paving, 2" . . . F.S.	1 8
,, ,, ,, 3" . . . ,,	2 0

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£ s. d.
24" × 12" Duchesses . . per M.	28 17 6
22" × 12" Marchionesses . ,,	24 10 0
20" × 10" Countesses . . ,,	19 5 0
18" × 10" Viscountesses . ,,	15 10 0
18" × 9" Ladies . . . ,,	13 17 6
Westmorland green (random sizes) . per ton	8 10 0
Old Delabole slates d/d in full truck loads to Nine Elms Station:	
20" × 10" medium grey per 1,000 (actual)	21 11 6
,, green ,, ,,	24 7 4
Best machine roofing tiles . . ,,	4 10 0
Best hand-made do. . . . ,,	5 0 0
Hips and valleys . . . each	9½
,, hand-made . . . ,,	10
Nails, compo . . . . lb.	1 4
,, copper . . . . ,,	1 6

CARPENTER AND JOINER

	s. d.
Good carcassing timber . . F.C.	2 2
Birch . . . . as 1" F.S.	9
Deal, Joiner's . . . ,, ,,	5
,, ,, 2nds . . ,, ,,	4
Mahogany, Honduras . . ,, ,,	1 3
,, African . . ,, ,,	1 1
,, Cuban . . ,, ,,	2 6
Oak, plain American . . ,, ,,	1 0
,, Figured ,, . . ,, ,,	1 3
,, Plain Japanese . . ,, ,,	1 2
,, Figured ,, . . ,, ,,	1 5
,, Austrian wainscot . ,, ,,	1 6
,, English . . . ,, ,,	1 11
Pine, Yellow . . . ,, ,,	1 0
,, Oregon . . . ,, ,,	4
,, British Columbian . ,, ,,	4
Teak, Moulmein . . ,, ,,	1 3
,, Burma . . ,, ,,	1 2
Walnut, American . . ,, ,,	2 3
,, French . . ,, ,,	2 3
Whitewood, American . ,, ,,	1 1
Deal floorings, ¾" . . . Sq.	18 6
,, 1" . . . ,,	1 1 6
,, 1¼" . . . ,,	1 2 0
,, 1½" . . . ,,	1 5 0
,, 1¾" . . . ,,	1 10 0
Deal matchings ¾" . . ,,	14 0
,, 1" . . ,,	15 6
,, 1¼" . . ,,	1 4 0
Rough boarding ¾" . . ,,	16 0
,, 1" . . ,,	18 0
,, 1½" . . ,,	1 6 0

Plywood, per ft. sup. Thickness	¼"	⅜"	½"	¾"
Qualities	AA. A. B.	AA. A. B.	AA. A. B.	AA. A. B.
	d. d. d.	d. d. d.	d. d. d.	d. d. d.
Birch	4 3 2	5 4 3	7½ 6 4½	8½ 7 6
Alder	3½ 3 2	5 4 3	6½ 5½ 4½	8 7 6
Gaboon Mahogany	4 3 3	6½ 5½ 4½	9½ 7½ –	1/0½ 10 –
Figured Oak 1 side	8½ 7 –	10 8 –	11½ – –	1/6 – –
Plain Oak 1 side	6½ 6 –	7½ 7 –	9½ – –	1/– – –
Oregon Pine	5 4 –	5½ 5 –	6 – –	– – –

	d.
Scotch glue . . . . . lb.	8

SMITH AND FOUNDER

Tubes and Fittings:

(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	½"	¾"	1"	1½"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9
,, 3"-11½" long ,,	7	9	1/3	1/8	3/–
Long screws, 12"-23½" long ,,	11	1/3	2/2	2/10	5/3
,, ,, 3"M-½" long ,,	8	10	1/5	1/11	3/6
Bends . . . ,,	8	11	1/7½	2/7½	5/2
Springs not socketed . ,,	5	7	1/1½	1/11½	3/11
Socket unions . . ,,	2/–	3/–	5/6	6/9	10/–
Elbows, square . . ,,	10	1/1	1/6	2/2	4/3
Tees . . . ,,	1/–	1/3	1/10	2/6	5/1
Crosses . . . ,,	2/2	2/9	4/1	5/6	10/6
Plain Sockets and nipples ,,	3	4	6	8	1/3
Diminished sockets . ,,	4	6	9	1/–	2/–
Flanges . . . ,,	9	1/–	1/4	1/9	2/9
Caps . . . ,,	3½	5	8	1/–	2/–
Backnuts . . . ,,	2	3	5	6	1/1
Iron main cocks . . ,,	1/6	2/3	4/2	5/4	11/6
,, ,, with brass plugs ,,	—	4/–	7/6	10/–	21/–

Discounts: TUBES.

	Per cent.		Per cent.
Gas . . .	65	Galvanized gas .	52½
Water . . .	61½	,, water	47½
Steam . . .	57½	,, steam	42½
	FITTINGS.		
Gas . . .	57½	Galvanized gas .	47½
Water . . .	52½	,, water	42½
Steam . . .	47½	,, steam	37½

SMITH AND FOUNDER—*continued*

	s. d.
Rolled steel joists cut to length . . cwt.	10 9
Mild steel reinforcing rods, ⅜" . . ,,	8 6
,, ,, ½" . . ,,	8 3
,, ,, ⅝" . . ,,	8 0
,, ,, ¾" . . ,,	7 6
,, ,, ⅞" . . ,,	7 6
,, ,, 1" . . ,,	7 6
,, ,, 1¼" . . ,,	7 6
,, ,, 1½" . . ,,	7 6

Cast-iron rain-water pipes of ordinary thickness metal .	3" s. d. F.R 8	4" s. d. 10
Shoes	each 2 0	3 0
Anti-splash shoes . . ,, 4 6		8 0
Boots . . . . ,, 3 0		4 9
Bends . . . . ,, 2 7		3 9
,, with access door . . ,, —		6 3
Heads . . . . ,, 4 0		5 0
Swan-necks up to 9" offsets . ,, 3 9		6 0
Plinth bends, 4½" to 6" . ,, 3 9		5 3
Half-round rain-water gutters of ordinary thickness metal .	F.R. 5	6
Stop ends	each 6	6
Angles . . . . ,, 1 7		1 11
Obtuse angles . . . ,, 2 0		2 6
Outlets . . . . ,, 1 9		2 3

PLUMBER

	£ s. d.
Lead, milled sheets . . . cwt.	18 6
,, drawn pipes . . . ,,	17 0
,, soil pipe . . . ,,	18 6
,, scrap . . . ,,	10 6
Solder, plumbers' . . . lb.	9½
,, fine do. . . . ,,	1 0
Copper, sheet . . . ,,	8½
,, tubes . . . ,,	11

L.C.C soil and waste pipes:	3"	4"	6"
Plain cast . F.R.	1 0	1 2	2 6
Coated . ,,	1 1	1 3	2 8
Galvanized . ,,	2 0	2 6	4 6
Holderbats . each	3 10	4 0	4 9
Bends . . ,,	3 9	5 3	10 3
Shoes . . ,,	2 10	4 4	9 6
Heads . . ,,	4 8	8 5	12 9

PLASTERER

	£ s. d.
Lime, chalk . . . per ton	2 5 0
Plaster, coarse . . ,,	2 10 0
,, fine . . ,,	4 15 0
Hydrated lime . . ,,	3 0 9
Sirapite . . . ,,	3 6 0
Keene's cement . . ,,	5 0 0
Sand, washed . . . Y.C.	11 6
Hair . . . . lb.	6
Laths, sawn . . . bundle	2 4
,, rent . . . ,,	3 9
Lath nails . . . lb.	3½

GLAZIER

	s. d.	s. d.
Sheet glass, 21 oz., squares n/e 2 ft.	s. F.S.	2
,, ,, 26 oz. ,, ,, ,, ,,		3½
Arctic glass, white . . . ,,		7
Cathedral glass, white, dbl.-rolled, plain, hammered, rimpled, waterwite,		6½
¼" Hartley's rough rolled . . ,,		7
¼" ,, wired cast . . ,,		10
¼" Georgian wired cast . . ,,		11
¼" Polished plate, n/e 1 ft. . ,,	†10 to‡11	1
,, ,, 2 . . ,,	†1 2 ,,‡1	4
,, ,, 3 . . ,,	†1 8 ,,‡1	11
,, ,, 4 . . ,,	†2 3 ,,‡2	6
,, ,, 6 . . ,,	†2 7 ,,‡2	9
,, ,, 8 . . ,,	†2 9 ,,‡3	2
,, ,, 12 . . ,,	†3 1 ,,‡3	7
,, ,, 20 . . ,,	†3 7 ,,‡4	2
,, ,, 45 . . ,,	†3 11 ,,‡4	7
,, ,, 65 . . ,,	†4 4 ,,‡4	11
,, ,, 90 . . ,,	†4 9 ,,‡5	5
,, ,, 100 . . ,,	†5 0 ,,‡5	7
Vita glass, sheet, n/e 1 ft. . ,,		1 0
,, ,, ,, 2 . . ,,		1 3
,, ,, ,, over 2 . . ,,		1 6
,, ,, plate, n/e 1 ft. . ,,		3 0
,, ,, ,, 2 . . ,,		4 0
,, ,, ,, 5 . . ,,		5 0
,, ,, ,, 7 . . ,,		6 0
,, ,, ,, 15 . . ,,		7 6
,, ,, ,, over 15 . . ,,		
Putty, linseed oil . . . lb.		3

†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

	£ s. d.
White lead in 1 cwt. casks . . cwt.	2 6 0
Linseed oil . . . . gall.	2 2½
Boiled oil . . . . ,,	2 4½
Turpentine . . . . ,,	4 1½
Patent knotting . . . . ,,	14 0
Distemper, washable . . . cwt.	2 6 0
,, ordinary . . . ,,	2 0 0
Whitening . . . . ,,	4 0
Size, double . . . . firkin	3 0
Copal varnish . . . . gall.	13 0
Flat varnish . . . . ,,	14 0
Outside varnish . . . ,,	16 0
White enamel . . . . ,,	1 15 0
Ready-mixed paint . . . ,,	13 6
Brunswick black . . . ,,	7 6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR	£	s.	d.
Digging over surface n/e 12" deep and cart away . . . Y.S.		2	9
" to reduce levels n/e 5' 0" deep and cart away . . Y.C.		8	6
" to form basement n/e 5' 0" deep and cart away . . "		9	0
" " 10' 0" deep and cart away . . "		9	6
" " 15' 0" deep and cart away . . "		10	0
If in stiff clay . . . . . add "		2	6
If in underpinning . . . . . "		4	0
Planking and strutting to sides of excavation . . . . F.S.		1	0
" " to pier holes . . . . . "			5
" " to trenches . . . . . "			5
" " extra, only if left in . . . . "			3
Hardcore, filled in and rammed . . . . . Y.C.		10	0
Portland cement concrete in foundations (6-1) . . . "	1	6	0
" " (4-2-1) . . . "	1	12	6
" " underpinning . . . "	1	16	0
Finishing surface of concrete, spade face . . . . Y.S.			7

DRAINLAYER	4" s.	d.	6" s.	d.
Stoneware drains, laid complete (digging and concrete to be priced separately) . . . . F.R.	1	6	2	3
Extra, only for bends . . . . . Each	2	8	3	9
" junctions . . . . . "	3	9	4	6
Gullies and gratings . . . . . "	16	6	18	0
Cast iron drains, and laying and jointing . . . F.R.	4	9	6	9
Extra, only for bends . . . . . Each	10	6	15	6

BRICKLAYER	£	s.	d.
Brickwork, Flettons in lime mortar . . . . . Per Rod	27	10	0
" " in cement . . . . . "	28	15	0
" Stocks in cement . . . . . "	35	0	0
" Blues in cement . . . . . "	52	0	0
Extra only for circular on plan . . . . . "	2	0	0
" backing to masonry . . . . . "	1	10	0
" raising on old walls . . . . . "	2	0	0
" underpinning . . . . . "	5	10	0
Fair Face and pointing internally . . . . . F.S.			1½
Extra over fletton brickwork for picked stock facings and pointing "			8½
" " " red brick facings and pointing . "			11
" " " blue brick facings and pointing . "		1	4
" " " glazed brick facings and pointing "		3	6
Tuck pointing . . . . . "			7
Weather pointing in cement . . . . . "			3½
Slate dampcourse . . . . . "			10
Vertical dampcourse . . . . . "		1	1

ASPHALTER	s.	d.
½" Horizontal dampcourse . . . . . Y.S.	4	6
½" Vertical dampcourse . . . . . "	6	9
½" paving or flat . . . . . "	4	0
1" paving or flat . . . . . "	5	6
1" × 6" skirting . . . . . F.R.	1	0
Angle fillet . . . . . "		2
Rounded angle . . . . . "		2
Cesspools . . . . . Each	5	0

MASON	s.	d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete . . . . . F.C.	17	9
Bath stone and do., all as last . . . . . "	13	6
Artificial stone and do. . . . . "	13	0
York stone templates, fixed complete . . . . . "	10	6
" thresholds . . . . . "	13	6
" sills . . . . . "	1	0

SLATER AND TILER	£	s.	d.
Slating, Bangor or equal, laid to a 3" lap, and fixing with compo nails, 20" × 10" . . . . . Sqr.	3	10	0
Do., 18" × 9" . . . . . "	3	7	0
Do., 24" × 12" . . . . . "	3	17	0
Westmorland slating, laid with diminished courses . . . "	6	0	0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course . . . . . "	3	0	0
Do., all as last, but of machine-made tiles. . . . . "	2	16	0
20" × 10" medium Old Delabole slating, laid to a 3" lap (grey) "	4	6	0
" " " " " " (green) "	4	15	0

CARPENTER AND JOINER	£	s.	d.
Flat boarded centering to concrete floors, including all strutting . Sqr.	2	5	0
Shuttering to sides and soffits of beams . . . . . F.S.			8
" to stanchions . . . . . "			8
" to staircases . . . . . "		1	8
Fir and fixing in wall plates, lintols, etc. . . . . F.C.		3	9
Fir framed in floors . . . . . "		4	6
" " roofs. . . . . "		6	6
" " trusses . . . . . "		7	6
" " partitions . . . . . "		8	6
⅞" deal sawn boarding and fixing to joists . . . . Sqr.	1	14	6
1" " " " " " . . . . "	1	17	6
1¼" " " " " " . . . . "	2	3	0
4" × 2" fir battening for Countess slating . . . . "		9	6
Do. for 4" gauge tiling . . . . . "		12	0
Stout feather-edged tilting fillet . . . . . F.R.			4½
Patent inodorous felt, 1 ply . . . . . Y.S.		2	3
" " " 2 " . . . . . "		2	9
" " " 3 " . . . . . "		3	3
Stout herringbone strutting to 9" joists . . . . F.R.			10½
1" deal gutter boards and bearers . . . . . F.S.		1	2
1½" " " " " . . . . "		1	6
2" deal wrought rounded roll . . . . . F.R.			2
1" deal grooved and tongued flooring, laid complete, including cleaning off . . . . . Sqr.	2	1	0
1¼" do. . . . . "	2	10	0
1½" do. . . . . "	2	17	0
1" deal moulded skirting, fixed on, and including grounds plugged to wall . . . . . F.S.		1	6
1¼" do. . . . . "		1	9

CARPENTER AND JOINER—*continued*	s.	d.
1½" deal moulded sashes of average size . . . . . F.S.	1	9½
2" " " " " " " "	1	11½
1½" deal cased frames double hung, of 6" × 3" oak sills, 1¼" pulley stiles, 1¼" heads, 1" inside and outside linings, ⅝" parting beads, and with brass faced axle pulleys, etc., fixed complete . . "	3	7
2" " " " " " " " "	3	10
Extra only for moulded horns . . . . . Each		6
1½" deal four-panel square, both sides, door . . . . F.S.	2	0
2" " " " " " " " "	2	8
1½" " but moulded both sides . . . . . "	2	4
2" " " " " " " " "	3	0
4" × 3" deal, rebated and moulded frames . . . . F.R.	1	0
4½" × 3½" " " " " " " "	1	4
1½" deal tongued and moulded window board, on and including deal bearers . . . . . F.S.	1	9
1¼" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages . . . "	2	6
1½" deal moulded wall strings . . . . . "	2	1
1½" " outer strings . . . . . "	2	4
Ends of treads and risers housed to string . . . . Each	1	9
3" × 2" deal moulded handrail . . . . . F.R.	1	3
1" × 1" deal balusters and housing each end . . . . Each	2	0
1½" × 1½" " " " " " " "	2	9
3" × 3" deal wrought framed newels . . . . . F.R.	1	3
Extra only for newel caps . . . . . Each	6	0
Do., pendants . . . . . "	6	0

SMITH AND FOUNDER	£	s.	d.
Rolled steel joists, cut to length, and hoisting and fixing in position . . . . . Per cwt.		15	6
Riveted plate or compound girders, and hoisting and fixing in position . . . . . "		19	6
Do. stanchions with riveted caps and bases and do. . . . "		19	0
Mild steel bar reinforcement, ½" and up, bent and fixed complete. "		17	6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g. . . . . F.S.			11
Wrot-iron caulked and cambered chimney bars . . . . Per cwt.	1	10	0

PLUMBER	£	s.	d
Milled lead and labour in flats . . . . . cwt.	1	12	0
Do. in flashings . . . . . "	1	15	0
Do. in covering to turrets . . . . . "	2	3	0
Do. in soakers . . . . . "	1	7	6
Labour to welted edge . . . . . F.R.			3½
Open copper nailing . . . . . "			3
Close " " . . . . . "			4

	½" s.	d.	¾" s.	d.	1" s.	d.	1½" s.	d.	2" s.	d.	4" s.	d.
Lead service pipe and fixing with pipe hooks . . F.R.	10		1	0	1	3	2	0	2	10	—	
Do. soil pipe and fixing with cast lead tacks . . .	—		—		—		—		—		5	6
Extra, only to bends Each	—		—		—		—		2	0	6	9
Do. to stop ends . "	6½		8		9		11		1	0	—	
Boiler screws and unions . . . "	3	3	3	9	5	0	8	0	—		—	
Lead traps . . . "	—		—		—		6	3	8	9	—	
Screw down bib valves . . . "	6	8	9	6	11	0	—		—		—	
Do. stop cocks . . "	7	0	9	6	12	6	—		—		—	

4" cast-iron ½-rd. gutter and fixing . . . . . F.R.	1	0	
Extra, only stop ends . . . . . Each	1	0	
Do. angles . . . . . "	1	6	
Do. outlets . . . . . "	2	9	
4" dia. cast-iron rain-water pipe and fixing with ears cast on . F.R.	1	2	
Extra, only for shoes . . . . . Each	1	3	
Do. for plain heads . . . . . "	5	6	

PLASTERER AND TILING	s.	d.
Expanded metal lathing, small mesh . . . . . Y.S.	2	0
Do. in n/w to beams, stanchions, etc. . . . . "	2	9
Lathing with sawn laths to ceilings . . . . . "	1	3
½" screeding in Portland cement and sand for tiling, wood block floor, etc. . . . . "	1	5
Do. vertical . . . . . "	1	7
Rough render on walls . . . . . "	1	2½
Render, float and set in lime and hair . . . . . "	1	9
Render and set in Sirapite . . . . . "	1	11
Render, backing in cement and sand, and set in Keene's cement . "	2	9
Extra, only if on lathing . . . . . "		4
Keene's cement, angle and arris . . . . . F.R.		6
Arris . . . . . "		1½
Rounded angle, small . . . . . "		3
Plain cornices in plaster, including dubbing out, per 1" girth . "		1½
1" granolithic pavings . . . . . Y.S.	3	6
1½" " " " " " " "		4	6
6" × 6" white glazed wall tiling and fixing on prepared screed . "		17	6
9" × 3" " " " " " " "	1	2	6
Extra, only for small quadrant angle . . . . . F.R.			8

GLAZIER	s.	d.
21 oz. sheet glass and glazing with putty . . . . . F.S.		7½
26 oz. do. and do. . . . . "		8½
Arctic glass and glazing with putty . . . . . "	1	1
Cathedral glass and do. . . . . "	1	2
Glazing only, British polished plate . . . . . "		7
Extra, only if in beads . . . . . "		2
Washleather . . . . . F.R.		4

PAINTER	s.	d.
Clearcolle and whiten ceilings . . . . . Y.S.		6½
Do. and distemper walls . . . . . "		9
Do. with washable distemper . . . . . "	1	1
Knot, stop, prime and paint four coats of oil colour on plain surfaces "	3	3
Do. on woodwork . . . . . "	3	6
Do. on steelwork . . . . . "	3	0
Do. and brush grain and twice varnish . . . . . "	5	6
Stain and twice varnish woodwork . . . . . "	1	11
Stain and wax-polish woodwork . . . . . "	4	6
French polishing . . . . . F.S.	1	2
Stripping off old paper . . . . . Piece	2	0
Hanging ordinary paper . . . . . from "	2	9

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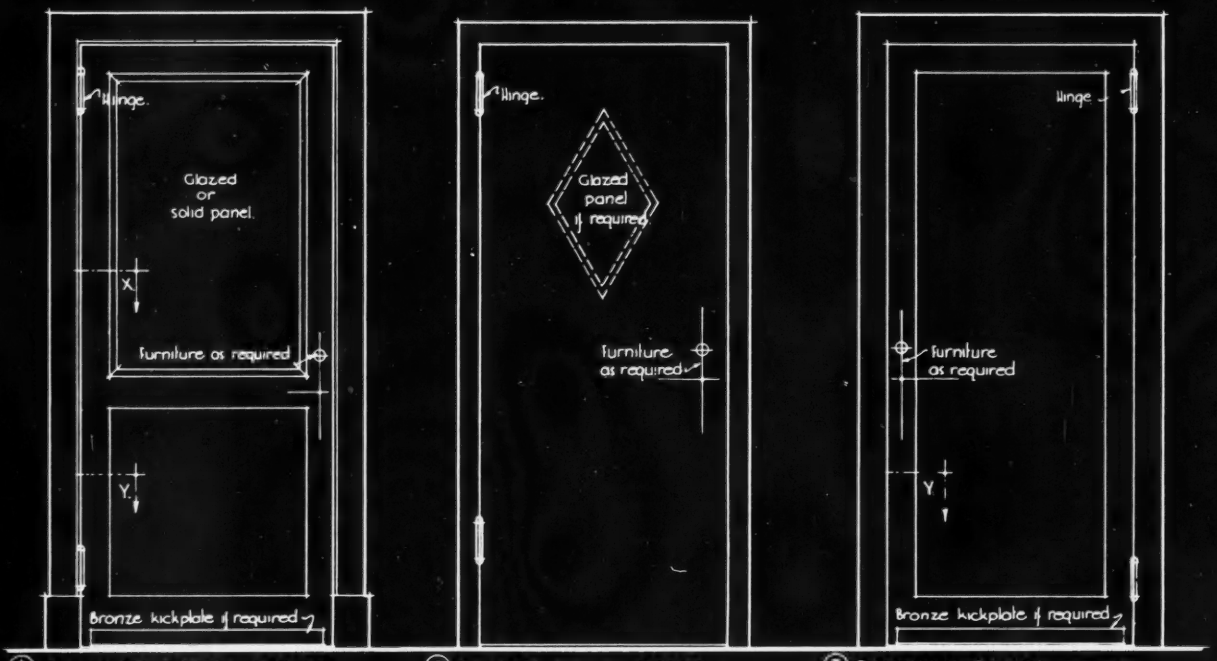
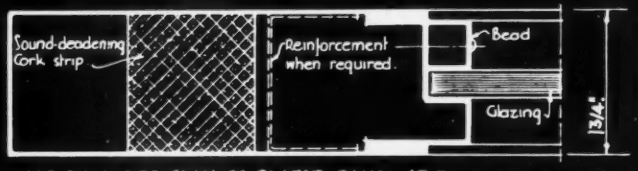
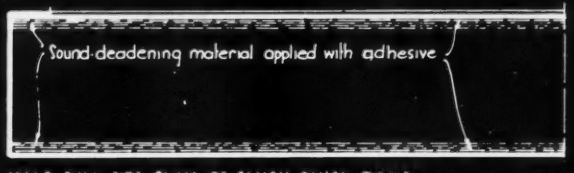


① GLAZED PANEL DOOR. ② FLUSH PANEL DOOR. ③ SUNKEN PANEL DOOR

THREE STANDARD TYPES OF HOLLOW CONSTRUCTION METAL DOORS.



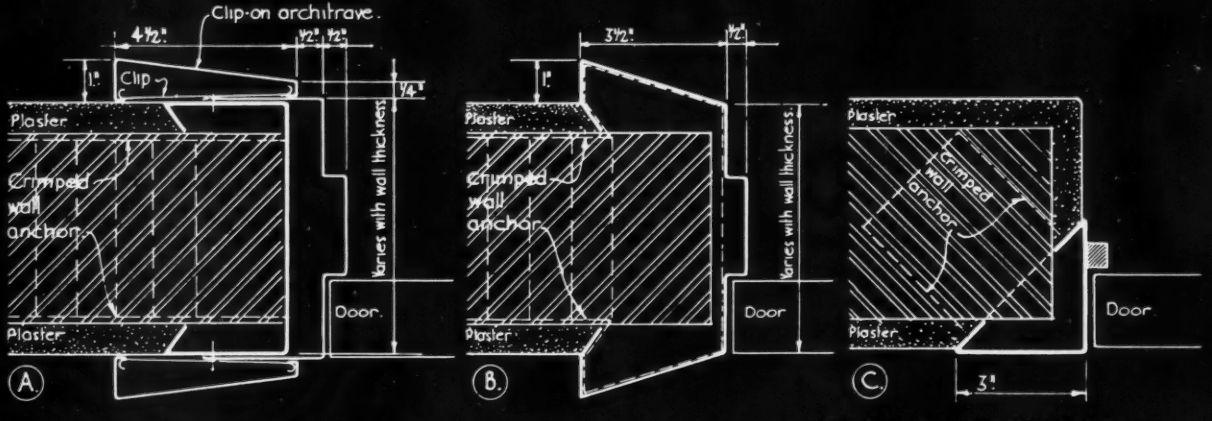
HALF FULL SIZE PLAN OF GLAZED PANEL AT X.



HALF FULL SIZE PLAN OF FLUSH PANEL DOOR.

HALF FULL SIZE PLAN OF SOLID PANEL AT Y.

NOTES :
Door N°1 given above is stocked in one size :
All types are made to sizes as required.
For greatest economy all doors in one job should be of one size.
The fewer variations required the greater the saving obtained.
Any of the doors given may be used with any of the frames given.



QUARTER FULL SIZE PLANS OF THREE TYPES OF DOOR FRAME. The types shown are standard, but the profiles may be varied if desired.

O.B.

Information from Roneo Ltd.

INFORMATION SHEET : RONEO PRESSED STEEL DOORS & FRAMES.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

• 101 •

PRESSED STEEL DOORS AND FRAMES

Name of Product : "Roneo" Flush Panel and Panelled Doors.

Type illustrated : Two Panel, Flush Panel, and One Panel Doors of hollow construction, also Unit Door Frames, and Frames with separate Casings and Architraves

Description :

DOORS

Two Panel Doors : These can be supplied with the upper panel either glazed or in solid steel sheet. The doors are made from 18 gauge hollow pressed steel styles and rails, acetylene and electrically welded together. The lower panels are hollow and consist of two sheets of steel, and are recessed into the styles and rails. The upper panels when prepared for glazing are fitted with screwed steel beads on one side only. The styles, rails, and panels have cork deadeners to reduce resonance.

One Panel Doors : These are made in a similar manner to the above type.

Flush Panel Doors : In this type the door is formed up of two pressed steel sheets securely fastened together, having distance pieces making the overall thickness of the door 1¾ in. The sheets are backed with special non-resonant material. A glazed panel can be added if desired.

FRAMES

Type "A." These consist of a pressed steel buck which is built into the walls by adjustable crimped anchors. To this are screwed the casings prepared with hinges to take doors. Casings are delivered to the site in three pieces. Architraves are fixed to both sides of the opening by means of steel clips. The architraves are delivered in one piece with the mitres welded.

Type "B." In this type the architrave is formed integral with the frame, and thicker material is used. Adjustable steel anchors are provided for building in. The frames are delivered to the job with mitres welded and with a temporary distance piece at the threshhold. With this type of frame it is preferable to clean down and spray the final coat at site.

Type "C." This is a type of frame suitable for Hospitals and other Institutions where a minimum of projection is required. They are delivered to the site completely assembled, the anchors being screwed in position. Again, it is preferable to apply the final finishing coat after the surrounding work is finished.

FINISH

All parts are stove-enamelled. The final coat is usually sprayed with cellulose enamel in any colour desired to conform with the general scheme.

PRICES

Owing to the fact that these doors and frames are made up specially for each job, the variations in sizes and specification make it impossible to give here exact prices, which moreover are dependent on the quantity to be made at one time. It is therefore most advisable to keep to one size of door throughout a building as this will effect considerable economy in cost.

As an indication of price it may be stated that, in lots of not less than 10 of any one size, Type 1, glazed panel doors can be supplied at 7s. per sq. ft., glazing extra ; Type 2, flush panel, at 4s. 3d. per sq. ft. ; Type 3, sunk panel, at 5s. 9d. per sq. ft. Frames to take doors 35 in. wide by 86½ in. high, can be supplied at £4 5s. each for Type A ; £2 13s. for Type B ; and £1 12s. for Type C. These prices are based on lots of 10 or more and in the case of Types B and C do not include the extra coat of enamel at the site.

Name of Manufacturers : Roneo Ltd.

Addresses 17, Southampton Row, London, W.C.1

Works : Romford, Essex

Telephone Holborn 7622

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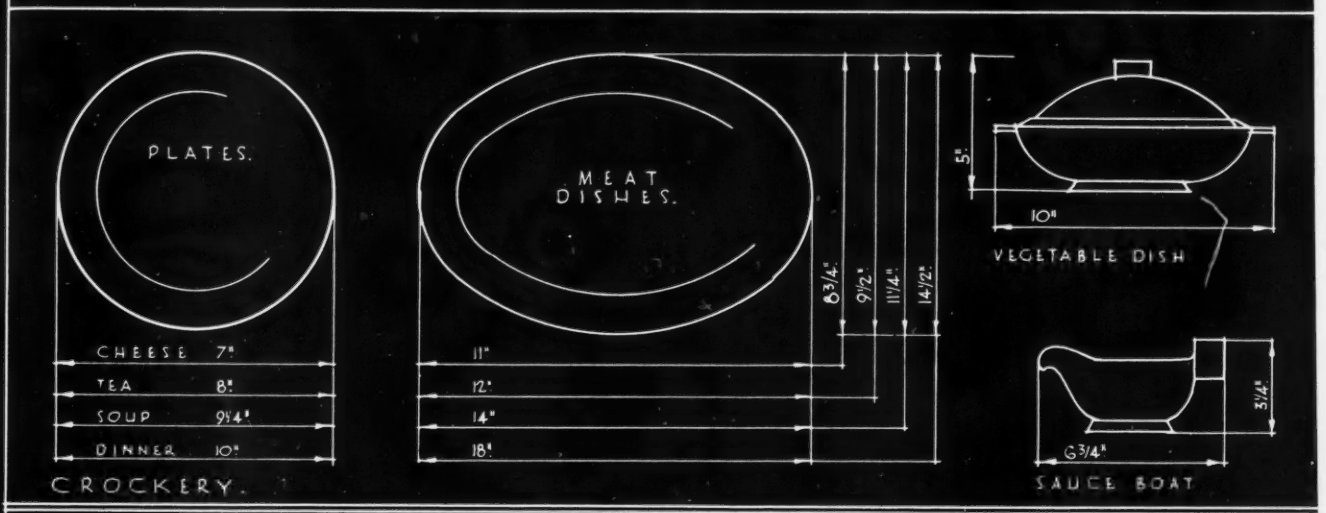
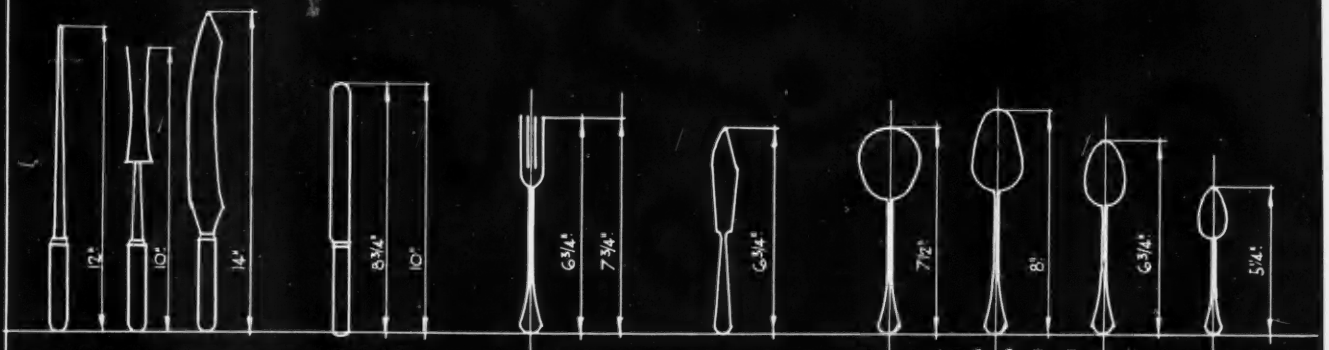
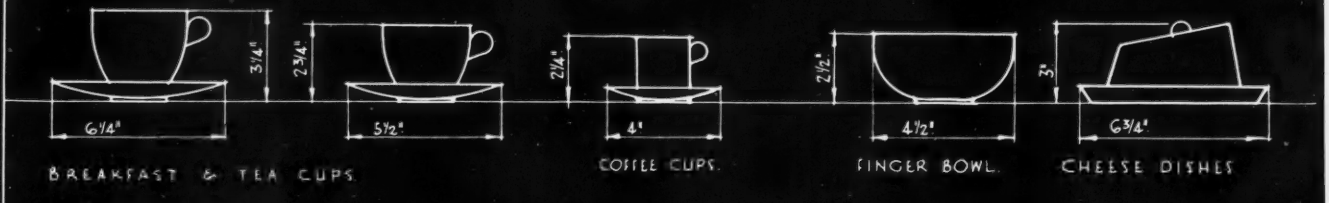


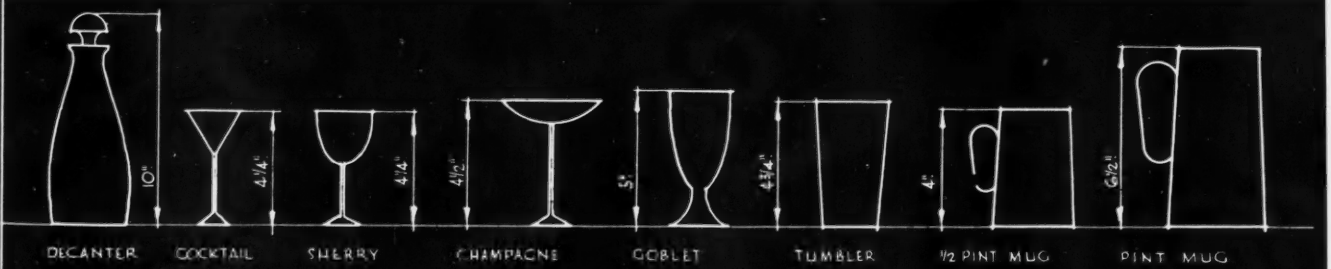
CROCKERY.



CUTLERY & SILVER.



CROCKERY



GLASSWARE.

INFORMATION SHEET: COMMON SIZES OF VARIOUS HOUSEHOLD ARTICLES.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.1.

Supplement to THE ARCHITECTS' JOURNAL for April 19, 1934

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

• 102 •

COMMON SIZES

THIS Sheet gives the dimensions of the usual cutlery, plates and glasses for which storage space must be allowed in kitchen cupboards or sideboards. The sizes are to a certain extent variable, but the figures shown give an average of the more usual standard sizes.

WORK IN PROGRESS

THE NEW WEMBLEY BATHS

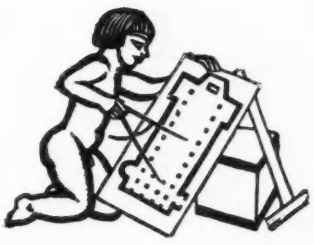
THE new swimming pool and sports arena in the old Exhibition Grounds, designed by Sir E. Owen Williams, is illustrated under construction.

The building is due to be opened next July, and will be used for the second Empire Games, which are to be held in London later in the summer.

The bridges seen in the background are remains of the old Exhibition.

NEW PUBLIC BUILDING IN PRAGUE

The new General Public Insurance Institute for old age pensions at Prague, designed by Josef Havlicek and Karel Honzik. It stands on the edge of a public park in the Zizkov quarter, and has been planned without internal areas, giving each room ample air and an extensive view. The plan is based on a single unit—a standard room accommodating one clerk and a secretary with typewriter—which is repeated 700 times. There are no rooms of any other size, except for a large public enquiry hall by the main entrance on the ground floor. The building is of reinforced concrete frame construction with an infilling of concrete slabs.



STRANGE OPINIONS FROM THE INSTITUTION OF MUNICIPAL AND COUNTY ENGINEERS

IN the correspondence columns of this issue of the JOURNAL appears a letter drawing the attention of the architectural profession to a document recently circulated to local authorities by the Institution of Municipal and County Engineers. This deals with so important a matter and expresses opinions so damaging to the position and authority of the architect, that it is worth examining its implications in detail.

Its contents may be summed up as follows : it is an outline of the opinions of the Institution of Municipal and County Engineers on the subject of the control of building elevations ; the Institution agrees with the necessity of something in the nature of an amenity clause for the prevention of " outrages," but maintains that the proper person to decide what is and what is not an outrage is the " technical officer " employed by the local authority, rather than the panel of architects suggested in the report on the *Elevation and Siting of Buildings*. By " technical officers," as our correspondent points out, are obviously meant the members of the Institution from whom this alarming opinion is issued. The reason given for the opinion is, first, the " embarrassing situation " that is " likely to arise in the case of a panel of architects being called upon to pass judgment on the work of someone engaged in the same profession as themselves " and, secondly, the delay involved in bringing designs before a special panel as well as before the ordinary bye-law authority.

It seems to us that this recommendation, if accepted, would represent a complete abrogation of the authority and responsibility of the architectural profession. If there is any justification for the architect's existence apart from the engineer, it is as a man trained in design and the natural arbiter in all matters of design. The engineer, though a very necessary member of the community, has no education in design forming part of his training, and should therefore leave to the architect all decisions of an æsthetic nature. Now of all the local authorities in the country only a negligible proportion employ a qualified architect in a responsible capacity. Except for this small minority of cases, therefore, the technical officer, as we have already suggested, will be simply an engineer ; and it is he who is here set up to arbitrate on æsthetic matters over the heads of the architectural profession.

It is pleasing, of course, to know of the sympathy of the engineers with the desire to " grapple with the danger to the amenities of Great Britain from unsightly building," and encouraging to learn (as set out in this document) that they are not only prepared to undertake the responsibility of deciding on questions of amenity but to do it very thoroughly—they are even prepared " in many cases " to pay a visit to the site before making their decisions. Such conscientiousness, however, cannot compensate for lack of the necessary education.

The two reasons the Institution gives in support of its suggestions seem hardly adequate. The first that it will prevent the embarrassment of intra-professional disagreement is not valid because only an infinitesimal proportion of the cases of dubious design are the work of qualified architects. The architectural profession, it is true, has had to plead guilty on one or two occasions in the past to a tendency to use the panel system for the expression of personal prejudice, but that is a failing to be remedied within the profession, and in such a case, moreover, arbitration should still remain in the hands of an architect, though an unbiased and experienced one. In a more strictly organized profession, indeed, such cases, now rare, would be quite unknown—a recognized qualification would itself be security against work that was a danger to the amenities. However, that is beside the point, for it is to the work of unqualified designers—some of them, possibly, engineers and surveyors—that the control is intended to apply. Neither can the second reason, that independent adjudication on æsthetic questions will be the cause of delay, be taken seriously. That is a question of organization easily overcome. The adjudication could take place simultaneously with the ordinary bye-law examination (or seeing the delay that the surveyors themselves are often guilty of—prior to it) and a short delay at the worst is but a small price to pay for increased quality of design.

Without wishing to reflect on the abilities of the municipal engineer or the borough surveyor within his own province, or wishing to discourage him from " directing the attention of his authority to proposed elevations that seem to him to be undesirable," we would emphasize that failure on the part of the architect to insist that he and he only is capable of deciding what *is* undesirable would be not merely a surrender of his particular prerogative but an absolute denial of his right to existence.

The Architects' Journal
9 Queen Anne's Gate
Westminster, S.W.1
Telephones: Victoria
9 2 1 2 - 7
Telegrams:
Buildable
Parl
London

NOTES & TOPICS

THE B.I.N.C. MEMORANDUM

THERE is rough going ahead for slum clearance if the Government's policy of calling local authorities to action is to be the last word in their organization of the campaign.

*

The Building Industries National Council, knowing from its experience—which is our experience—that campaigns that rise with the boom and fall with the slump are the most expensive form of public action, urges the Government, in its memorandum on Housing Policy submitted to the Ministry of Health (if it will not promote a National Housing Board) then at least to come for advice on matters of co-ordination and building trade planning to the B.I.N.C.

*

So far as we know, the Ministry of Health is going forward on estimates which no first-class business house would trust as the basis of a campaign; and over the organization of planning and over that of building, costs and labour there is no form of control that is worth a candle.

*

Can the slum clearance campaign be jeopardized through lack of planning, rises in prices and the like? It can. And whose fault would that be?

*

Very clearly the Ministry must take the blame, for no one in his senses sounds a battle-cry and goes to war, devoid of proper arms, information or commissariat.

*

An army moves on its stomach. No less does a slum-clearance campaign depend upon the building trade, labour and on a plan of action.

DRAMA AT THE R.I.B.A.

It was no lack of courage or confidence which led the R.I.B.A. Dramatic Society to choose *The Bear*, by Tchekov and Thornton Wilder's *The Long Christmas Dinner* for its first performance on Monday night.

*

Tchekov is never easy, and *The Long Christmas Dinner* must surely be one of the most difficult pieces in the world to "put across." Which being the case, I must admit that cast and producer made a noble effort.

*

All the same I do not consider that it is wise to be over-ambitious in the selection of plays for presentation in what is bound to be—and rightly so—an essentially *intimate* atmosphere.

*

I did not fail to enjoy the first half of the performance; but after the interval, when *Architect Errant* came on, I realized how perfectly suited to the audience and surroundings it was. I thoroughly enjoyed every moment of it.

*

Architect Errant was described as a fantasy. It was; and quite witty, too. Four students—Giles, Harry, Tom and Archie—bore remarkable likenesses to faces I have seen now and again not a hundred miles from the Institute, even in the day-time. Their remarks, too, struck chords somewhere; and their behaviour. Giles said, for example: "I will never build like my grandfather." Harry, in one scene, was to be observed before a palace at Jodhpur.

*

It was all good and entertaining fooling, not, perhaps, without a dash of truth. One might call it satire.

TOWN HALLS

The Listener for April 18 contains an interesting article by Maxwell Fry on "English Town Hall Architecture." It is well worth reading.

*

The author compares the eighteenth-century attitude (which produced St. George's Hall, Liverpool) with the present-day one which has not, to date, given us anything half so apt and virile.

*

The reasons given are paucity of feeling on the part of the "city fathers," and a sort of muddled architectural thought by the men responsible for the designs. All of which may be perfectly true; but there is no doubt that the competitions system, as at present existing, is much to blame.

*

The whole affair is so stodgy already, that there is a

HOUSING SUPPLEMENTS

In the JOURNAL *for April 12 we published the first of a series of* HOUSING SUPPLEMENTS*; the second appears in this issue on pages 611-615. It consists of description and illustration of a block of working-class flats now in course of construction in London, together with an analysis of cost.*

Midnight oil. A night photograph of the Liverpool School of Architecture. The building, designed by Professor Reilly, L. B. Budden and J. A. Marshall, was completed last summer.

reluctance on the part of young men to waste their time in competing. The results of this will be cumulative and I foresee the time when the situation will be so acute that the system will *have* to be reviewed and revised. What about doing so at once ; we can reconstruct now ; soon we shall only be able to demolish and rebuild.

THE INFORMATION BOOK

The publishers tell me that the first edition of *The Information Book* has been completely sold out in the short space of four months, and that a new edition with a few slight revisions is now on sale.

*

I am not nearly so surprised by this as are the publishers who, with a cynicism born of the depression (I had nearly written the *late* depression), and of the knowledge that architects, even in good times, are not good book-buyers, had expressed the opinion that even the very best of architectural books would, in these times, take a couple of years to sell two or three thousand copies.

*

It is all a question of what an architect really needs in his practice. If a publisher provides a book which saves him time and trouble, and gives him information which he would otherwise have to search for at the very moment when he had no time to spare, then the architect is neither so foolish nor so parsimonious as to refuse the bait.

*

I offer this advice to publishers free of all charge in the hope that we shall see further books of the same kind.

SIR JAMES CARMICHAEL

If the late Sir James Carmichael had cared to speak out, he could have offered some useful comments on the proposals to form a National Housing Corporation. Sir James was chairman of the Building Materials Supply Company at the Ministry of Reconstruction, and later became Director-General of Housing in England and Wales.

*

He was intimately connected with the work of the Department of Building Materials Supply which, according to the theories of 1918, was to buy materials wholesale and on a very large scale, and thus bring down costs.

*

Actually, owing to purchasing ahead and prices slumping, the Department found itself with very large stocks of materials and the public had to pay a loss of millions of pounds. I would not suggest that mass buying is not feasible. But it needs the wisdom of the serpent.

ASSISTANT

From *The Evening Standard :*

The East Ham Council have decided to create a new municipal post of chief architectural assistant, at a salary of £470, rising to £545 a year.

*

Assistant to whom ?

WHO ARE THE BIG FIGURES IN DESIGN ?

I listened in to a fight about William Morris the other day. The combatants were all architects. They represented : sentimentalists *versus* functionalists.

*

The sentimentalists slobbered (as usual) and did the reputation and achievements of Morris more damage in five minutes by their hand-woven enthusiasms for his methods than the anti-Morrisites did with half an hour's mixed criticism. But somebody said : " Is there a man living now as big as Morris ? " Is there ? I am open to receive suggestions.

*

This age seems to have lost the power of producing gigantic personalities. Of course there *may* be dozens of tremendous characters crouching behind the façade of " good form " which is imposed upon all public figures.

*

After listening to that inconclusive discussion, I re-read the best book that I know on the life of William Morris, Mr. Montague Weekley's volume in Duckworth's Great Lives series ; and in those pages the man lived and breathed ; his thoughts, his prejudices, his stupendous energy, were undimmed by the conventional aura of sentimentality created by most of the authors who choose Morris for their subject.

*

Mr. Weekley's book should be forced into the hands of everyone who dishonours the memory of this great, turbulent man, in the periodic exhibitions of ghastly " hand-made " rubbish that are staged in London and provincial cities. After reading the book, they might realize that Morris himself would have advocated the immediate suppression of their work.

*

Incidentally, one effect of the Morris Exhibition has been to make people who have never thought about design before ask who our great contemporary designers are.

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

Up till December 31, 1933, the number of architects admitted to the Register was 8,575 594

The cost of the tower of Liverpool's Anglican Cathedral is about the same as the whole cost contemplated for the Cathedral at Guildford 595

The most unusual feature of the Slough Competition is that no mention is made of any contemplated or maximum expenditure 595

"*The Institution (of Municipal and County Engineers) sees no difficulty in making the 'official' solely responsible for the control of design*" 601

THE ARCHITECTS' DIARY

Thursday, April 26

ARCHITECTURAL ASSOCIATION. *At 36 Bedford Square, W.C.1. Exhibition, "Slums." Until April 27.*

Friday, April 27

TOWN PLANNING INSTITUTE. *At Caxton Hall, Caxton Street, S.W.1. General Meeting. Adjourned discussion on "The New Model Clauses" to be opened by Professor Patrick Abercrombie, M.A., F.R.I.B.A.* 6 p.m

Tuesday, May 1

UNIVERSITY OF LONDON. *At University College, Gower Street, W.C. "Venetian Paintings in the eighteenth century, I." By Dr. Nicolous Pevsner.* 5 p.m.

ANGLO-SWEDISH SOCIETY. *At the Swedish Chamber of Commerce, 14 Trinity Square, E.C.3. Annual General Meeting.* 5 p.m.

ECCLESIASTICAL COMMISSIONERS AND RIVERSIDE DEVELOPMENT

In Parliament last week, Sir W. Davison asked the Prime Minister whether his attention had been called to a statement by the Ecclesiastical Commissioners that, as any scheme for a new bridge at Charing Cross now appeared to have been finally abandoned, the Commissioners had decided to develop their property on the south side of the river, including the Lion Brewery and the adjoining area, which would have been affected by a new traffic bridge at Charing Cross; whether he was aware that the Royal Commission on Cross-River Traffic, the London County Council, and other public bodies were of opinion that a new bridge at Charing Cross in the near future was essential for the proper development of London; and whether, having regard to the improved financial position of the country, he would request the Ecclesiastical Commissioners to stay their hands a little longer before commencing their proposed development scheme on the south bank of the river.

Mr. MacDonald replied that the Minister of Transport understood that the Ecccclesiastical Commissioners owned a substantial amount of property on sites which might be said to be key positions in connection with any scheme for constructing a road bridge at Charing Cross, but he had no information either from the Commissioners or from the L.C.C. as to the nature of any plans for developing this property, although it was believed that certain discussions had been proceeding regarding a local clearance scheme north of the New Cut.

Sir W. Davison said that, as this proposal was previously turned down, in view of the large expenditure which it was thought would have to be incurred, was the Prime Minister aware that an authoritative opinion based on estimates had been expressed to the effect that a new bridge could be put up, on the down side of the Charing Cross railway bridge, including new approaches on each side of the river, for a sum of under £2,500,000; and that this would not interfere with the further work suggested by the Royal Commission being put in hand if and when the funds were available?

Mr. MacDonald replied that that was a point which could best come up when the subject was debated, as it must be, in the House of Commons.

WATERLOO BRIDGE

A letter from the Minister of Transport (Mr. Oliver Stanley) to the L.C.C. regarding the proposals for a new Waterloo Bridge was discussed at Tuesday's meeting of the Council. Following are some extracts from the letter: "I am directed by the Minister of Transport to refer to your letter of March 29, acquainting him that the L.C.C. recently resolved that in their opinion a new Waterloo Bridge . . . should be built in place of the present structure, and that subject to a grant from the Road Fund of 60 per cent. of the cost being forthcoming, the Highways Committee should submit the necessary recommendation, and further expressing the hope that the Minister will agree to make the desired grant from the Road Fund.

"Mr. Stanley feels that he ought at once to make clear the position of His Majesty's Government in the matter.

"The Government recognize that it must be open to the Council to take any action which, in the exercise of their discretion as the responsible Highway and Improvements Authority, they may think necessary or advisable.

"At the same time the Government cannot make a grant to any scheme running contrary to the expressed opinion of Parliament and would not be prepared themselves to take any steps with a view to urging Parliament to alter a decision so recently arrived at."

Mr. G. R. Strauss, Highways Chairman of the L.C.C., said during the discussion on this decision:—"The Council unanimously desires the building of a new bridge. I think there is every reason to hope that there will be a favourable consideration to the building of a new bridge.

"We have every hope that we may be able to go forward with the building. We do not intend to change our policy. We intend to go straight forward and ask Parliament to agree with the unanimous desire of the Council to build a new bridge in place of the old one."

MOTOR RACE TRACK ON THE DOWNS

The promoters of the proposed motor race track at Portslade have applied to the Ministry of Health for the holding of an inquiry with a view to the reversal of the decision of the Urban Council. It will be recalled that some two months ago the Council refused to grant an interim development order.

ST. PANCRAS HOUSE IMPROVEMENT SOCIETY

On Monday last the Archbishop of Canterbury dedicated the St. Nicholas Flats, Somers Town—a new block of dwellings housing 47 families—which have been erected by the St. Pancras House Improvement Society from the designs of Mr. I. Hamilton.

REGISTRATION

We are informed by the Architects' Registration Council of the United Kingdom that, up till December 31, 1933, the number of architects admitted to the Register was 8,575.

The complete Register is now in draft form, and will be made public very shortly.

SPORTS STADIUM FOR MOSCOW

A sports stadium is to be erected in Izmailov (Moscow). It has been planned by a company of architects working under Mr. N. Y. Kopply. The reinforced concrete tribune of the stadium, faced with granite and marble, will have a seating capacity of 140,000. In addition to football fields and running tracks, the stadium will contain a big green square for mass meetings, courts for tennis tournaments with platforms seating 15,000, a cycle track with platforms to seat 10,000, a military village and a children's village.

An exhibition of the designs and models of the stadium is shortly to be held in the Moscow Central Park of Culture and Rest.

SOUTH-EASTERN SOCIETY OF ARCHITECTS

The annual meeting of the Guildford Chapter of the above Society was held at Trinity Hall, Guildford, on April 17. Mr. T. R. Clemence, F.R.I.B.A. (chairman), presided.

Mr. A. J. Steadman, F.R.I.B.A., was elected chairman for the ensuing session, and Mr. L. R. Stedman, A.R.I.B.A., treasurer; the remaining officers and members of Committee were re-elected.

Following the meeting, Mr. Edward Maufe, F.R.I.B.A., delivered a lecture on the new Guildford Cathedral. The lecturer said: The whole of the large building

contemplated could be built without hurry in three years if funds were available. If they could have started after the competition result, the cathedral would be now roofed in. The cost of the tower of Liverpool's Anglican Cathedral was about the same as the whole cost contemplated at Guildford.

Speaking on "tradition," Mr. Maufe said church building lent itself readily to modern forms of construction, and if they discarded prejudice the Church had a great opportunity to gain from, and to give to, modern architecture. Its ambition should be to follow the ancient tradition of experiment and adventure, to treat architecture as a living, growing art. "The ideal here," he continued, "has been to produce a design of our time, yet in the line of the great English cathedrals, to build anew on tradition, to rely on proportion of mass, volume, and line rather than elaboration and ornament; ornament we may well have, but it must grow from the structure itself. It is hoped that reproduction has been avoided on the one hand, and any mere fashion of a few years, or any foreign fashion, has been avoided on the other."

WEST YORKSHIRE SOCIETY OF ARCHITECTS

A meeting of the Students' Union of the above Society was held at Leeds on April 19, when a debate took place, the subject for discussion being: "That students' unions are not a necessity in centres of education." Mr. J. H. Wales presided.

Several members participated in the debate: these included Messrs. H. Hall, S. Webster, H. N. Player, P. J. N. Penlington, A. Lamb and S. Simpson.

Upon the chairman putting the vote, a large majority of those present declared in favour of students' unions.

CHANGE OF ADDRESS

Mr. Edwin Gunn, A.R.I.B.A., having resigned his position as Superintending Architect to the Ministry of Agriculture and Fisheries, is leaving London early in May, and will practice in Somerset, at 12 Park Street, Minehead.

R. I. B. A.

EXHIBITION OF ARCHITECTS' WORKING DRAWINGS

An exhibition of architects' working drawings will be held in the R.I.B.A. Galleries from Tuesday, May 1, to Friday, May 11, inclusive.

The exhibition will be open daily between the hours of 10 a.m. and 8 p.m. (Saturday 5 p.m.) except on Tuesday, May 8, when it will be closed between 3 and 6 p.m. It will include drawings lent by:—

Sir Giles Gilbert Scott, R.A., P.R.I.B.A. (Charterhouse School Chapel); and Messrs. T. A. Darcy Braddell, F.R.I.B.A. (A house in Lees Place, Grosvenor Square, London); P. D. Hepworth, F.R.I.B.A. (A house near Mill Hill); C. H. James, F.R.I.B.A. (No. 5 The Grove, Highgate Village); Edward Maufe, M.A., F.R.I.B.A. (The Church of St. Thomas The Apostle, Hanwell); and G. G. Wornum, F.R.I.B.A. (R.I.B.A. New Building).

A special students' evening will be held at the exhibition on Wednesday, May 9, at 8 p.m. It is hoped that the architects (or their representatives) who have lent exhibits will be present in order to explain the drawings to the students.

COMPETITION

NEWS

THE SLOUGH COMPETITION

THE CONDITIONS REVIEWED

[By Iodos]

Slough Urban District Council. Competition for Proposed Council Offices. Assessor: H. S. Goodhart-Rendel, V.P.-R.I.B.A. Premiums: £250, £150 and £100. Conditions (deposit one guinea) from F. R. Duxbury, Clerk to the Council, Council Offices, Slough. Sending-in day: June 26.

This seems in every way a very satisfactory competition, for which there should be a good entry, with an excellent chance that the winner will be able to create a sound building on a good, if in no way remarkable, site.

THE SITE

The site is an ample one with a frontage of over 300 feet to the Bath Road. The main façade of the building should clearly be on this side and will thus face North. The future amenities of the site are assured by the indications in the conditions that the playing fields on the opposite side of the Bath Road are intended to be preserved as a permanent open space. A building line imposes a minimum set-back of about 40 feet from the present boundary against the Bath Road; since the road carries a very heavy London–West-of-England traffic such a set-back would appear none too great on acoustic, if on no other, grounds. Secondary access is available to Montem Lane on the South side of the site, but only for a roadway width of about 20 feet. The remaining boundaries of the site are against private property, including a number of existing houses with rights of light which may not be impinged; these, however, are not likely to interfere with any reasonable scheme.

For all practical purposes the site may be regarded as completely flat, its level being approximately that of the Bath Road at the centre of the frontage. No foundation or drainage difficulties are anticipated. Gas, electricity and water mains are all available on the line of the Bath Road, also separate soil and surface water sewers. The soil sewer, at about 10 feet below the level of the site, is suitable to take drainage from a ground or semi-basement floor by natural flow, but would probably involve pumps if lavatories were placed in a full basement.

GENERAL REQUIREMENTS

The formal conditions, regarding premiums, the employment of the successful competitor, etc., are normal and satisfactory and call for no comment. The general requirements laid down for the design of the proposed building are, however, less usual in type and of considerable interest. The most unusual feature is perhaps that no mention is made of any contemplated or maximum expenditure. Instead, the accommodation required is defined with more than usual completeness, and competitors are instructed that preference will be shown to those designs "in which economy of planning and construction have been observed." There is a lot to be said for thus making a reasonable economy a competitive element.

Another sound feature is provided in a number of general instructions on points of design, of which the more important are:—that the floor-to-floor height for all offices shall be not less than 11 feet, that public corridors should be not less than 6 feet wide, that internal partitioning should be as easy as possible to alter, that fenestration should be simple and regular, and that a coke-fired low-pressure water system should be assumed for central-heating. Most refreshing of all is the statement that "symmetrical and unsymmetrical plans will be considered on their merits without partiality."

On one major point only is the competitor given a more than ordinarily difficult problem. He is instructed that "the whole building shall be designed so as to be capable of extension in the event of further accommodation being required by *any* of the Departments," also that he must show a suitable position on his block plan for the possible erection of a fully-equipped Assembly Hall, seating at least 1,500 persons, "with an *enclosed* connection from the Council Suite" [italics ours]. This perfectly logical demand for a building that can be treated like a concertina in all directions seems to me the critical point of the competition, on which it is most likely to be lost or won.

SCHEDULE OF ACCOMMODATION

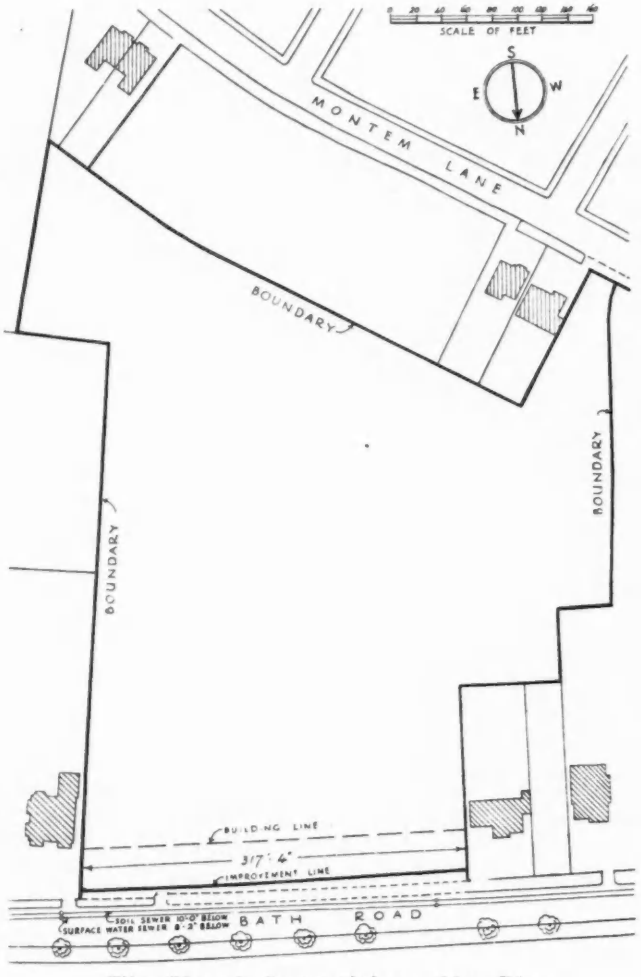
The various rooms required, with their requisite superficial areas, are, as already noted, very fully detailed. They do not present any abnormal or, so far as appears from a first analysis, specially awkward features. The requirements may be summarised as follows (the areas given are *net*, excluding all corridors):—

A. *Council Suite;* probably requiring about 4,000 sq. ft.; "suitably on the first floor." This includes a Council Chamber of 1,600 sq. ft. and Committee Rooms totalling 800 sq. ft. The complete furniture of the Council Chamber and acoustic treatment are to be included in the design and estimate of cost: a Public Gallery with separate access is required.

B. *Clerk's Department;* 1,700 sq. ft., "suitably near the Council Suite."

C. *Surveyor's Department;* 3,450 sq. ft.; no particular floor or position is indicated.

D. *Accountant's Department;* 2,050 sq. ft.; "desirable that this Department should be on the ground floor." Included is a Rates Office of 800 sq. ft. with public space and



The Slough Competition: Site Plan

"direct and easy access," preferably by a separate entrance.

E. *Public Health Department;* 1,000 sq. ft.; no particular floor or position is indicated.

The remaining accommodation comprises Strong Rooms and Stores totalling 800 sq. ft., Caretaker's Quarters of 650 sq. ft., adequate Staff Lavatories and Cleaners' Cupboards, a General Enquiry Office and Telephone Exchange "adjacent to the principal entrance," and heating, plant, etc., rooms as required.

DRAWINGS

The drawings required are plans of all floors (roof, foundation and drainage plans are *not* required) with four elevations and sufficient sections to explain the scheme, all to a scale of 16 feet to an inch, a block plan to 1/500 scale (which is the scale of the site plan supplied with the conditions) and a half-inch scale detail of part of the "front elevation." A concise report and estimate of cost must accompany the drawings.

It is very soundly provided that all drawings must be in black or pencil line without colour, other than conventional monochrome shadows, and must be of uniform size: the large size (40 by 27 inches) chosen keeps the number of sheets down to a maximum of four, and should save labour both for competitors and for the assessor. All plans must have wall thicknesses blacked in and must be drawn with the South at the top of the sheet (the redrawn site plan here reproduced has been adjusted to this arrangement). It is of very great importance that provisions of this kind should be made in all competitions: not only do they economize effort, but they make sure that designs shall come before the assessor's judgment as far as possible "on all fours" with each other, and be assessed *as designs* and not as exercises in elaborate or ingenious draughtsmanship. Competition in the presentation of schemes should be confined to the schools.

●

BRICK FIREPLACES

The Iffley Brick Co., in conjunction with the Building Centre, are holding a competition for designs of brick fireplaces.

Premiums of £25, £10 and £5 are offered for designs placed first, second and third respectively, and the Directors of the Building Centre are to act as assessors. The latest date for submission of designs is Monday, June 11.

Full particulars of the competition are obtainable from the Building Centre, 158 New Bond Street, W.1, or the Iffley Brick Co., 131 Gray's Inn Road, W.C.1.

Competitions Open

April 26.—The Borough of Bedford Education Committee invite architects willing to compete in a limited competition for a New Elementary School to be erected on the London Road Housing Estate, Bedford, to communicate their names to Mr. S. George, Education Secretary, 32 Bromham Road, Bedford, not later than noon on April 26.

Six architects will be chosen to submit designs; and Mr. J. R. Leathart, F.R.I.B.A., has been appointed assessor.

July 16.—Sending-in Day. Proposed Council School, Dudley. The competition is limited to architects having an office within 15 miles radius of Dudley. Assessor, H. T. Buckland, F.R.I.B.A. Premiums: £150, £100 and £50. The last day for application for conditions was April 23. Designs should be submitted to the Director of Education, Education Offices, St. James' Road, Dudley.

July 31.—Sending-in Day. Proposed Municipal Sanatorium and Children's Hospital Belfast. Competition limited to architects who have resided in Northern Ireland since March 1, 1933. Assessor: R. S. Wilshere, F.R.I.B.A. Premiums: 500, 200 and 100 guineas. Last day for questions: April 28. Designs should be submitted to the Town Clerk, City Hall, Belfast.

October 1.—Sending-in Day. Proposed Public Hall, Wolverhampton. Open to architects of British nationality, resident in the British Isles. Assessor: C. Cowles-Voysey, F.R.I.B.A. Premiums: £350, £250 and £150. Conditions, etc., obtainable from Mr. J. Brock Allen, Clerk, Town Hall, Wolverhampton. Deposit, One Guinea. The Deposit will be returned on the receipt of a *bona-fide* design or the return of the competitions and plan on or before August 31.

THIS ARSHETECTURE

Although this great nation has reverenced his memory so faithfully all this time, nothing had been done in England to commemorate Will Adams's exploits until, a few years ago, Major W. W. Grantham, K.C., started a subscription among those interested with a view to erecting a monument at his birthplace.

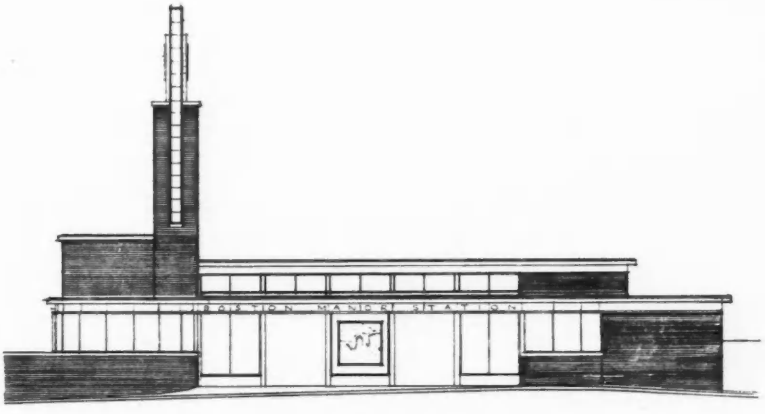
Subscriptions have been slow during recent years, and it was not until building developments on the outskirts of Gillingham began that they were enabled to take definite steps.

An electric sub-station was to be built on this new site, and following negotiations it was agreed that this should form the base of a clock tower. At about the same time a legacy was left to Gillingham for the purpose of building a horse trough, and by arrangement this has been embodied in the scheme.

Thus will there be a memorial erected to the original Bill Adams, which will serve a threefold purpose. An elegant clock tower, an electric substation, a drinking trough for horses, and last, but by no means least, a link of friendship with Japan.

FROM *The Daily Sketch.*

BOSTON MANOR UNDERGROUND STATION



ROAD ELEVATION

This is one of the smaller stations among those recently constructed for the L.P.T.B along the western extensions of the Piccadilly and District Lines.

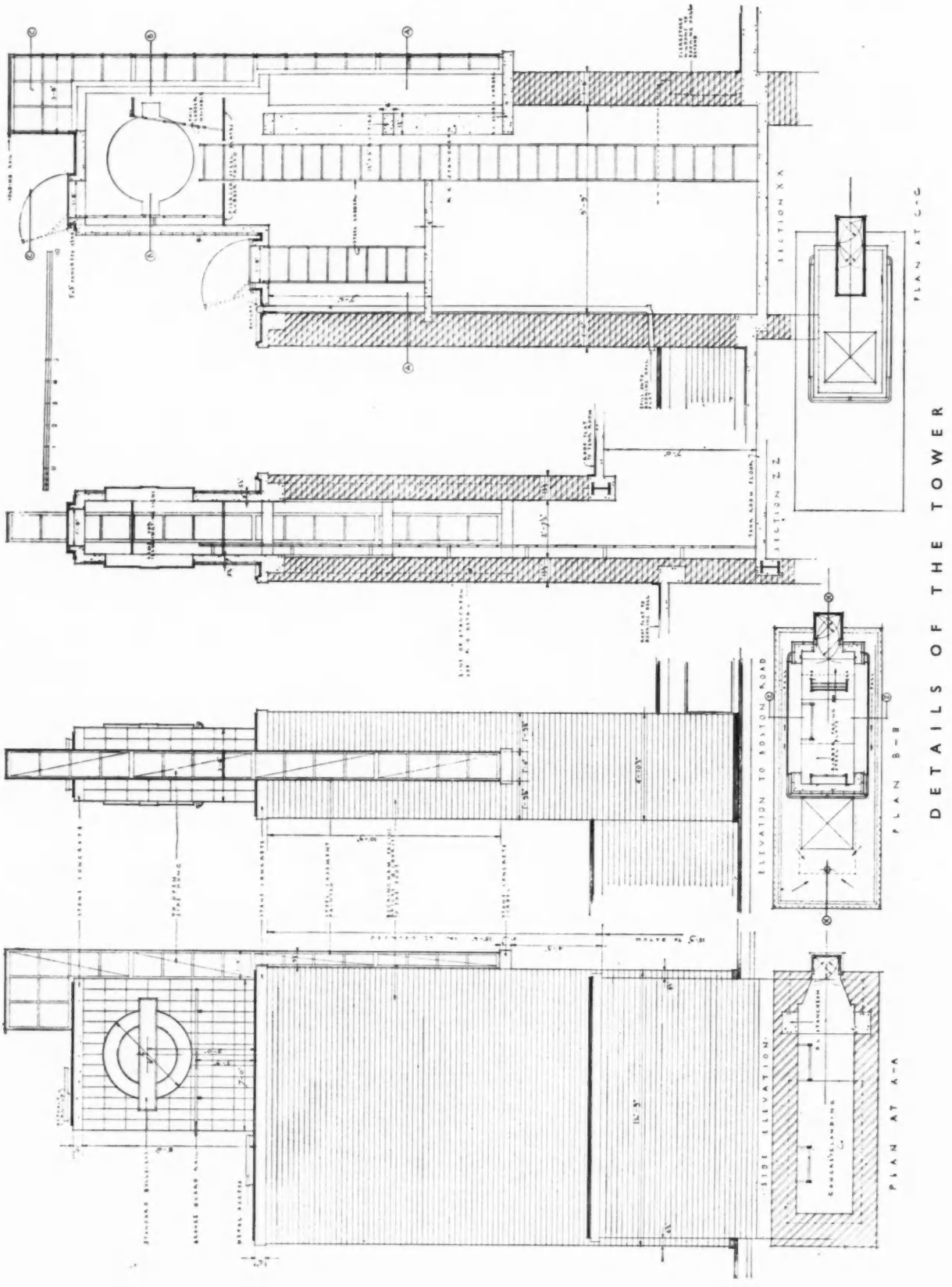
The booking hall and stationmaster's house of the old station were demolished to make room for two tracks giving access to the new car depot adjoining Northfields Station, and the Station has had to be rebuilt on a restricted site; though the level of the main entrance on the road bridge allows the building to be carried on girders over the running tracks.

The tower is carried up in brickwork, 18 feet 6 inches above the upper roof of the booking hall, and is finished with a tiled blocking carrying the bull's-eye signs, and faced with a glazed lighting column for additional publicity.

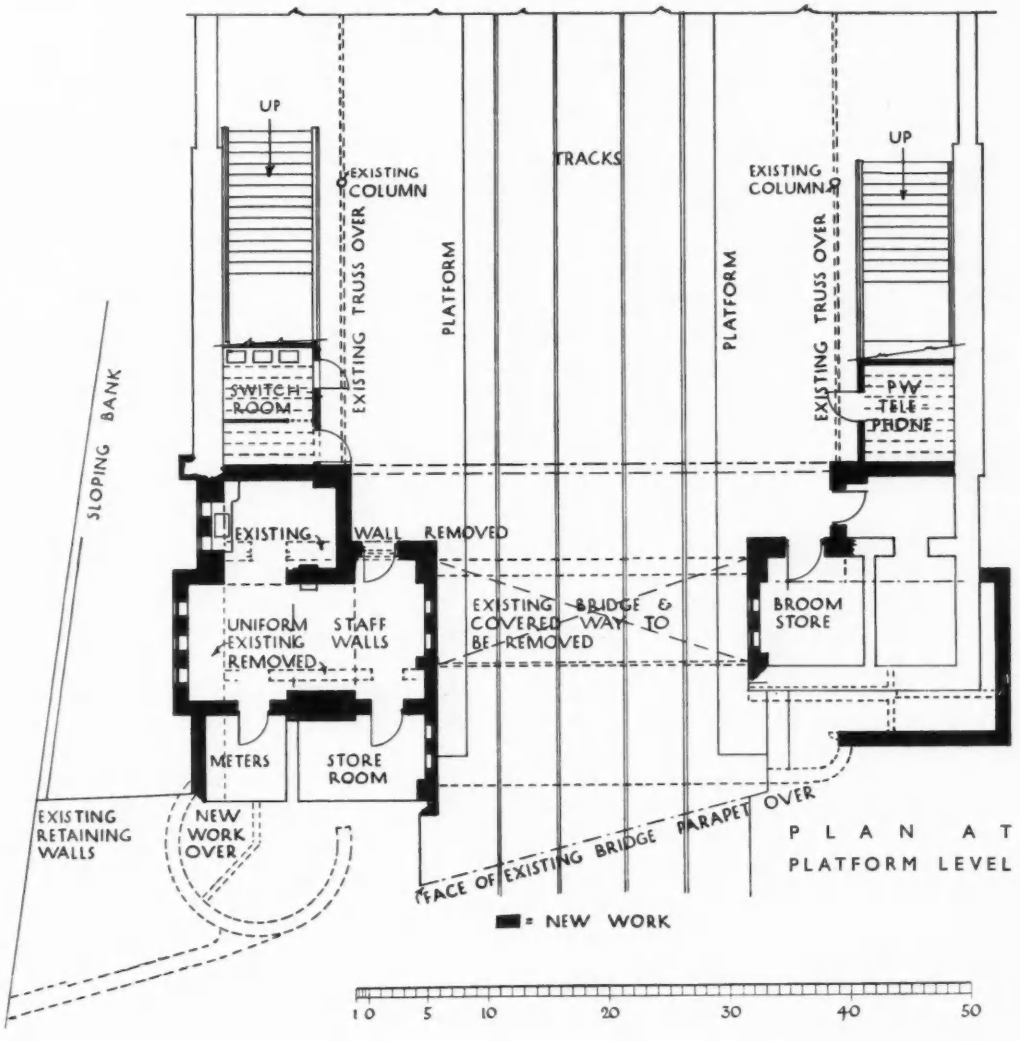
DESIGNED BY ADAMS, HOLDEN AND PEARSON

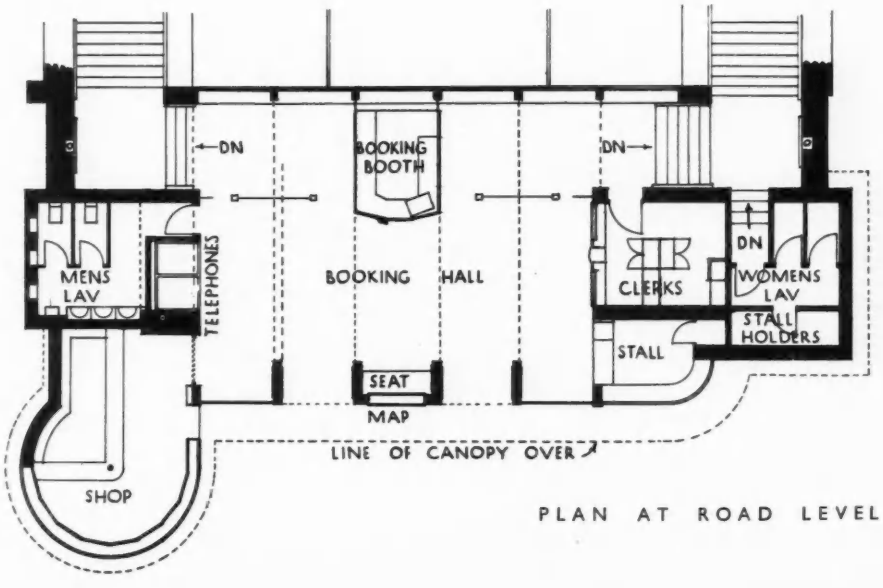
BOSTON MANOR UNDERGROUND STATION:

DETAILS OF THE TOWER

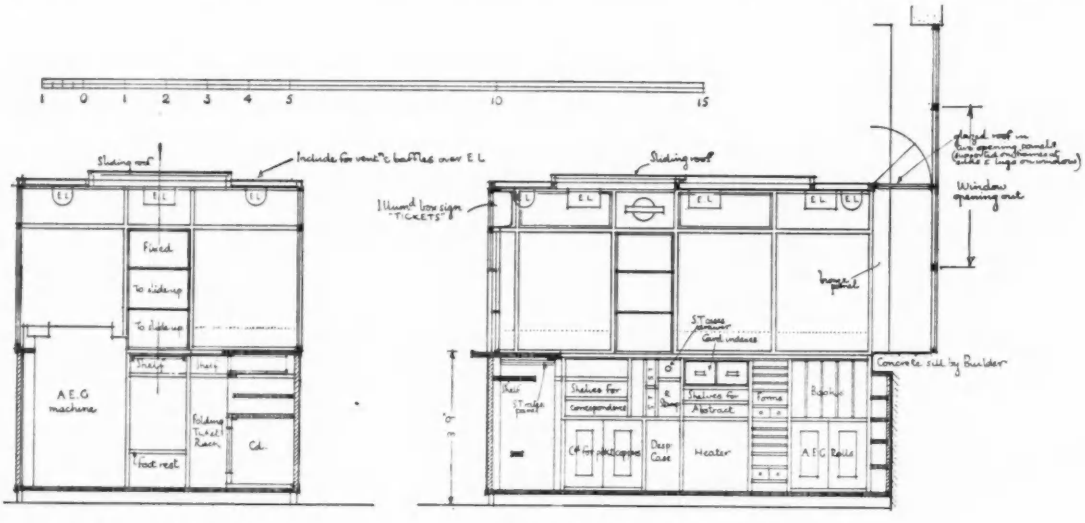


BY ADAMS, HOLDEN AND PEARSON



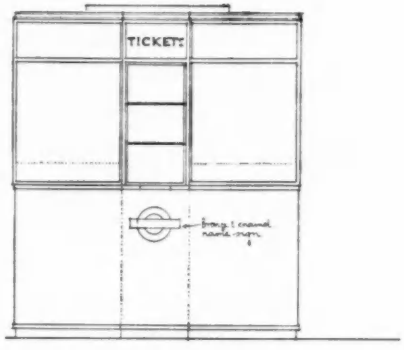


BOSTON MANOR STATION

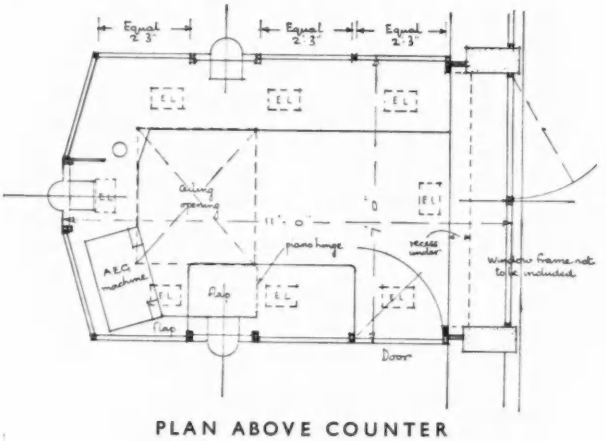


CROSS SECTION C-D

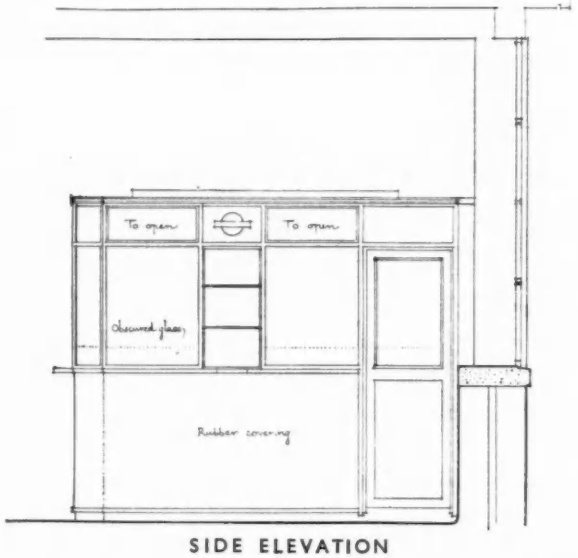
LONGITUDINAL SECTION A-B



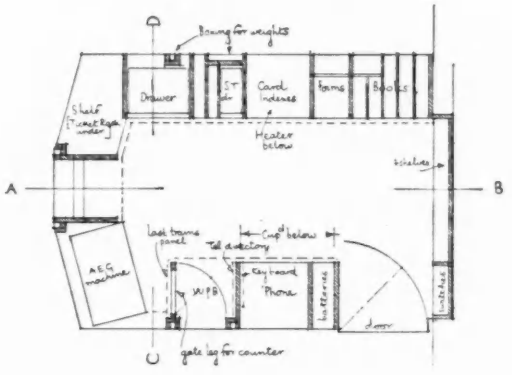
END ELEVATION



PLAN ABOVE COUNTER



SIDE ELEVATION



PLAN BELOW COUNTER

Plans, elevations and sections of the "passimeter" or ticket booth. It is placed centrally in the booking hall so that during non-rush hours it can be used both for issuing and collecting tickets.

DESIGNED BY ADAMS, HOLDEN AND PEARSON

LETTERS FROM READERS

HAROLD TOMLINSON, F.R.I.B.A.
K. A. H. BAYES, A.R.I.B.A.
J. E. DIXON-SPAIN, F.R.I.B.A.
JAMES BURFORD, A.R.I.B.A.
RAYMOND WALKER
W. G. C.

Engineers and Control of Elevations

SIR,—I have recently seen a document which deals with the official control of elevations. I feel sure that all your readers cannot be aware of its existence, and I ask you to bring it to their notice. It is a letter from the Secretary of the Institution of Municipal and County Engineers, and was circulated to Local Authorities at the end of last month. The letter runs as follows :—

To the Clerk of the Local Authority :
Control of Building Elevations

SIR,—I am directed by the Council of this Institution to refer to the report entitled "The Elevation and Siting of Buildings," prepared by a Joint Committee of the Royal Institute of British Architects, the Council for the Preservation of Rural England, the Institute of Builders and the Institution of Municipal and County Engineers.

It will be noted that the Report is signed by the Chairman as a majority report. The representatives of this Institution were in the minority, and my Council instruct me to lay before you the following reasons for their disagreement.

My Council are in full sympathy with the general object of the Joint Committee, viz., "to grapple with the danger to the amenities of Great Britain from unsightly building."

They feel that the adoption of an amenity clause is a matter of policy upon which they should not seek to influence local authorities, but where such a clause is introduced they are of opinion that it should be administered by the authority itself with the advice of its technical officers.

In the Ministry of Health Circular No. 1305, on the Town and Country Planning Act, it is stated that "taste is not a matter for dogmatism. The powers (to regulate the design and external appearance of buildings) should be used for preventing what may be reasonably regarded as 'outrages,' buildings out of keeping with their surroundings and an offence to the neighbourhood."

It is stated in the report that "there would appear to be some difficulty in attempting to control design on the basis of the personal taste of the official who is dealing with compliance with strictly definite bye-laws"; and that such official "would be likely to find himself from time to time in an embarrassing situation."

My Council see no difficulty in an official directing the attention of his authority to proposed elevations that seem to him to be undesirable. On the contrary, they believe that an embarrassing situation would be far more likely to arise in the case of a panel of architects being called upon to pass judgment on the work of someone engaged in the same profession as themselves.

This is supported by the fact that in many cases the work of architects and artists—some of considerable eminence—has been most severely criticized by their professional confreres and public opinion.

To be effective, the proposal involves the submission to the Advisory Committee of every plan of a building requiring the approval of the Town Planning Authority. My Council would point out that this would undoubtedly create much delay and hardship, and in the case of towns where large numbers of plans require consideration, the proposal would be found impracticable.

It is understood that the object is not only to control elevations, but to require that they should maintain the character of the street and amenities.

In many cases, therefore, the Advisory Committee could not properly decide upon an application without previously inspecting the site and its surroundings. This will obviously result in expense and delay, especially as at least the Architect Members of the Committee should be from outside the area concerned.

In addition, there is risk of considerable hardship to individuals by reason of the possibility that some Committees so constituted may take an extreme view of what is appropriate in the circumstances of a case, and require alterations in design which may seriously increase the cost, and in some instances even prevent the realization of a perfectly legitimate commercial, industrial or personal project.

I am directed to ask that your authority will give consideration to these views when dealing with the question of the control of building elevations, on which the Institution advise that local authorities should retain the right of decision, with appeal to a court of summary jurisdiction as provided under the Act, although as an Institution we consider it preferable that appeals should go to the Minister of Health.—I am, sir, Your obedient Servant,

C. W. SCOTT-GILES
(Secretary, the Institution of Municipal and County Engineers)

It will be noticed that the institution sees no difficulty in making the "official" solely responsible for the control of design ; the "official" obviously being, despite the cautious wording, a member of the Institution of Municipal and County Engineers. The engineer, in fact, for this is the real meaning of the letter, claims the right to be an arbitrator on matters of æsthetics on which he has had no training ; over the head of the architect whose training has been directed to exactly that end.

HAROLD TOMLINSON

Fascist Architecture

SIR,—May I comment on the replies published in your last issue of the JOURNAL from the British Union of Fascists on their attitude towards architecture ?

In general, their picture is a pretty one—the experience of the past with the spirit of the present is to create the power of the great artistic renaissance of the future. But what exactly does it all mean ? The letter from the Fascist architects is the more vague and verbose of the two. This is to be expected as, like all artists, they are deeply aware of the necessity of complete individual liberty in art, and therefore cannot with trueness to themselves contemplate beyond the mere theory of Fascist architecture.

The reply of the Deputy Director of Policy is a little more explicit, yet convinces one of the desirability of separating the directorship (if such is needed) of culture from that of politics ; the same brain cannot administer both. We are presented with two divergent statements : first, that in Fascist architecture, "the individual will express his personality," and secondly, that there will be a corporate architecture which will prevent the individual having "recourse to his own whim." It is difficult to reconcile this policy of individual liberty with the migration of modern German architects, including Erich Mendelsohn, to this and other countries, at the advent of the Hitler regime. With this in mind, we cannot calmly contemplate "the present wave of cultural regeneration which Fascism is bringing to Europe."

This confusion is intolerable. The fact is that whatever it is in theory, the application of Fascism to culture is stagnation, because its basis is the corporate state and not the individual. State control is necessary in economics, it may be necessary in politics, but it is completely disastrous to culture. The assurance of complete and unfettered liberty (economic and legal) of the individual to follow whatever whim he may desire, to develop whatever personality is potentially within him, is the only assistance that the State can give to national art. All the rest springs from within, and not from above. The exploitation and aggrandisement of individual liberty which at present exists will not be cured by imposition from above. It will only be suppressed. The cure lies in the

granting of true cultural freedom in a planned economic Britain. Only in this way will a new vital architecture arise, with freedom to expand and change.

KENNETH A. H. BAYES

Nourishment for Students

SIR,—May I invite attention to a gracious notice of the acquisition by the British Museum of Wilfred Owen's manuscript poems in *The Times* of April 16, by Edmund Blunden. It appeared to me also to put into exact language the only approach to a living modern architecture.

Edmund Blunden says: "It was Keats whom Owen throughout his youth reverenced and comprehended most of all his predecessors. The nature of this choice had nothing of servility or unoriginality in it. There was in Owen a sanguine, energetic delight in the world about him, a rich confidence in the powers of poetry and the other arts, a faculty of thinking out aspects of human life in terms of imagery and metrical music. . . . In him, as in Keats, there worked a striking curiosity about the possibilities of enlarged and refreshed poetic expression; both were reformists in this, and both equipped themselves for the difficult endeavour of new and vital English poetry by means of an exact intimacy with the best that its masters had already accomplished."

Substitute "architecture" for "poetry" and we have a picture of a refined and vital modern mind at work on a basis very different from the unlettered "bolshy" attack on the so-called "orders," which may be good journalese but is poor nourishment for students.

J. E. DIXON-SPAIN

R.I.B.A. and A.A.S.T.A.

SIR,—From time to time deplorable instances of under-payment of architectural assistants are brought to light. It is hard to say, in answer to these cases, that those who suffer in them are fools to accept employment at such prices. Many assistants, by reason of economic conditions, are not in a position to refuse or bargain over any offer which may be made to them. At the same time it is impossible to contest Mr. Maurice Webb's assertion that a standard minimum wage tends, almost invariably, to become a standard maximum wage. Great rewards for great abilities and less rewards for lesser abilities is a sounder principle to work on than a standardized wage, irrespective of abilities.

To my mind the way out of this difficulty will be found not through the compulsory regulation of wages—at best a palliative—but, going to the root of the matter, by raising this country to a state of economic and spiritual prosperity in which the employed will be in a position to demand payment fairly proportioned to what they give, and the employers in a position to pay equitably for what they receive.

JAMES BURFORD

SIR,—The attitude adopted by the A.A.S.T.A., whereby it has found it necessary to sever connection with the Royal Institute of British Architects, deserves the support of all architects, whether principal or assistant.

The history of the "Schools" is interesting; having been a student at two of them myself, I have some knowledge of their working and development. No doubt they were brought into being by motives of the highest altruism to provide for the academic training of architectural youth; but that they should so soon provide safe posts for architects who might find survival in the world of architecture outside rather difficult, can only be regretted. No doubt the R.I.B.A. now finds it wellnigh impossible to shift these pedagogues, who, starting life as the happy little tail waiving Pecksniffian training, are now quite strong enough to wag the dog.

But what is much more serious is that trusting parents, full of that doting pride in progeny that usually exists (until the youngsters are expected to earn their own keep), are bamboozled into sending their sons and daughters into an overcrowded profession where only the really strong have the hope of survival. A profession that can offer the great majority only genteel penury.

I have two suggestions to offer: the first is that the Registration Council is pressed to recognize only the passing of definite open examinations as a qualification for admission to the Register, and to refuse to recognize "school exemption" from such examinations. How many school principals have been guilty of the suggestion that it will be easier for the student to qualify if his parents will foot the school bill? How many school principals deprecate a system of serving articles, although that system at least limits the numbers entering the profession to the number of architects who own offices?

My second suggestion is an intensive campaign, not with the idea of getting the schoolmaster to co-operate in any scheme that will result in a reduction of their livelihood, but to warn British parenthood of the true circumstances of architecture as a means of livelihood in the twentieth century. After all, the R.I.B.A. can hardly be expected to specify a scale of remuneration for assistants, or the school trained man would be practically excluded from getting a job at all. At the present time more and more "fully qualified" young men and women fresh from the schools are trying to set up on their own account; this aspect of the case should surely be quite sufficient to enlist the sympathies of the established architect in the A.A.S.T.A. cause?

RAYMOND WALKER

SIR,—An important member of the R.I.B.A. Council was recently addressing our future architects. "It is not a bad question," he said, "to ask yourselves when you have completed a design, 'Does it look like the work of a gentleman?' and, shall we say, 'an English gentleman!'"

Following this, a group of practising architects, comprising the Council of the R.I.B.A., has now in effect said to these students, to the members of the A.A.S.T.A., and to all salaried architects: "As practising architects we insist on a minimum scale of professional charges, but we reject the idea that we should honour a similar arrangement between principals and assistants."

This seems to mean that the R.I.B.A. Council, whilst abhorring price cutting by practising architects, regards quite lightly a similar spectacle between salaried architects. Where then is the honour and dignity of a noble profession? Many students, Associates and Licentiates, will probably be asking themselves: "Does this look like the work of a gentleman? and, shall we say, an English gentleman."

W. G. C.

Sheffield Society's New President

At the annual meeting of the Sheffield, South Yorkshire and District Society of Architects, held last week, Mr. J. Mansell Jenkinson, F.R.I.B.A., was elected president.

A.A.S.T.A. Dinner

The annual dinner of the Association of Architects, Surveyors and Technical Assistants will be held at the Rembrandt Rooms, Brompton Road, S.W., on Saturday, May 12 (6.45 for 7 p.m.).

WORKING DETAILS : 41

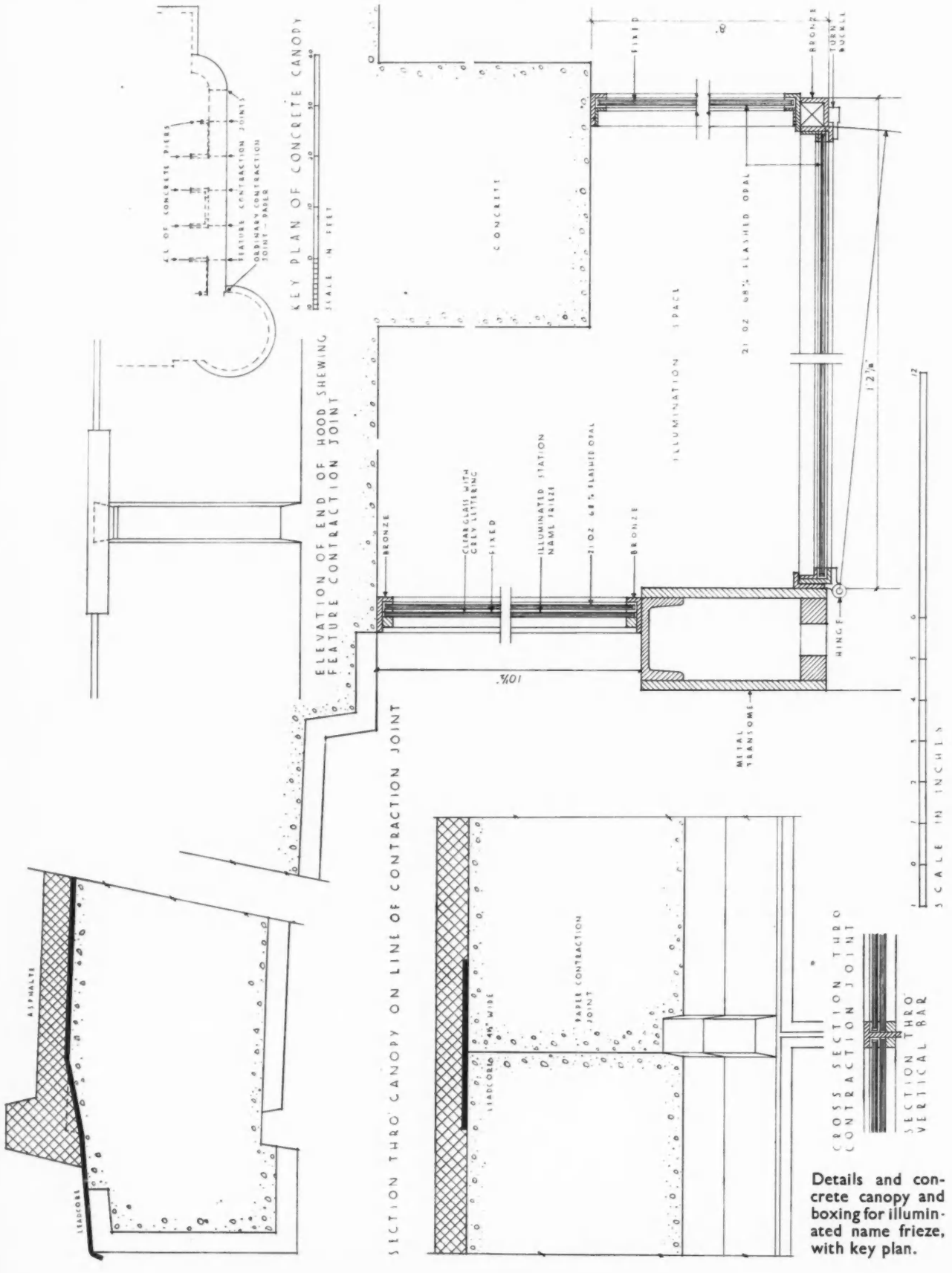
CONCRETE CANOPY • BOSTON MANOR STATION • ADAMS, HOLDEN AND PEARSON

This photograph is a view of the entrance front of the new Underground station at Boston Manor. It shows the concrete cornice and canopy over the entrance and the illuminated name-plate. Detailed drawings of these are given overleaf, with a key plan showing the occurrence of the contraction joints round the canopy.

FILING REFERENCE:

WORKING DETAILS : 42

CONCRETE CANOPY • BOSTON MANOR STATION • ADAMS, HOLDEN AND PEARSON

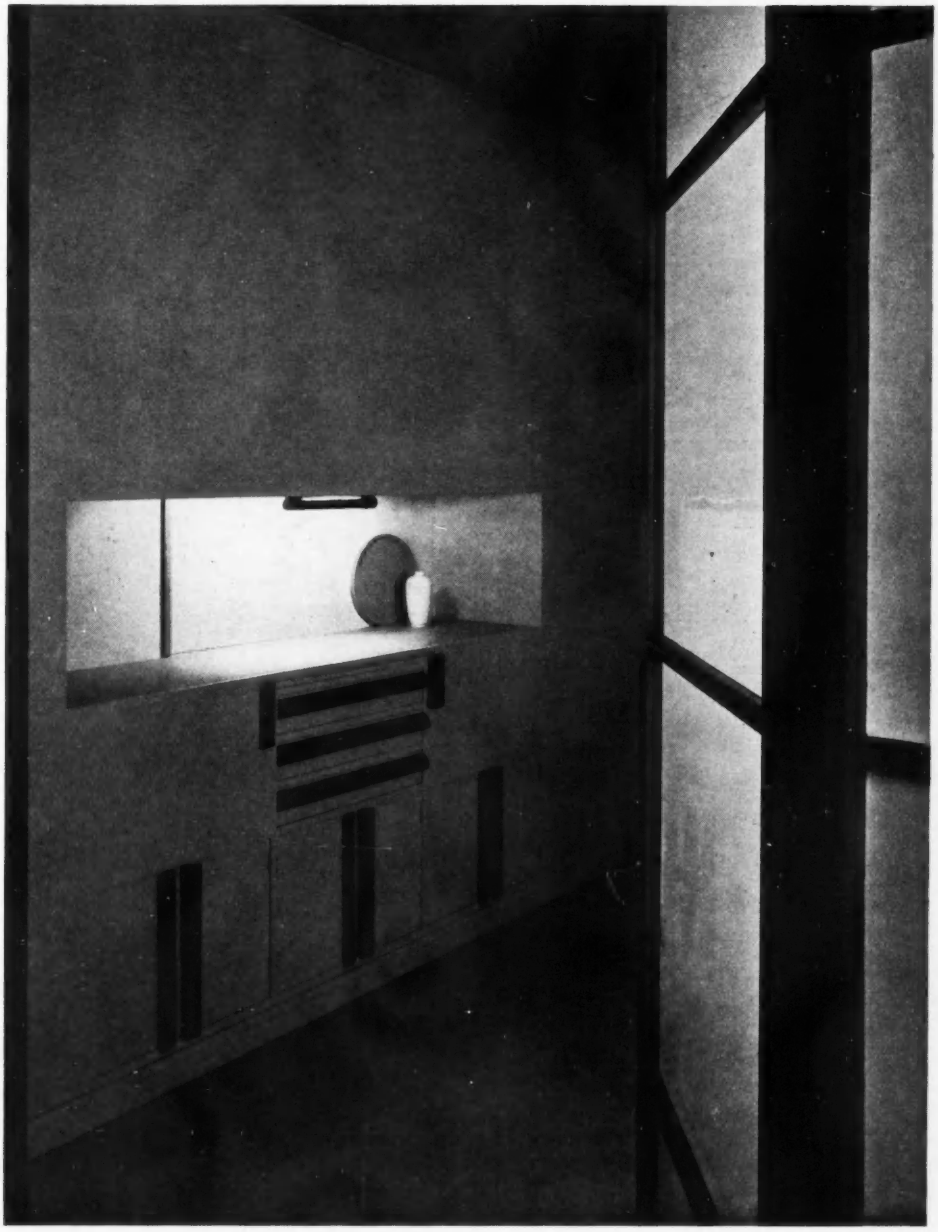


Details and concrete canopy and boxing for illuminated name frieze, with key plan.

FILING REFERENCE:

WORKING DETAILS : 43

BUILT-IN FURNITURE • HOUSE AT RUGBY • SERGE CHERMAYEFF

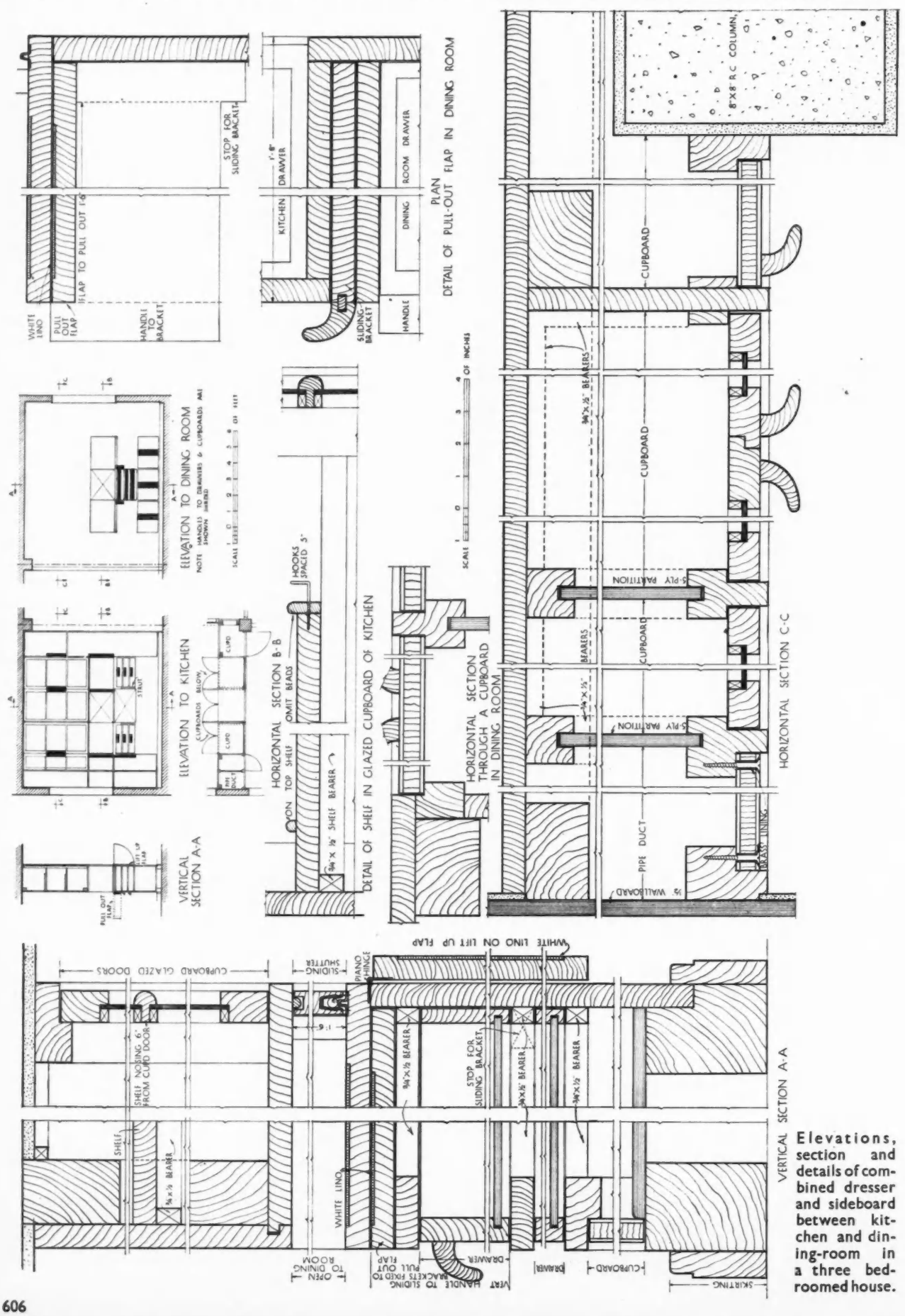


In this house the partition between the dining room and the kitchen is formed by the fitting illustrated here, containing a service hatch and serving as a dresser on the kitchen side and as a sideboard on the dining-room side. The dining-room side is shown in the above photograph with the hatch closed, and details are overleaf.

FILING REFERENCE:

WORKING DETAILS : 44

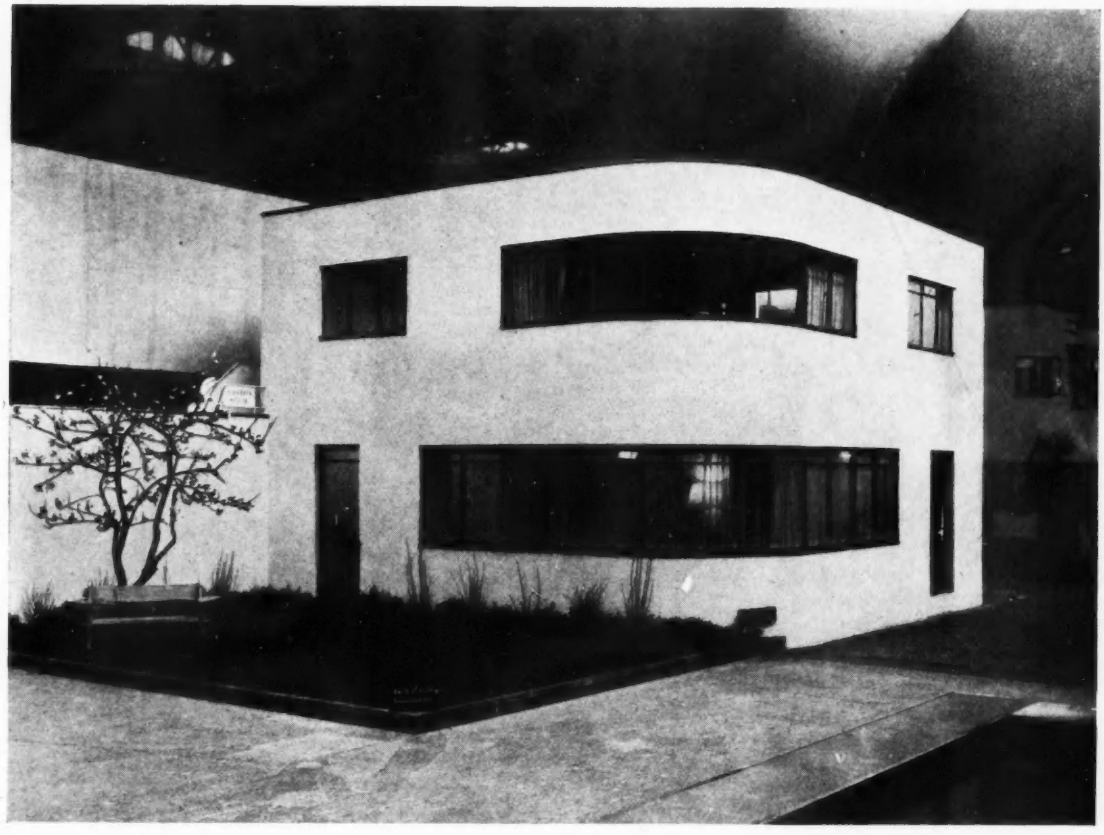
BUILT-IN FURNITURE • HOUSE AT RUGBY • SERGE CHERMAYEFF



Elevations, section and details of combined dresser and sideboard between kitchen and dining-room in a three bedroomed house.

SUNSPAN HOUSE, OLYMPIA

DESIGNED BY WELLS COATES AND PLEYDELL-BOUVERIE



The "Sunspan" house, now on exhibition at Olympia, is perhaps the first serious English contribution to domestic plan-forms since that famous discovery of the "free, open planning" of the English country house took the Continent by storm at the beginning of the century. As such it may well prove to be epoch-making; and the fact that several European countries have already applied for licences to build these houses is significant as a measure of its potential importance.

It is both fortunate and unfortunate that a "Sunspan" house should occupy an Olympia garden-suburb plot among the assorted modernesque reveneerings of olde-worlde villas called "The Village of the Future." Fortunate for architecture as proof that an enterprising firm of speculative builders has established something of a precedent by adopting this notable design (a triangle of "Sunspans" is already rising on a building estate at Ditton Hill); unfortunate for the architects in so far as the purblind and the reactionaries may be led to imagine it to be much of a muchness with the eight ideally-homely Miss 1934's round it. Yet, if only because it offers the solitary example of a house furnished and equipped throughout to the architects' designs, it is the only one likely to arrest any intelligent person's attention.

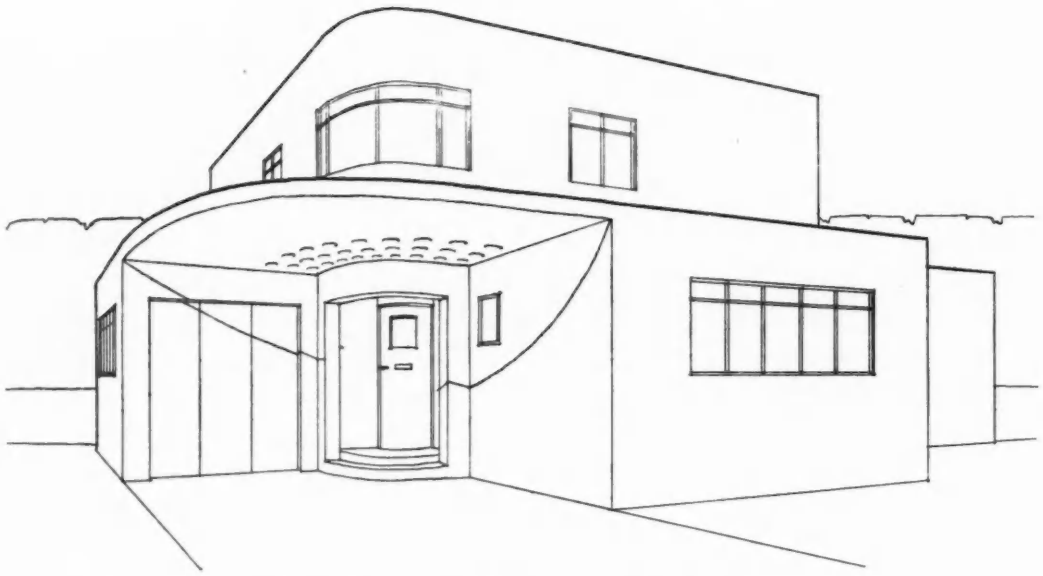
The plan is completely flexible, enabling the shapes of rooms to be varied by taking space from some of them and adding it to others. It is therefore equally adaptable for several different kinds and sizes of house: seaside or riverside bungalows, suburban villas, small country houses, etc.

The basis of the plan is a plain square (which is cheaper to build than a circular form, and compacter as well as cheaper than an L-shaped one) tilted round so as to orientate its corners to the points of the compass. In interior disposition it might be called a Y plan; though in the larger types of "Sunspan" houses spoke-like projections in rear to the north-east and north-west expand it into a letter X. Instead of a "south front" there are south-east and south-west walls, which meet in the triangular living-room fireplace, extended as high screens to ensure privacy well out into the garden (where in normal estate development they meet the corresponding screen walls of the houses on each side at right angles). Between these walls is placed the living-room with the best bedroom above it.

Both living room and bedroom have a continuous sliding window which rounds off the point of the southern apex. Thus even where the nature of the site might prevent an accurate southern orientation, these rooms would still cover an almost complete east to west segment into and across which sunlight would pour from a moving angle throughout the day. No room faces due north; and only the kitchen, bathroom and maid's room have north-east or north west aspects.

The photograph on this page shows the exhibition house as erected at Olympia. The garden side is illustrated—that which on the site would be the south-west. The screen wall on the far side of the house has been omitted in the exhibition.

SUNSPAN HOUSE, OLYMPIA;



The north-west side with the garage and house entrance.

The curved front door at the northern apex touching the road lies under a wide canopy that unites the roofs of the kitchen wing and the garage (which has a concrete run-out at the back for washing down). The hall is warmed by a radiator off the hot water boiler, and has its left wall covered by built-in cupboards. On the right is the servery (through which, and the dining-room immediately beyond it, the living-room is reached), with a combined lavatory and w.c. on the near side. Left of the servery is the chamber for the hot-water boiler, isolated in the middle of the house, from the kitchen and living-rooms alike. Opposite it is the fitted kitchen, with a larder beyond tucked into a corner at the back of the lavatory. The built-in cupboards of the kitchen, larder, and servery have a specially designed and very simple type of handle which is made of a thin bar of solid steel, lacquered with a durable non-flaking synthetic resin baked enamel, threaded to the doors by double bolts; and is just sufficiently looped to prevent the hand touching the painted woodwork while grasping it.

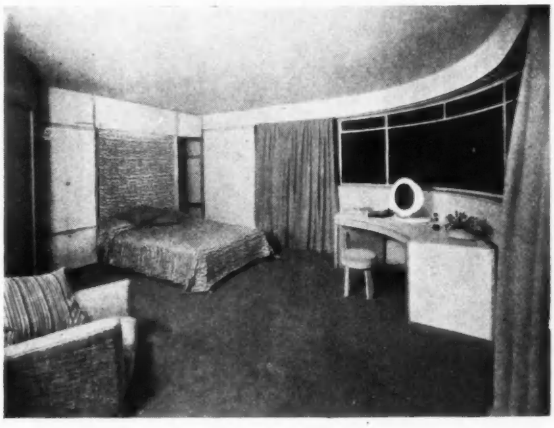
The dining-room and study are identically-sized ante-rooms to the living-room, placed one on either side of it. Sliding plywood partitions enable these three rooms to be thrown into a single fan-shaped apartment measuring 38 ft. across. The brick fireplace in the Olympia house will be replaced in all the first houses to be built by a precast concrete block slabbed in tiling or faced with polished stone or metal. Apart from this fireplace and the radiator in the hall, the house is heated by electric fires throughout.

The dining-room has a sliding hatch to the servery; and a built-in sideboard and leaf-table veneered with figured cedar. Like the dining-room, the study has a glazed door into the garden; and also a flush-panel door communicating with the hall.

Upstairs the rooms are grouped round a small semi-circular landing. The best bedroom coincides in area with the living-room; and the second and third bedrooms with the study and dining-room. The former has fitted wardrobes on either wall placed back to back against similar cupboards in bedrooms 2 and 3. (At Olympia bedroom 2 is furnished as a nursery with two built-in bunk-beds arranged one on top of the other.) A separate w.c., a shower cubicle, and a tiled bathroom are arranged in a row beyond bedroom 2. The last has a built-in bath, lavatory-basin, and medicine-cupboard; and a hot-towel rail (for which a massive chromed-steel hardware fixture of standard pattern had to be used in the house at Olympia because the architects' own model could not be delivered in time).

Left: the kitchen, showing the large range of built-in cupboards and the door of the larder. The Aga cooker is included in the price of the house, which, in the case of the type exhibited, is £1,495.

BY WELLS COATES AND PLEYDELL-BOUVERIE



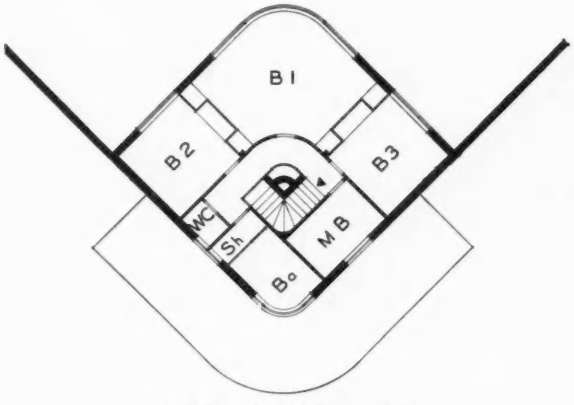
The illustrations on this page show the exhibition house as erected and furnished at Olympia. The photographs show : top, the living-room with the long south window and the sliding door leading to the dining room ; and bottom, bedroom number one, over the living-room.

The plans and designs of "Sunspan" houses are the copyright of the architects.

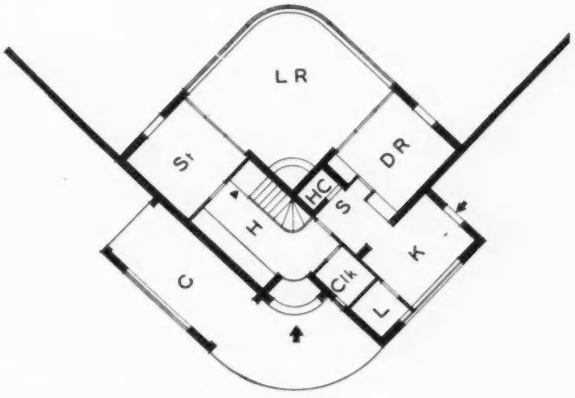
Key to the accommodation.

First Floor.
B —Bedroom
MB —Maid's Bedroom
Ba —Bathroom
Sh —Shower Room

Ground Floor.
G —Garage.
H —Hall
Clk —Cloakroom
S —Servery
K —Kitchen
L —Larder
LR —Reception Room
DR —Dining Room
St —Study
HC —Heating Chamber

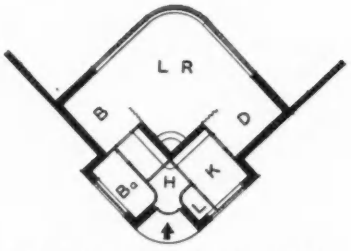


FIRST FLOOR PLAN

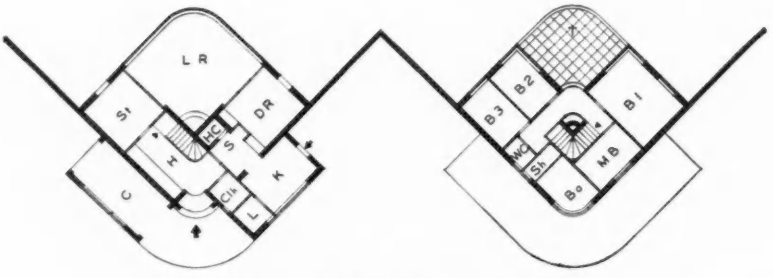


GROUND FLOOR PLAN

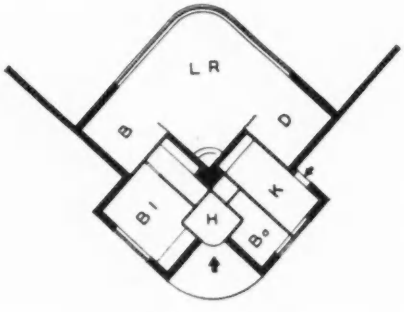
SUNSPAN HOUSE : VARIANT PLANS



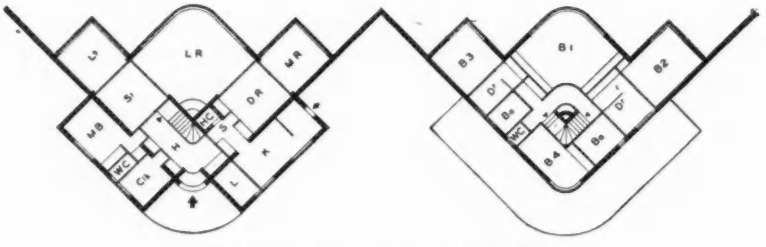
WEEK-END COTTAGE



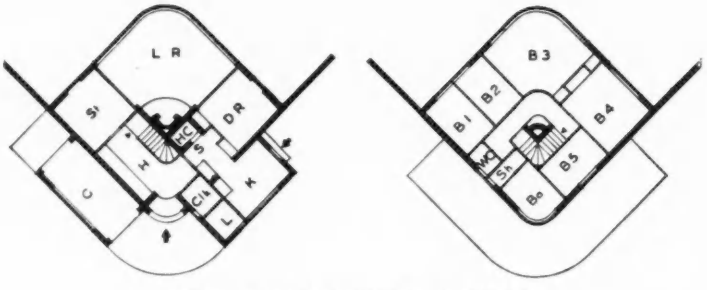
THREE-BEDROOMED HOUSE



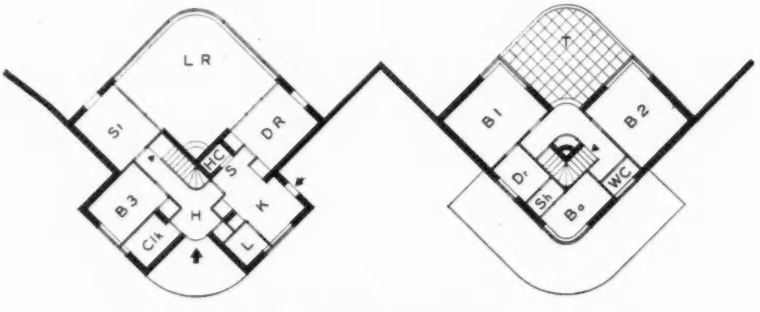
COTTAGE



FOUR-BEDROOMED HOUSE



FIVE-BEDROOMED HOUSE



LARGE FIVE-BEDROOMED HOUSE

The plans on this page show the variant types of the "Sunspan" house, one type of which is exhibited at Olympia and illustrated on the preceding pages.

The simplest form which the house takes is a one-storied week-end cottage (cost: £450), which differs from the ground floor of the house shown at Olympia only in substituting a sleeping corner for the study, and a bathroom for the garage.

The three-bedroomed house (cost: £1,195) has an extra bedroom and cloakroom in the position of the garage, and a paved sun terrace instead of the best bedroom; while the upstairs lavatory is transposed to provide a dressing-room for bedroom No. 1.

The four-bedroomed model (cost: £1,450) differs from the house shown at Olympia only in having a sun terrace instead of the best bedroom; while the room that was bedroom No. 2 is now divided into two smaller bedrooms of equal sizes.

The five-bedroomed house (cost: £1,650), which presupposes a structurally separate garage, has two extra rooms protruded beyond the study and dining-room. In other respects its ground floor resembles the three-bedroomed house (having a maid's bedroom and a lavatory instead of an extra bedroom). The upper floor is rearranged so that bedrooms 2 and 3 coincide with the additional ground floor rooms in order to provide a dressing-room and bathroom for each; while a fourth bedroom occupies the original position of the bathroom.

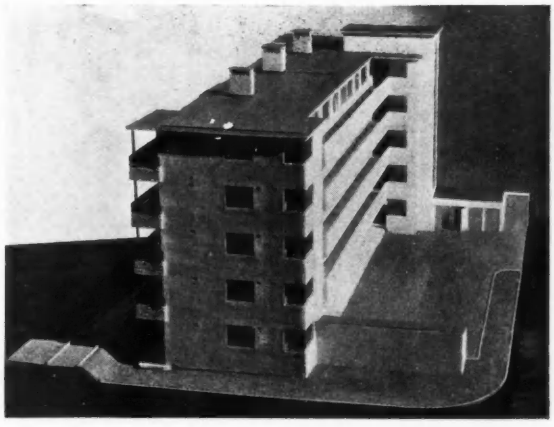
Two of these types presuppose structurally separate garages. The first of the four shown in plan is obviously too small to have one; but one of its exterior walls can be fitted with a rolling waterproof awning that forms a sort of tent to cover a car over at night.

The plans and designs of "Sunspan" houses are the copyright of the architects.

BY WELLS COATES AND PLEYDELL-BOUVERIE

HOUSING SUPPLEMENT : 2

A fortnight ago we announced our intention of publishing a series of HOUSING SUPPLEMENTS *from time to time in the* JOURNAL, *and introduced them with a comparative survey of post-war low-cost housing achievements in six European countries. In this, the second of the series, a more detailed aspect of the subject has been chosen; this* SUPPLEMENT *presents a description and an analysis of the cost of an actual housing block, planned on an economic "unit" basis, now under construction in London: the Sassoon House Flats at Peckham, designed by Adams, Thompson and Fry. The next part of our programme is a special issue of the* JOURNAL *devoted to* HOUSING, *which will be published on May 17.*



R. E. SASSOON HOUSE

WORKING-CLASS FLATS AT PECKHAM

DESIGNED BY ADAMS, THOMPSON AND FRY

ANALYSIS OF COST

INTRODUCTION

SLUM clearance presents us with two vital but opposing problems: how to increase the standard of accommodation and at the same time lower costs. On the costs factor depends the rents to be charged, and we now recognize that high rented flats for poor people do nearly as much harm as good, and lead toward starvation. On the other hand, to build flats of poor and unworkable accommodation is retrograde and should be repugnant to people entrusted with the welfare of others.

The scheme that is described here is a sincere attempt to bring these opposing forces to rest in a new type of dwelling from which has been excluded everything extraneous to the solution of the two problems, with results at once logical and, viewed by the normal architectural eye, unexpected.

Briefly, the system of which this block is the first experiment, is a development of methods long since adopted by industry to produce articles of standard use cheaply. The planning of the flats is a matter of rigorous standardization, a working unit being thought out in great detail, and then repeated throughout the building. This repetition involves a similar standardization in every other part: nothing is left to chance; everything is fixed at the beginning and adhered to throughout.

The use of reinforced concrete has permitted many simplifications, such as the omission of intricate brick flues and window lintols, continuous foundations, etc., and as the elevations show, a larger and simpler unit of scale replaces the elaborate hand-worked elements of normal building. All this is of the greatest interest because it undoubtedly indicates the path which this type of building is bound to take in the course of the great programme that lies ahead.

The problem of accommodation is met, first, in the standard unit, which though small, is quite definitely a *working* unit, the removal of the bath from the kitchen being the first move towards a rational planning of equipment for use rather than expediency; and secondly, by the provision of a balcony planned in conjunction with a large and well-lit living room. The first requirement of a flat is that it should be livable in for grown-ups and children. For the baby some form of balcony is an essential, since no woman can possibly leave a baby far from her work, and the health of a child bred indoors is very seriously jeopardized in the first two years of life. But the larger form of balcony in offering a release from the shut-in feeling of a small flat, probably goes as far as anything can to remove the predudice against flat dwelling.

All this seems to show that in the attempts to lower the rents of working-class flats we are not, and must not allow ourselves to be stampeded into lowering the level of accommodation: that, rather, by adopting cheaper *methods* of building we should set aside from the resultant economies sufficient to pay for better equipment and healthier and more commodious planning than was possible in the past.

ANALYSIS OF COST

1. *Date of contract:* March 7, 1934
2. *Inclusive cost of building:*

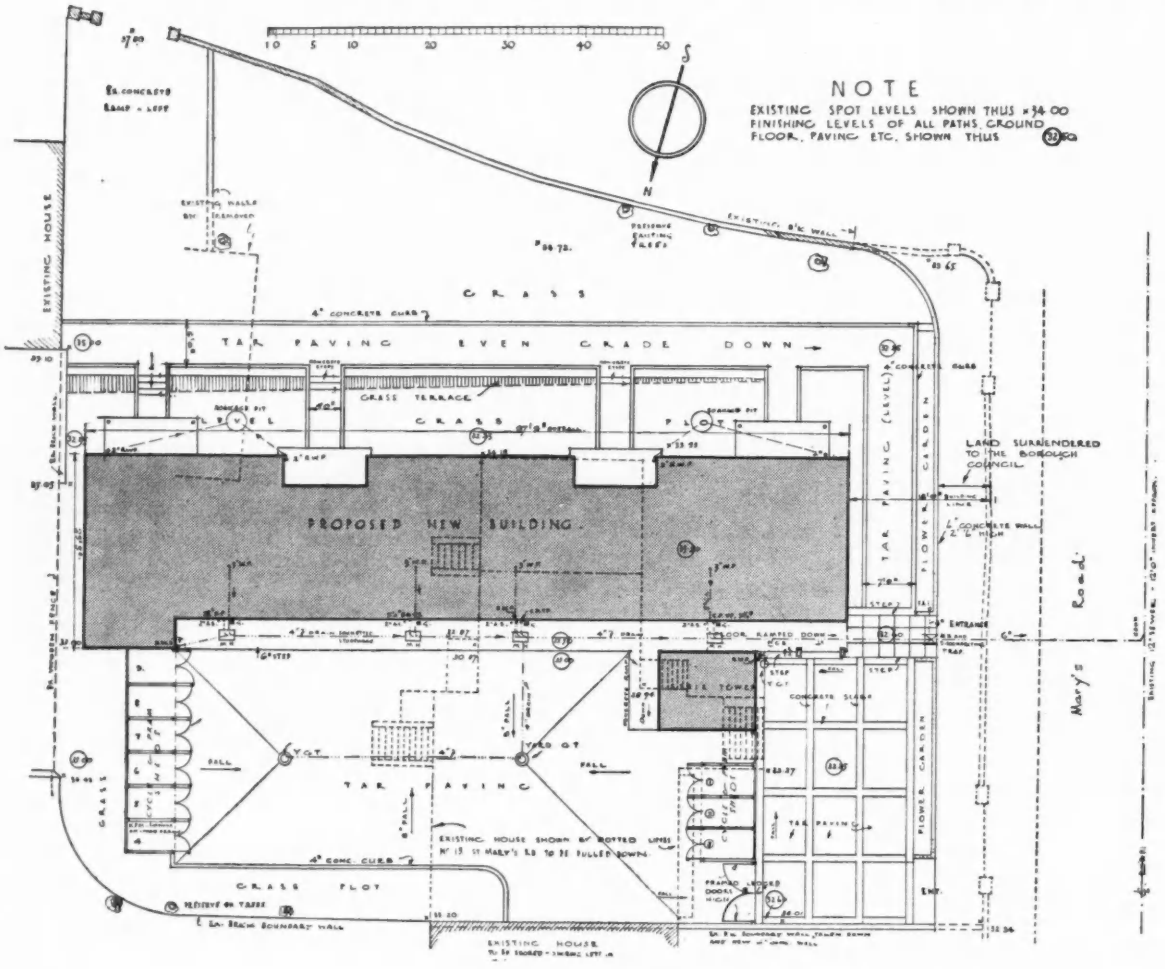
(*a*) Total cost of scheme, including contingencies, site works and fees. £7,850

(*b*) Net cost of building arrived at by deducting site works, and a proportion of outside charges, etc., but retaining £150 contingencies, and architects' fees. £7,255

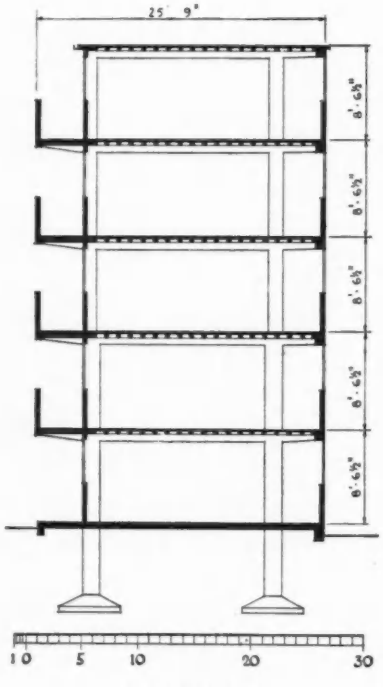
or £362 per average flat (2 and 3 bedrooms).

3. *Site clearance and lay-out costs:* £595, or 7·57 per cent. of total.

These costs include the demolition of



BLOCK PLAN



SECTION

an existing house and filling in of basement and felling of existing trees on building site. They also include a percentage of architects' fees and other charges.

4. *Net area of site including boundary walls and exclusive of land given up to council:* 11,160 sq. ft.

5. *Area of site built over:* 2,890 sq. ft.
Percentage built over:
25 per cent. approx.

6. *Number of flats of each size:*
Type A: 9 flats of 3 bedrooms.
Type B: 10 flats of 2 bedrooms (normal).
Type B1: 1 flat of 2 bedrooms (large).

7. *Floor areas.* (*See also table below.*)
Total floor areas:
Type A: 542 sq. ft. + 50 sq. ft. for balcony.
Type B: 440 sq. ft. + 47 sq. ft. for balcony.
Type B1: 501 sq. ft. + 50 sq. ft. for balcony.

8. *Number of storeys to the block:* 5

9. *Cost per cubic foot:*
Cube arrived at by taking main building and stair tower from mid-way between footings and ground floor and 2 ft. above roof. For projecting balconies net height and two-thirds of projection taken.
Total cube, 125,470 ft. cube
(*a*) Total cost of scheme with contingencies and fees
1s. 2½d. per ft. cube
(*b*) Net cost of flats as in (2)
1s. 0½d. per ft. cube

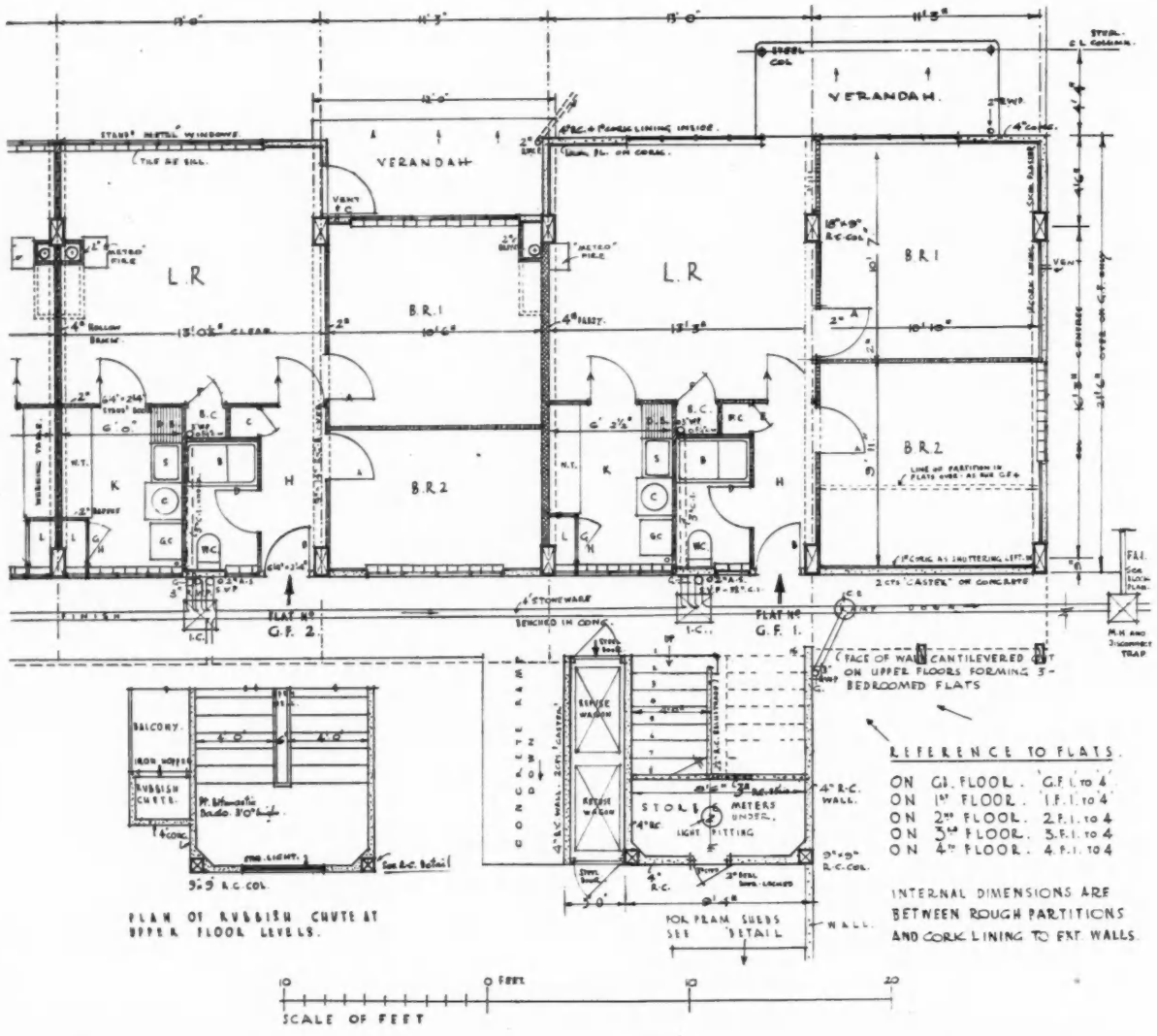
10. *Cost per square foot:*
Based on total floor areas of each flat (net internal dimensions), including staircases and balconies.
Total floor areas, 12,700 sq. ft.
(*a*) Total cost of scheme, as above
12s. per sq. ft.
(*b*) Net cost of flats, as above
10s. 4¾d. per sq. ft.

	Living Room.	Bedroom 1.	Bedroom 2.	Bedroom 3.	Working Unit.	Balcony.
Type A	13′ 3″ × 12′ 7″ 167 sq. ft.	10′ 10″ × 10′ 6″ 114 sq. ft.	10′ 10″ × 7′ 5″ 80 sq. ft.	10′ 10″ × 6′ 2″ 67 sq. ft.	See below	11′ 4″ × 4′ 5″ 50 sq. ft. 10′ 6″ × 4′ 7″ 47 sq. ft.
Type B	13′ 0″ × 12′ 7″ 159 sq. ft.	10′ 6″ × 10′ 0″ 105 sq. ft.	10′ 6″ × 6′ 9″ 73 sq. ft.			
Type B1	13′ 3″ × 12′ 7″ 167 sq. ft.	10′ 10″ × 10′ 7″ 115 sq. ft.	10′ 10″ × 9′ 11″ 107 sq. ft.			11′ 4″ × 4′ 5″ 50 sq. ft.

The working unit, which is standard for all flats, is made up of
(*a*) Kitchen and larder .. .. 7′ 11″ × 6′ 3″ = 49 sq. t.
(*b*) Bath and w.c. .. .. 6′ 4″ × 3′ 7″ = 23 sq. ft.
(*c*) Hall .. .. 7′ 11″ × 3′ 2″ = 25 sq. ft.

A photograph of the model, showing the south side, with the living room windows and the verandahs off the living rooms.

The north side, showing the staircase and refuse-chute tower, and the access balconies.



Plan of one half of the complete block, the other half being exactly similar. Plans are also given of the tower containing the staircase, at flat level showing the rubbish chute; and at ground level, showing the wagons holding the rubbish bins. When the two bins on the wagon under the hopper are full, it is removed and its place taken by the second wagon.

11. *Cost per sq. ft. of actual flat space, excluding balconies and stairs:*

(*a*) Total cost of scheme, as above 14s. per sq. ft.

(*b*) Net cost of flats, as above 12s. 2½d. per sq. ft.

12. *Weekly rents, net and gross:*

Rentals of 10s. per week inclusive are aimed at, but such rental is in this case not entirely dependent on total costs of land and building, as the site is acquired at advantageous terms.

13. *Financial statement of estimated revenue and expenditure:*

Not yet completed.

14. *Special features incorporated in scheme, with additional costs for same:*

(*a*) Each flat is provided with what might be called a "family balcony" to differentiate it from the mere approach gallery. This balcony is about 11 ft. by 4 ft. 6 in., large enough to take children at play, to be set for a family meal, or to take a couple of small beds for sleeping out in summer. The door between it and the living room is glazed so as to allow the mother to keep an eye on her children as she goes about her work between the kitchen and living room.

The balcony is bounded outwards by a built-in flower box 18 in. deep and 9 in. wide inside, draining on to the balcony floor. These dimensions allow plants to grow freely. A low tube and wire railing surmounts the outer edge, acting as protection and a climbing fence for flowers. This arrangement prevents floor draughts but does not impede the view, and gives a feeling of release from the shut-in feeling which is one of the least desirable elements of flat dwelling.

It is difficult to arrive at accurate costs for these balconies, and in any case it is not desirable to show them as additional to the main fabric as they should be regarded as essential to the maintenance of proper standards.

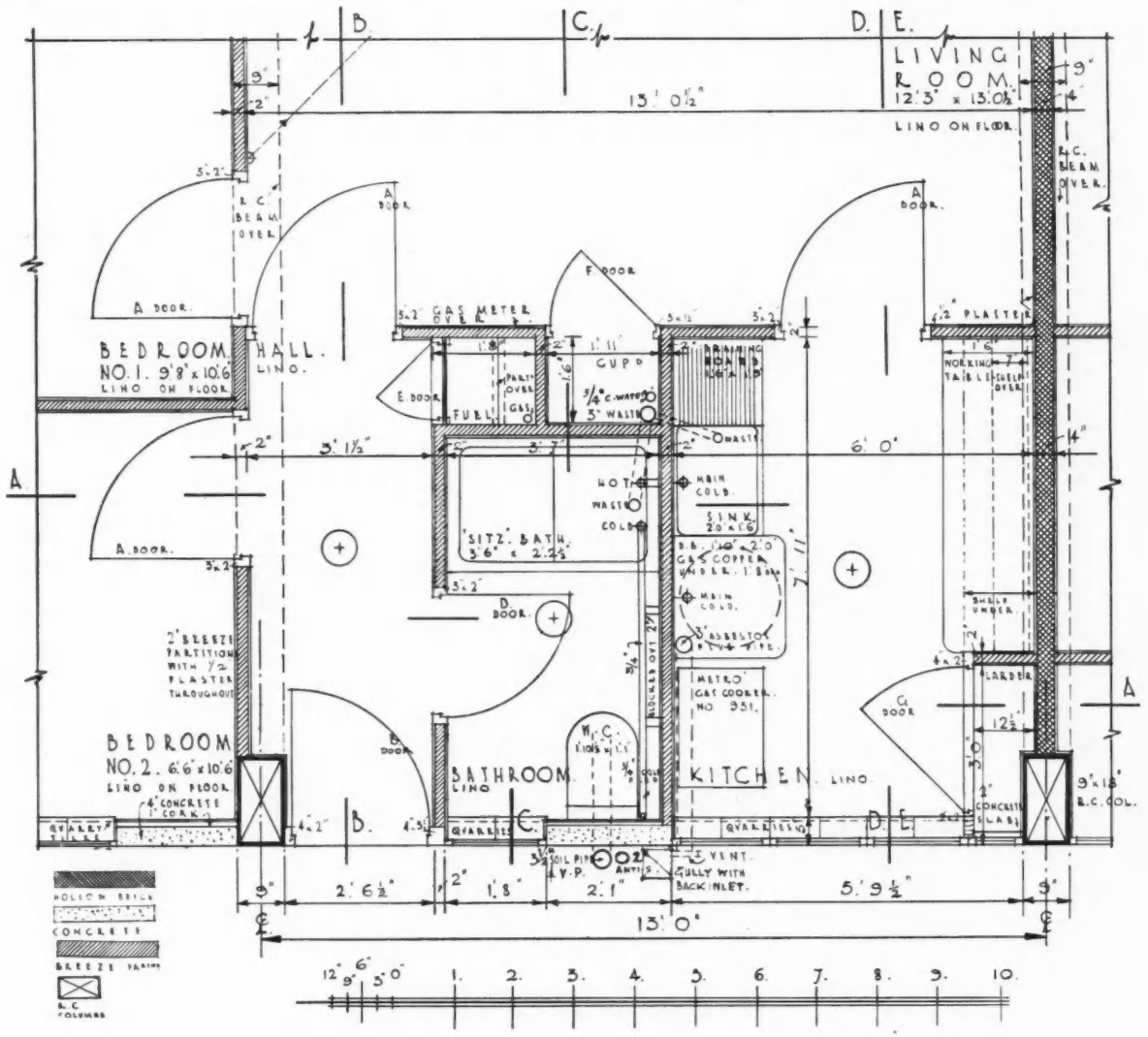
(*b*) The normal coal cooking range has been abolished. Cooking is done by gas, and in the living room is a slow-burning coke stove, with oven above, incorporated in a newly designed fitting in coloured enamels. This stove stands free from the wall and has straight runs of asbestos-cement flue pipe cased in from floor to floor.

15. *General remarks on materials used, equipment installed and planning.*

This block was to a great extent an experiment in a highly standardized type of planning, using reinforced concrete as the structural material.

The very simple concrete structure consists of a row of frames in which the beams cantilever over a centre span of 16 ft. The structure is completed by floors spanning uniformly between the frames. Walls in 4 in. of reinforced concrete with 1 in. permanent internal shuttering of cork take no part in the support of the building generally, and allow the utmost freedom in the disposition of standard metal windows.

On plan the working parts of the flat are concentrated within one half which is repeated without alteration throughout. This should allow for the working out of special equipment designed to save space and ease work, but in a small block this has not been possible to a very great extent. The standard-



izing of plumbing and carcasing avoids all cutting away, and by simplifying work and removing uncertainty lowers costs.

In this working unit the bath has been separated out from the kitchen and placed with a w.c. in a separate room. In a further block now in hand w.c. and bathroom are separated again ; the need for low rentals in a small block prevented its adoption here. The bath is of the " Sitz " type.

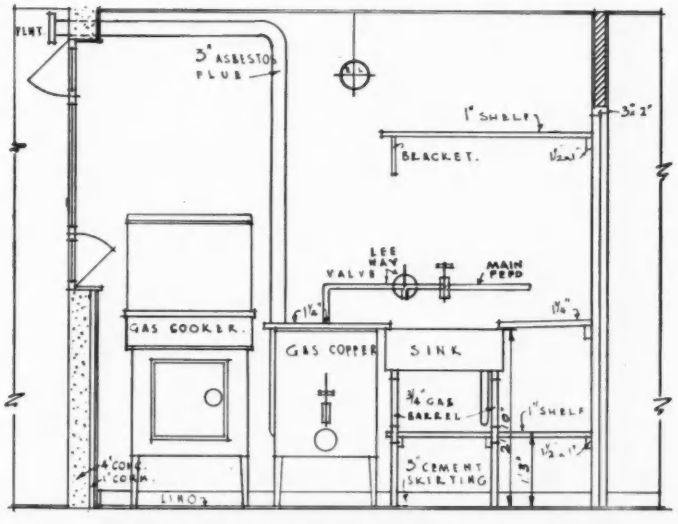
The kitchen, though small, is planned with all working equipment on the side receiving left-hand light, with table space and larder on the other side. It is too small for family meals, but ample for normal working, being well lit and ventilated.

Bedrooms are smaller than is normal, but with properly designed beds and furniture are sufficient for needs.

Heating, cooking and lighting is done by gas, for which a *capital* sum has been allowed in the analysis of costs. Improved fittings for lighting and heating are being installed.

The floors throughout are finished with a surface of ¼ in. battleship cork lino as part of the contract.

A rubbish chute serving all floors, and standing away from the approach galleries, delivers into special bins mounted on trolleys so as to make collection an easy matter. Self-closing lids prevent any nuisance from smell or from flying garbage. Externally, the concrete walls are finished in patent concrete paint in light tones of yellow, grey, and cinnamon.



Top : detailed plan of kitchen and bathroom lay-out. The 13 ft. dimension between stanchion centres is the standard unit on which the whole block is based. Bottom : elevation of east wall of kitchen.

ECONOMY IN SMALL HOUSE CONSTRUCTION

[BY FRANK H. HEAVEN, A.R.I.B.A., P.A.S.I.]

VI. JOINER

MACHINERY and mass production have reduced marketable commodities, as doors, windows, and the like, to an irreducible minimum, so that only in minor matters, as "fixings" and "finishings," can there be any more scope for economy.

Wood linings to window openings might be omitted with advantage, especially in cases where hard plaster is used on the walls; a little extra labour in rounding off the arrises will produce a neat, economical, and with the exercise of reasonable care, a life-long finish to the jambs, head, and even the cills of such openings. Fig. 9 illustrates what is intended.

In a cottage of the standard parlour type

Figure 9

there is approximately a total length of jamb, head, and cill, measured on the arris of each opening, equal to 172 lineal ft. A comparison of cost can thus be made, if on one side is set grounds, linings and architraves with their painting; and on the other side the plastering and distempering; and the saving will be quite an appreciable amount. Fig. 10 indicates both treatments.

It is not suggested that a similar change be

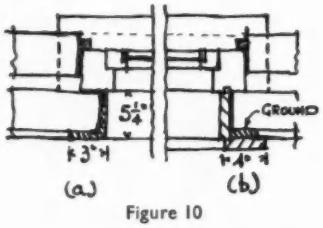


Figure 10

effected at doorways, because of the greater liability to damage to the plaster from unavoidable knocks and invariable banging which occurs at such places.

Reduction in the size of rails, skirtings and architraves are not matters of economic construction, but of individual taste. Small or large, simple or elaborate, are each available. But a picture rail serves little real purpose and is today omitted even in large houses and the skirting need not be more than 3 in.

VII. PLASTERER

The use of a hard plaster, either for all the coats or for the finishing coat alone, will reduce the cost of a building, by reason of the greater speed with which this material can be applied. There is no need for the long period of waiting between coats for the excessive moisture to dry out before applying the next, as is the case with ordinary lime plaster. Three or four days, as against three or four weeks, will see the work completed, and a much cleaner job made of it. Consequently overhead charges are reduced, and the revenue producing period of the property is hastened. A more frequent use of rounded arrises as suggested for windows under "Joiner" above will further reduce costs. It is also possible to produce a good job with two coats instead of the usual three coats required with lime plasters.

The amount of wall and ceiling plaster in a standard parlour-type cottage is approximately 295 and 97 superficial yards, respectively; consequently any economy in this direction would reach appreciable dimensions.

Where the usual 11 in. cavity walls are used externally, common stocks, or bricks of a lesser cost than good "facings," can be utilized for the outer faces and a very satisfactory appearance obtained by giving them a coating of cement or even lime slurry. Such treatment is more economical than two coats of plain cement or of rough-cast, and quite as effective. Repeated application, especially where tinted, give an old-world seemliness to the property in a short space of years.

Where 9 in. cavity walls (constructed as previously described herein) are adopted, it is essential that they shall be rendered weatherproof by an external coat of cement or rough-cast. The extra cost of ordinary two-coat cement work outbalances any saving obtained by the modified form of construction, but it has been found that quite a satisfactory finish and waterproof coating is obtained if the external surface is treated with a single coat of rough rendering in cement or hydraulic lime and sand, when mixed 1 to 3, and either white or colour washed after application, or by mixing the colour in with the coat work. To get a really effective finish the surface should not be screeded up, or rendered smoothy but allowed to remain from the wood float with slightly receding surfaces in a series of intersecting sweeps somewhat after the manner suggested by Fig. 11.

The workman presses inwards (not too deeply) along the top edge of each sweep of the float, and so produces a "weathered" top fall. It has a very pleasing effect, gives texture, produces light and shade, and prevents rain water from running in streams down the face of the wall. On acquiring age, it presents an appearance like the old-fashioned, lime-coated cottages of the countryside. It is also an economical method of making any wall watertight. The approximate amount of such surfacing required on a standard parlour-type cottage,

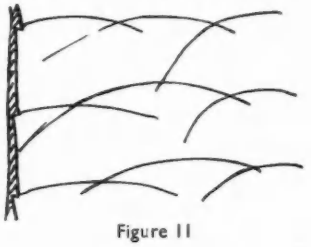


Figure 11

when built in pairs, would be 109 superficial yards; consequently there is a very considerable saving in this direction.

VIII. SLATER AND TILER

Traditional practice in these trades is so well designed that it obtains the maximum efficiency with the minimum waste of material. Any variation can be only in the amount of "lap" given to the coursing; and anything below the usual 3 in. is courting disastrous results from a weather-protection standpoint. Changes in forms and methods of laying tiles have been prodigious within the past decade or so, but all are substitutes only for the original plain or pan tiles. There has not been any satisfactory change evolved for slating, beyond that of material alone—natural slate to asbestos compositions. Even "diagonal" slating, originally associated with the latter material, has given place to the standard rectangular shape and traditional method of slate fixing. Any economy, therefore, is to be looked for only along the line of substitution of material.

Where roofs are to be boarded, a certain amount of saving can be obtained in the substructure, as suggested previously under "Carpenter."

By using slates of a standard length but of random widths, an economy can be effected by reason of the fact that such slates are obtainable at a lower cost per

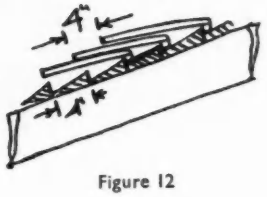


Figure 12

mille, when compared with regular sized slates of the same length.

The number of Countess slates (20 in. by 10 in.) required per superficial "square"

(100 ft. super.) of roofing is 169. On an average, the number of random width slates would be the same, therefore the number of nails and the amount of lathing required in each "square" would also remain about the same, viz., 338 nails, and 141 ft. lineal of lath.

In the case of plain tiling, where the roof is required to be boarded, a saving can be obtained, by using feather-edged weather boarding in place of the ordinary flat boarding, and making use of the thicker edge of the weather boards to hold the ribs of the tiles and to receive the nails where so secured, and thus eliminate the usual tile battens, as indicated in Fig. 12.

The use of such boarding also reduces the labour of laying, as its width (4 in.) sets the gauge of the tiling as it is being laid.

The omission of timber work about gables of roofs is an advantage, from a maintenance point of view, and is easily effected by making use of some form of undercloak to the slating or tiling of the roof.

IX. PAINTER

Of all the trades, this appears to be the most abused, in the name of economy.

It is not suggested here that savings can be effected by reduction in quality or number of coats. With present-day methods of manufacture and the usual quality and covering powers of most machine-mixed paints, there should be no inducement in that direction, but there are methods which can be adopted, and these are quite legitimate, which will lead to certain reductions in cost.

For instance, one coat of stain and one coat of varnish will, in most cases, give a reasonable finish to any work. Where more coats are required, it is usually a matter of taste rather than necessity.

It is unwise to put too good a finish on to woodwork during the first year of its life in a building. Most joinery contains a percentage of moisture, and under changing temperatures which readily occur in the use and disuse of rooms, and with the changing seasons of the year, a certain amount of expansion and contraction is inevitable; and, in fact, is most desirable at this stage. When such movements have ceased, which may be in a year or more from date of occupation, then is the time to apply better decorative work, the cost of which could be almost saved in the initial treatment by reducing the quantity or quality of the material applied. The same arguments may be used in respect to plastered walls. It is well to leave any expensive decorative work until the walls are thoroughly dry, and to be satisfied with a moderate class of work at the early occupational stage.

In the case of plastering, a simple method is to mix the colour, which should not be one easily affected by lime, with the dry ingredients for the plaster, and apply both plaster and colour at one operation. Test samples should be knocked up and allowed to dry out, so as to arrive at the desired shade and result. Quite good effects can be obtained with a reasonable expenditure of care and at a considerably reduced cost, when compared with colour applied after the plastering is completed.

[*To be continued*]

IN THAT CONTINGENCY

The following abstracts of inquiries represent a number of those recently submitted to the Building Research Station. The information given in the replies quoted is based on available knowledge. It has to be borne in mind that further scientific investigations may in the course of time indicate directions in which the replies might be supplemented or modified. Moreover, the replies relate to the specific subject of each inquiry, and are not necessarily suitable for application to all similar problems. [Crown Copyright Reserved.]

The Use of Zinc for Rain-water gutters

¶ *IT was stated that gutters made of zinc $\frac{1}{16}$ in. thick had been used with apparently satisfactory results and at less cost than cast iron gutters $\frac{1}{8}$ in. thick. The inquirer wished to know whether there was any objection to the use of zinc for this purpose.*

After consulting the British Non-Ferrous Metals Research Association the following reply was sent :—

There should be no objection to the use of zinc for this purpose and it probably offers advantages over cast iron, both as regards cost and durability. Zinc is used extensively on the Continent and in America, and is stated to have proved very satisfactory. In the U.S.A. gutters are made from No. 11 gauge (.024 in. thick) sheet zinc, but as this is obviously much weaker than the normal cast iron section used in this country, some form of reinforcement is necessary for the outside edge, and bearers must be placed much closer together than when cast iron gutters are used. In America, reinforcement of the edges is obtained by rolling the edge to a small diameter, and in this country galvanized iron wire is sometimes used. The recommended practice in America is that hangers should be spaced not more than 2 ft. apart and not more than 8 in. from each end or corner.

Zinc when used in contact with bare iron is more likely to corrode than when used alone, and nails and hangers used to secure guttering or roof sheeting should be heavily galvanized, and should be arranged as far as possible so as not to come in contact with water. Zinc is more liable to corrode in a sulphurous atmosphere, and its life is usually rather shorter in industrial than in rural areas, but this, of course, applies also to most other metals.

Use of Barium Sulphate in a Structural Floor of an X-ray Room

¶ *IT was required to provide protection from X-rays in the floor of an X-ray room, and it was suggested that for this purpose barium sulphate should be incorporated in the structural reinforced concrete floor. The inquirer wished to know whether the barytes should be introduced in the form of a powder or as a more or less coarse aggregate. He also required information as to the strength of concrete made with barium sulphate and whether any corrosive action on the steel reinforcement is likely.*

Though we have had no first-hand experience of the use of barium sulphate in the manner described, it seems quite possible that satisfactory results could be obtained.

Barium sulphate has a very low solubility and would not have any chemical effect on Portland cement. It is, of course, frequently used with Portland cement in the form of a plaster in X-ray rooms. There should be no danger of corrosion of steel reinforcement due to its use. It is also a hard substance and concrete in which it is used as aggregate would probably have good strength. We have no experimental data on this point, however, and it would be necessary, before designing the floor, to test the strength of sample cubes of the mix to be used. Methods of carrying out such tests are described in the Report of the Reinforced Concrete Structures Committee of the Building Research Board, published by H.M. Stationery Office, price 1s. 3d.

The barytes should not be used in fine powder form as this would tend to reduce the strength of the concrete and to increase its shrinkage. In order to ensure good distribution we suggest that it should be used in the form of a "sand" in particles graded from, say, $\frac{1}{8}$ into $\frac{1}{32}$ in. replacing a portion of the normal aggregate.

The actual amount of barium sulphate that will be needed will have to be finally determined by experiment. The degree of protection necessary will depend on the type of X-ray work to be carried out. Requirements for various forms of X-ray work have been laid down in terms of thicknesses of lead in the report of the X-ray and Radium Protection Committee which should be consulted. The "lead equivalent" of various protective materials can be determined experimentally. In this case, therefore, the required degree of protection should first be determined and from a knowledge of the protective values of barium sulphate plasters a rough guess could be made as to how much barytes is likely to be necessary. Samples of concrete should then be made up and tested (a) for strength and (b) for X-ray protection. Tests for (b) are carried out at a very small cost by the National Physical Laboratory, Teddington. By following some such procedure a satisfactory concrete floor should be obtainable.

In addition to ensuring that the individual materials used for floors, walls, etc., are adequately protective it is of considerable importance that a final test be made of the completed room. In this country such tests are also carried out by the National Physical Laboratory.

Efflorescence in a Basement

¶ *EFFLORESCENCE had appeared on the internal face of a brick basement wall. This had started very shortly after erection several years ago, but the face of the wall was dry to the touch and no particular notice was taken of the efflorescence until it was noticed that steel bolts stacked near to the wall had corroded.*

The opinion of the Station was now sought as to the nature and cause of the efflorescence and as to what steps could be taken to eliminate the trouble.

An examination of the sample of efflorescence submitted has shown this to consist mainly of sodium sulphate with smaller amounts of calcium and potassium.

If, as we assume, the basement is constructed with brick retaining walls in which no dampproof course is incorporated, some moisture

is no doubt penetrating from the soil behind, carrying with it the salts which are crystallizing on the inner face to form the efflorescence. The reason why the wall does not feel damp to the touch is probably because the moisture is being evaporated from the surface as rapidly as it is coming through. It is not possible to state whether the salts are derived from the soil or from the bricks without an inspection both of the soil and of the original bricks used. If entirely derived from the bricks, the trouble would eventually cease, and it might be found that if the present crystals were thoroughly brushed off no further efflorescence would appear. If, on the other hand, the salts are derived from the soil, the trouble is likely to continue and, if the bricks are of poor quality, the crystallization of the salts may possibly lead to their decay.

In the absence of full knowledge of the use to which the basement is put, it is difficult to advise on the most suitable procedure to adopt. We note that steel bolts stored against the wall were found to be corroding, but this presumably would not occur if the bolts could be kept some little distance away from the wall. If this were possible, and appearance is not of importance, it might not be worth while taking any action at this stage, though a lookout should be kept for any signs of decay of the brickwork.

Conditions inside the room could be improved by fixing battens (treated with wood preservative) to the face of the brickwork and plastering on lathing or fixing some form of sheeting to the battens. This would prevent the access of any moisture to the new inner surface but would not prevent the formation of the efflorescence on the brick face, which by this method would be concealed from view, and decay might thus proceed unnoticed.

The only alternative treatment we can suggest is to apply a waterproof membrane such as asphalt to the brick surface and to build a further 4½ in. of brick inside this. The expense of such a method might not, however, be considered justified.

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ARCHITECTURAL ASSOCIATION OF IRELAND

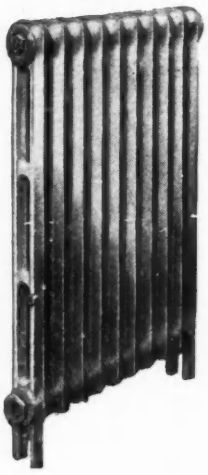
At the annual meeting of the Architectural Association of Ireland, held in Dublin last week, the following officers were elected for the ensuing session: President, Mr. E. A. Barrett, M.R.I.A.I.; vice-president, Mr. Vincent Kelly, F.R.I.A.I.

Committee: Messrs. E. D. Buckley, W. H. H. Cooke, H. T. Coleman, L. F. Giron, C. A. Harrington, H. V. Millar, A. P. Meldon, Manning D. Robertson, Miss S. M. Tindal. Hon. librarian, Mr. J. J. O'Gorman; hon. secretaries, Messrs. G. C. Henry and F. J. O'Neill.

WEST YORKSHIRE SOCIETY OF ARCHITECTS

Mr. Victor Bain presided at a meeting of the above society, held at the Leeds College of Art on April 12, when a paper on "The Merchant Taylors' School" was given by Mr. William G. Newton, a member of the firm which designed the new school.

The Merchant Taylors, said Mr. Newton, was one of the oldest of the City Schools, having been founded in 1565. It was moved in 1875 from its original site in the City to Charterhouse Square, and eventually to its present location. By means of views showing various sketch lay-outs, the evolution of the ultimate scheme was made clear, and reasons given for the abandonment or retention of alternative methods of planning.



TRADE NOTES

[*BY F. R. S. YORKE, A.R.I.B.A.*]

Central Heating

ALL the facts and figures, details, drawings and arguments in favour of house warming by a system of hot-water central heating are presented in a booklet issued this month by Messrs. Crane. The installation of central heating in all sorts and sizes of house, from a modest bungalow to a large town or country mansion, is illustrated by photographs and plans showing pipe lines, boiler and radiator positions, etc. In each case figures are given, showing cost of complete equipment and installation of heating system, and a close approximation of running costs.

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The booklet appears frankly propaganda for central heating in the home, but there is no doubt of its usefulness to the architect who is asked by his client "what plant and equipment do I need, how much will it cost, and is it expensive to run?"

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In a typical bungalow—the example chosen is one designed by T. Cecil Howitt, A.R.I.B.A.—with radiators in living room and three bedrooms, the cost of supplying and fitting boiler, piping, radiators and storage cylinders is about £48, which appears reasonable when one remembers that the hot-water apparatus, boiler and cylinders would normally be included for domestic hot-water supply. The average running costs, when all rooms are kept at a comfortable warmth throughout the year, works out at approximately 6d. per day. The figure includes constant hot-water supply in bathroom and scullery.

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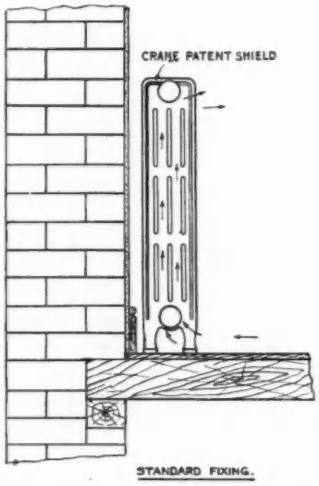
In a larger house, costing £1,500 or £1,700—the example chosen is a house at Coventry by Frederick Gibberd, A.I.A.A.—having radiators in living room, dining-room, hall, garage, four bedrooms and bathroom, the cost of supplying and fitting the central heating and hot-water system is approximately £115; and average running costs throughout the year work out at about 11d. per day, using coke as fuel.



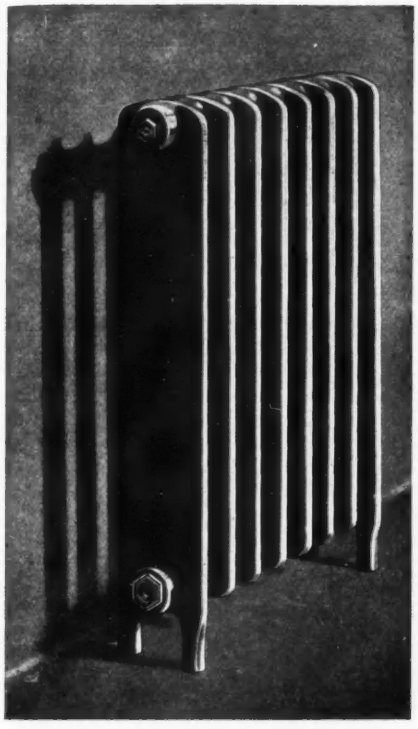
Crane invisible radiator shield.

Radiator Shields

Messrs. Crane make an invisible shield that is fitted to the radiator, to direct heat in the direction of the part of the room in which it is wanted, instead of allowing it to be wasted by letting it flow in all directions. By deflecting the heat into the lower part of the room it is claimed these shields give economy in fuel, better ventilation, and eliminate the soiling of walls and ceilings above the radiator.

Cottage Wall Insulation

Building Science Abstract, Vol. VI (New Series), No. 11, November, 1933.



Crane radiator, hospital type, cast and finished for smoothness and contoured to give the smallest possible lodgment for dust.

gives a description of an investigation carried out by the *Norskes Tekniske Hoiskole*, Trondhjem, during 1919-31, to determine the heat-insulating properties of various types of house and cottage wall.*

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A series of test houses was erected, each house having the same plan, measuring 6½ ft. by 6½ ft. internally and 7 ft. 4 in. high and varying only in wall construction. The test walls, which are described and illustrated, included various types of wood-frame, wood panel, cavity walls, in some cases with sawdust, peat, or straw and clay filling, the insulating material including asphalt-impregnated paper, sea-weed, etc., and the internal surface treatment plaster, wall board or cork ; solid and cavity brick walls ; concrete block and hollow concrete block walls ; reinforced concrete (4 or 6 in. thick) walls ; cellular concrete block (8 in. thick) and slag concrete (8 in. thick) walls.

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The brick walls and the concrete walls were rendered externally ; the internal wall surface treatment included plastering, lining with *moler* blocks, wood panelling, wall board, cork ; as insulating material, asphalt-impregnated paper and sea-weed were used.

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The brick cavity walls were of three types, described as English, Bergen and Trondhjem cavity walls, the first containing an undivided cavity, ¼-brick wide, the second and third a series of vertical cavities, separated by ½-brick depth, and of dimensions not exceeding 4⅜ in. by 9⅜ in. or 2⅜ in. by 9⅜ in. respectively.

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The heat-insulating properties of the walls were determined by measuring the quantity of energy required to maintain the house at a constant temperature of approximately 20° C., the rate of cooling with heat supply cut off, the rate of warming under constant supply of heat, the humidity of the air in the house and in the wall cavity, the temperature of the cavity, and the heat transmission and thermal conductivity of the walls. The results, in general, showed the heat insulation afforded by the wood walls tested to be considerably greater than that of the various brick walls not provided with special heat insulating material. The heat consumption of the different walls is compared by reference to that of a wood-frame, wood panel, cavity wall built in accordance with the Norwegian standard specifications which affords good heat insulation.

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The heat consumption of a brick cavity wall, 1 brick thick, with continuous cavity, plastered within, a Bergen cavity wall, 1½ brick thick, panelled inside with ⅜-in. wood, and a solid wall, 1½ brick thick, similarly panelled, was found to be, respectively, 50, 25, and 26 per cent. greater than that of the standard wood wall. The cost of the wooden walls is also lower.

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One of the most satisfactory walls in respect of heat insulation and of cost was a wood-frame wall having a 4 in. cavity filled with sawdust and insulated by asphalt-impregnated paper from the inside and outside wood panels (respectively ¾ in. and 1 in. thick). This type of wall is, however, not permitted in towns.

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The best of the wood walls in respect of heat insulation, but also one of the dearest, was a wood-frame, cavity wall, consisting of a double wood panel (1 in. wood, a double layer of paper, 3 in. wood), a 2 in. air space and 1½ in. cork with plaster 1 cm. thick. The value of cork as heat insulating material is apparent in this case.

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Satisfactory results were obtained with a wood-frame wall having on the outside a double wood panel insulated with an intermediate layer of sea-weed (1 in. wood, sea-weed, ¾ in. wood), a 2½ in. air space and on the inside a double wood (¾ in. + ¾ in.) panel with two layers of paper.

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Of brick walls without special heat-insulation, the most and least satisfactory results were shown, respectively, by a brick cavity wall, 1½ brick thick, and by a single-brick cavity wall, in each case with undivided cavity. The heat transmission of the 1½ brick cavity wall was reduced by filling the cavity with dry clean coke. Examination of iron wall ties from a coke-filled cavity wall after 5½ years showed only slight corrosion. The heat insulating properties of the 1½ brick cavity walls were in all cases better than that of the 1½ brick solid wall. A wall, 1½ brick thick, consisting of 1 medium-burned brick and ½ moler block provided better heat insulation than the 1½ brick wall of medium-burned brick only.

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Of the concrete walls, the best heat insulation was shown by a 4 in. reinforced concrete wall lined with sea-weed and wall board. Better results were obtained with a reinforced concrete wall lined with 3 cm. cork than with reinforced concrete with 3 cm. cork on the outside surface. As regards the application of insulating material such as cork, to concrete walls, the results appear to show that this should not be done till the wall is comparatively dry, otherwise constituents of the concrete penetrate the pores of the material, reducing its insulating properties. The heat insulation provided by a concrete block cavity wall was found to be lower than that of a single-brick cavity wall and the heat insulation of a hollow concrete block wall lower than that of 1½ brick solid or cavity wall.

* From *Varme og billige boliger* (warm and cheap dwellings). A. Bugge : Oslo, 1932. Grondahl and Sons, Forlag. Pp. 170. Figs. 93. Unpriced.

IN PARLIAMENT

[BY OUR SPECIAL REPRESENTATIVE]

Housing

In the House of Lords last week, Lord Balfour of Burleigh called attention to the advantages of the refund basis of compensation for compulsory acquisition of working-class houses for reconditioning by local authorities or public utility societies as set out in the report of the Departmental Committee presided over by Lord Moyne. He said that, superficially, the refund basis of compensation was very attractive, but there were difficulties. If the Government had decided against the refund basis, some other basis must be found, and it must be more expeditious and less liable to abuse than existing procedure. He would like to see a basis which would get rid of the stigma which a clearance order cast on the property concerned. Why should they not say that the property was to be cleared, not necessarily because the owner had failed to do his duty, but because it was in the public interest that some semi-public body should own the property? The Government should appoint a panel of valuers who could settle the value. If the owner was not satisfied, he should be given a right of appeal, not to the Minister of Health, but, it might be, to the County Court.

Lord Moyne said it was quite evident that the Minister of Health contemplated a far wider attack on bad housing conditions than was in his mind when he drew up the terms of reference to the recent Departmental Committee. That Committee recommended the refund basis mainly because of its simplicity and speed ; but they did not suggest that it should be applied to houses which were in all respects fit for habitation, and they made that clear in their report. It might be that the refund basis should be given the option to secure quick action in clearance areas, but one condition must be insisted on, and that was that the negligent and deliberate slum-owner should not be given the benefit of this procedure.

Lord Gage, for the Government, said that

the Bill which would be introduced arising out of the Moyne report would be an important Bill, and not the least important clauses would be the compensation clauses. But he could not discuss those clauses in advance. The principal reason why the Government did not consider the refund basis recommendations to be acceptable was that they would constitute yet another anomaly. But, apart from the question of anomalies, the recommendations, if carried out, would have one or two unfortunate effects from the point of view of the public interest. The properties which would be taken over under the new Act would be properties in a border-line condition ; they would not be bad enough for demolition, and they were not fit to be left as they were. Below this border-line there would be slum houses, which the owners would try to make a little better in order to escape from the site value basis of compensation. Other houses, if improved, would be taken out of the border-line category so that the Act would have the indirect effect of making owners improve their property. Outside these two classes of houses there would be others, the bulk of which would be sure of avoiding site value basis of compensation, but as the basis of compensation in their case would be fixed there would be no inducement for the owners to repair their properties. For these reasons the Government were not prepared to incorporate these recommendations in their legislation.

Baths

At question-time in the House of Commons Mr. Selley asked the Minister of Health whether his attention had been drawn to the fact that in the first two months of 1934 1,303 tons of baths were imported into this country, as compared with 610 tons in the corresponding period of 1933 ; and whether he would take steps to ensure that in all schemes under the control of his department only baths of British manufacture should be used.

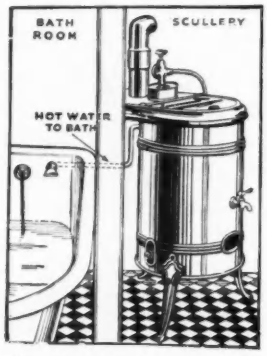
Sir Hilton Young said he was aware of the figures referred to. He had already suggested to local authorities the desirability of making use to the utmost extent practicable of goods and materials of home production. He had no reason to suppose that local authorities generally were not acting upon the advice contained in this circular.

In reply to Sir Percy Harris, Sir Hilton Young said that the number of clearance schemes, that is, confirmed orders or purchases by agreement in the course of the year ended March 31 last, was 631 involving the demolition of 16,375 houses and the building of replacement houses for 73,718 persons, but he was not able to state the extent to which the work of clearance and rehousing had gone by the end of the year.

Manufacturers' Items

The Hurro Dual-Purpose Boiler provides an efficient and economical solution to the problem of hot water supplies for housing estates and slum clearance schemes. It is gas-heated and serves for both domestic " laundry " and the bath, and economizes in building and plumbing costs by eliminating the necessity for a range-boiler.

Hot water is pipe-fed to the bath by an application of the thermal-syphon principle ; the re-filling of the boiler from an overhead tap from the water-main discharges the heated water to the bath. This enables the bath to be isolated



The Hurro dual-purpose boiler.

in the privacy of a separate room—a desirable feature in the smallest of houses.

During the last few years 22,000 Hurro Dual-Purpose Boilers have been installed by one Municipal Estates Department.

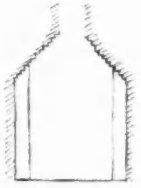
*

" Present-Day " Kitchens, Ltd., have recently opened new showrooms at 59-61 Oxford Street, W.C.1. The firm, in a leaflet describing the cabinets, point out that " the gleaming enamel porcelain finish has the same mirror-like effect as the most expensive cars and it can all be kept clean by an occasional rub with a damp cloth. There are no corners to collect dust, even the solid one-inch thick doors are rounded at the edges, and supported by piano hinges running the whole length. Each door is fitted with a strong ' click ' catch which holds it firmly and renders it absolutely dustproof. The handles are rounded and are constructed of amber coloured Ivorette and nickel. For easy sweeping the whole cabinet is mounted on solid rounded legs 3 inches off the floor. The shelves are varnished and solidly built. There are special compartments fitted with airtight glass preserve jars and drawers for cereals. The larger models are also fitted with a complete set of pastry board accessories and a roller for grease proof paper."

QUESTIONS THAT ARISE

Failure of Chimney to Open Fire

¶ W. K. writes : " *I have recently converted an old brick cottage into a Tudor mansion, one of the additions being a new gable with an inglenook on the ground floor and a chimney stack and two flues as shown on the enclosed sketch. The spiral flue is merely a vent from the bedroom.*



" *The fireplace in the inglenook smokes very badly, approximately 75 per cent. of the smoke coming into the room. This defect is continuous ; the smoke does not come down in gusts, but apparently refuses to go up the flue. There are no tall buildings or trees in the neighbourhood which would cause down-draughts. The coal is burnt in a wrought iron firebasket on dogs.*

" *The top of the fireplace slopes in at each side at 45 degrees from each side to meet the flue (see sketch).*

" *Would you let me have your advice as to the cause of this trouble, with any suggestions for curing it. If you think that the flue is too small, could the fireplace be connected to both flues ?* "

If the circumstances are as bad as they are described, and it is certain that the flue is unobstructed and unconstricted throughout its length, I should be disposed to seek the cause of the trouble in the room or around the firegrate rather than in the shaft.

1. Is there a sufficient air supply to the room to allow the flue to function ? Sometimes with close-fitting casements a room is almost airtight and draught is insufficient on that account.

2. If the height of the fireplace lintol or arch is unduly great, the flue will have no " pull " on the fire. The throating, as shown by sketch att ched to the letter, is needlessly wide, and (if drawn in proportion) seems high. Presumably there is a bend or cripple in the flue. A canopy could be formed within the opening, not more than 18 in. above the fire, and from thence a pipe, trunk or flue carried up to an airtight joint with the chimney at its normal dimension, 9 in. by 9 in., or alternatively, the opening could be lowered and the throating re-formed on less cavernous lines. Coal burnt in a firebasket is not used favourably—it is helped by a surround of fireclay. To connect the fire opening to *both* flues is not a hopeful suggestion. These affected archaisms usually bring with them a train of unfortunate results which are perhaps rather too much " in the period." E. G.

THE BUILDINGS ILLUSTRATED

Sub-Contractors' List

The following is a list of the general and sub-contractors for Boston Manor Station, illustrated on pages 597-600 of this issue. General contractors, J. Jarvis and Sons, Ltd. Sub-contractors : Limmer Asphalt Co., asphalt ; R. E. Pearse & Co., window frames and tower light fitting ; Ames and Finnis, bricks ; J. R. Pearson, collapsible gates, poster frames, bull's eye signs, etc. ; Art Pavements and Decorations, Ltd., floor tiling ; Light Steelwork, bronze barrier posts ; Carter & Co., terrazzo flooring ; Light Steelwork, bronze handrails ; J. W. Gray and Sons, lightning conductor ; J. Gibbons & Co., door furniture ; J. P. White, flush doors ; Shanks & Co., sanitary fittings ; F. Sage & Co., shop fittings, and canopy lighting box ; Dorian Studios and Eric Munday, Ltd., signs ; Carter & Co., wall tiling ; Kingsmill Metal Co., passimeter booth ; Roneo, Ltd., and Joseph Westwood, Ltd., steel cupboards ; Pilkington Bros., mirrors.

Sunspan House, Olympia (pages 607-610). General contractors, E. & L. Berg, Ltd. Furniture, Gordon Russell.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILE RADIUS)

ACTON. *Dwellings.* The Corporation has approved plans for the erection of 54 dwellings in Canada Street, and tenders are now to be obtained.

ACTON. *Houses.* Messrs. Arthur Watson, Ltd., have prepared a scheme for the development of land in Tudor Gardens, by the erection of 86 houses.

BARKING. *Hospital Accommodation.* The Corporation is to prepare plans for the erection of additional accommodation to the extent of one ward block of 26 beds, and one cubicle block of 12 beds, at the Barking hospital.

BERMONDSEY. *Flats.* The B.C. is to erect 83 flats on the Redriff estate, at a cost of £42,445; 38 flats on the Harold estate, at a cost of £18,554; 35 flats on the "Black Eagle" brewery site, at a cost of £16,620; 49 flats in the Bethel Place area, at a cost of £24,806; 26 flats on the Tanner Street site, at a cost of £12,529; and 28 flats on the Amos estate, at a cost of £13,850.

COULSDON. *Houses.* Messrs. Gunton and Gunton are to develop the Fairdean Heights estate, where 1,561 houses are to be built.

COULSDON. *Houses.* Plans passed by the U.D.C.: 16 houses, The Glade, for Firmus Constructions, Ltd.; two shops, Chipstead Valley Road, for Mr. W. F. Blake: six houses, Chaldon Way, for Mr. S. G. Vanstone; two houses, St. Andrews Road, for Mr. W. Ingram; six houses, Woodlands Grove, for Mr. P. Richardson.

DEPTFORD. *Clinic and Offices.* The B.C. has approved plans for the erection of a central clinic and administration offices, at a cost of £12,000.

EALING. *Estate development.* The Corporation has passed the following estate plans: Hanger Hill estate, for Messrs. Haymills, Ltd.; Hanger Lane factory estate, Brumwill Road, for Messrs. Percy Bilton (Properties), Ltd.; Priory Park estate, for Messrs. R. Lancaster and Sons; Greystoke estate, for the London and Provincial Building Co.; Moat Farm estate, for Messrs. Lawes Cherry & Co., Ltd.; Perivale Park West estate, for Messrs. R. Lancaster and Sons; Northolt Park estate, for the Hillingdon Estate Co.

HAMMERSMITH. *Town Hall.* The B.C. has approved the plans for the erection of a new town hall, at a cost of £163,594, and recommends inviting selected firms to submit tenders for the scheme.

SANDERSTEAD. *Houses.* Plans passed: 10 houses, Limpsfield Road, for Messrs. E. A. Thorne and Son; three houses, North Down, for Mr. H. P. Hawkes; two houses, The Windings, for Mr. F. Sutton Smith; 34 houses, Mitchley Avenue, for Messrs. Harold Williams and Partners.

SHENLEY. *Farm Buildings.* Middlesex C.C. is to provide farm buildings and undertake various other works at the Shenley mental hospital at a cost of £19,850.

WOODFORD. *School.* The Essex Education Committee has approved plans for the erection of a senior school at a cost of £38,656.

SOUTHERN COUNTIES

EASTBOURNE. *Houses.* Plans passed by the Corporation: Two houses, Harding Avenue, for Messrs. S. Hart and Son; house and garage, South Lynn Drive, for Messrs. W. J. Martin & Co.; two houses, Hunloke Avenue, for Mr. J. N. Vine; Two houses, Victoria Drive, for Mr. A. E. Smith; 10 houses, Windmill Close, Willingdon Road, for Mr. H. Pitcher; two houses, Osborne Road, for Messrs. Rowsell and Ticehurst, Ltd.; house and garage, Old Camp Road, for Mr. J. D. Clarke.

GUILDFORD. *Houses.* Mr. R. C. Whitemore, of Worpleston Road, is to erect 68 houses on an estate at Bellfields. The Liddington Hall Estate Co., is to erect 120 houses at the Liddington Hall estate.

HASTINGS. *Clearance and Reconstruction.* The Corporation is to proceed with the clearance and reconstruction of the Old Town area, at a cost of £76,651.

SOUTH-WESTERN COUNTIES

CHELTENHAM. *Houses.* Plans passed by the Corporation: Four houses, Brooklyn Road, for Mr. E. W. Cook; four houses, Eldon Road, for Mr. G. W. Ward; four houses, Oxford Road, for Mr. C. H. Reason; 73 houses, Eldon Road, for Messrs. Wheeler and Mansell; two shops, Cirencester Road, Charlton Kings, for Messrs. E. H. Bradley and Sons; four houses, Leckhampton Hill, for Mr. G. Foster.

CHELTENHAM AND GLOUCESTER. *Aerodrome.* The Corporations have agreed to purchase a site of 180 acres, for the provision of a joint civic aerodrome.

HEREFORD. *Houses.* Hereford Co-operative Housing, Ltd., is to erect 20 houses in Hereford. The Corporation is negotiating for land for re-housing purposes.

PAIGNTON. *Houses, etc.* Plans passed by the U.D.C.: 14 houses, Polsham Gardens, for Mr. C. Geen: 10 houses, South Hillside Road, for Mr. A. Langer: 85 houses, Ailescombe Road, for Messrs. Eastley & Co.: five bungalows, Hilton Crescent, for Mr. H. Proctor; six bungalows, Brixham Road, for Messrs. R. H. Peeke and Sons; 10 houses, Redburn Road, for Mr. A. Chippindale; estate development, Oldway Road, for Kinghurst Estate Co.; estate development, Primley Brickworks, for Western Counties Brick Co., Ltd.

TORQUAY. *Houses and Estate Development.* Plans passed by the Corporation: Two bungalows, St. Vincents Road, for Mrs. Jackson; development, Broadpark estate, Livermead, for Mr. G. W. Chisholm; development, Fairhaven estate, Meadfoot Lane, for Mr. W. W. Cox; eight houses, Torwood Gardens, for Mr. G. W. Hands; two houses, Burridge Road, for Mr. M. E. Behar; three houses, Teignmouth Road, for Messrs. H. E. Williams and Son; 30 houses, Shenley Road, for Mr. J. H. Nankivell; 16 garages, Bedford Road, Babbacombe, for Mr. A. Nettleton; six houses, Roundhill Road, for Mr. G. W. Chisholm; four houses, Newton Road, for Messrs. H. Lloyd and Son; six houses, Rooklands estate, for Mr. R. E. Narracott.

EASTERN COUNTIES

YARMOUTH. *Flats.* The Corporation is considering a scheme for the erection of 56 flats on the North Denes estate.

YARMOUTH. *Houses.* Plans passed by the Corporation: Four houses, Beatty Road, for Messrs. H. R. Middleton & Co., Ltd.; two houses and garages, Blake Road, for Mr. C. L. Leech; two houses, Burgh Road, for Messrs. Bedwell and Son; lay-out of roads, West Cliff estate, Middleton Road, Gorleston, for Messrs. Ferrier and Ferrier; eight houses, Beatty Road, for Messrs. J. Balls and Sons.

YARMOUTH. *Premises.* The Corporation is purchasing premises at a cost of £12,000, in the clearance area.

MIDLAND COUNTIES

BIRMINGHAM. *Maisonettes.* The Corporation is to proceed with the development of the Sycamores Estate, Little Bromwich, by the erection of 304 maisonettes. The Corporation has approved a revised scheme for the erection of 156 houses and 24 maisonettes on the Waterloo Farm estate, South Yardley, at a cost of £57,140.

DUDLEY. *Houses.* Plans passed by the Corporation: Two houses, The Broadway, for Mr. T. Cole; two houses, off Oakham Road, for Mr. G. M. Blewitt; two houses, Northfield Road, for Mr. S. Brookes; two houses, Griffin Street, for Mr. J. Barnsley; eight houses, Cradley Road, for Mr. W. Roberts.

ILKESTON. *Houses.* Mr. H. Middleton, of Hockley Mills, Nottingham, is to erect an additional 52 houses on the Southern building estate. The Corporation is to obtain tenders for the erection of 66 houses on the Nottingham Road site.

ILKESTON. *Houses.* Plans passed by the Corporation: 60 houses, Albany Street, for Corporation Committee; two houses, Church Street, for Mrs. E. Woodward; three houses, Albany Street, for Mr. J. E. Marriott; 52 houses, South Ilkeston Estate, for Mr. H. Middleton; shop, office and garage, Lower Stanton Road, for Mr. J. Berry; two houses, West End Drive, for Mr. L. Cockeram.

NORTHERN COUNTIES

BARROW-IN-FURNESS. *Houses.* Plans passed by the Corporation: four houses, Ilkley Road, for Messrs. Neal and Atkinson, Ltd.; eight houses, Cliffe Lane, for Messrs. J. H. Neal and Son; two houses, Thorncliffe Road, for Mr. T. Hughes; two houses, Thorncliffe Road, for Mr. T. C. Roberts; 10 houses, Thorncliffe Road, for Messrs. Styles and Bates; 14 houses, Ainslie Street, for Messrs. R. T. Doakeray & Co., Ltd.

BISHOPSTHORPE. *Houses.* Plans submitted to Bishopsthorpe R.D.C.: 21 houses, Dringhouses, for Messrs. Pearson and Blackwell (Doncaster), Ltd.

BLACKPOOL. *Transport Depot.* The Corporation is seeking sanction to borrow £35,000 in connection with the erection of a central transport depot in Rigby Road.

BOOTLE. *Houses and Church.* Plans passed by the Corporation: 24 houses, Southport Road; church, Harris Drive; eight houses, Aintree Road; 14 houses, Alexandra Drive; 14 houses, Breeze Hill.

CARLISLE. *Houses.* Plans passed by the Corporation: Two houses, Petteril Road, for Mr. T. E. Watson; two houses, Petteril Road, for Mr. R. P. Blackburn; four houses, Belah, for Mr. W. C. Johnstone; two houses, Bleckwell Road, for Messrs. Benwell and Slack; 10 houses, Clift Street, for Mr. H. Foxall.

DEWSBURY. *Houses.* The Corporation has approved plans for the erection of 30 houses at Scopsley Lane, and 64 houses on the Dawgreen clearance area. Mr. E. V. King has prepared plans for the erection of 12 houses on the Newbold estate.

ESTON. *Houses.* Plans passed by the U.D.C.: 13 houses, Imeson Street, for Messrs. Shipley; house and shop, Birchington Avenue, for Mr. Airey: two houses, West Street, for Mr. Poulter.

HYDE. *Houses.* Plans passed by the Corporation: 10 houses, Mona Street, for Messrs. Dean and Whipp; 10 houses, Park Avenue, for Mr. C. H. Pyke; two houses, Back Lane, for Mr. Ernest Sefton.

PONTEFRACT. *Housing Scheme.* The Corporation is purchasing 22 acres at Monk Hill, for a housing scheme.

STRETFORD. *Houses.* Plans passed by the Corporation: 40 houses, Bradfield Road, for Messrs. Freeman, Evans & Co.; 32 houses, Lindum Avenue, for Messrs. Smith and Allcock, Ltd.; 67 houses, Haig Road, for Messrs. McLellan and Abel; 38 houses, Manor Road, for Messrs. E. Jackson and Sons, Ltd.

WAKEFIELD. *Houses.* Plans passed by the Corporation: 172 houses, off Flanshaw Lane, for Mr. J. P. Firth, on behalf of Messrs. G. Crook and Sons, Ltd.; two houses, Chevet Lane, for Messrs. Dobson and Gighall; two houses, Dewsbury Road, for Mr. G. A. Hopkinson; two houses, Horbury Road, for Mr. N. Gill.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I s. d.	II s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A_1	Abergavenny ..	S Wales & M.	1 5	1 0½
A_2	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1½
A_2	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1½
A	Airdrie ..	Scotland	*1 5½	1 1½
C	Aldeburgh ..	E. Counties	1 1½	10½
A	Altrincham ..	N.W. Counties	1 5½	1 1½
B_2	Appleby ..	N.W. Counties	1 2	10½
A	Ashton-under-Lyne	N.W. Counties	1 5½	1 1½
A_2	Atherstone ..	Mid. Counties	1 4	1 0
B_2	Aylesbury ..	S. Counties	1 2½	11
B_1	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_2	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1½
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow ..	N.W. Counties	1 5½	1 1½
A	Barry ..	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke ..	S.W. Counties	1 3	11½
A_2	Bath	S.W. Counties	1 4½	1 0½
A	Batley ..	Yorkshire	1 5½	1 1½
A_2	Bedford ..	E. Counties	1 4½	1 0½
A_3	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_2	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	*1 7	1 2½
A	Birmingham	Mid. Counties	1 5½	1 1½
A_1	Bishop Auckland	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1½
A	Blackpool ..	N.W. Counties	1 5½	1 1½
A	Blyth ..	N.E. Coast	1 5½	1 1½
B_1	Bognor ..	S. Counties	1 3	11½
A	Bolton ..	N.W. Counties	1 5½	1 1½
A_2	Boston ..	Mid. Counties	1 4	1 0
A_2	Bournemouth ..	S. Counties	1 4	1 0
B_2	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1½
A_1	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M.	1 5½	1 1½
B_1	Bridgwater ..	S.W. Counties	1 3	11½
A_1	Bridlington ..	Yorkshire	1 5	1 0½
A	Brighouse ..	Yorkshire	1 5½	1 1½
A_3	Brighton ..	S. Counties	1 4	1 0
A	Bristol ..	S.W. Counties	1 5½	1 1½
B_2	Brixham ..	S.W. Counties	1 2½	11
A_2	Bromsgrove ..	Mid. Counties	1 4½	1 0½
B_2	Bromyard ..	Mid. Counties	1 2	10½
A	Burnley ..	N.W. Counties	1 5½	1 1½
A	Burslem ..	Mid. Counties	1 5½	1 1½
A	Burton-on-Trent	Mid. Counties	1 5½	1 1½
A	Bury ..	N.W. Counties	1 5½	1 1½
A_1	Buxton ..	N.W. Counties	1 5	1 0½
A_1	CAMBRIDGE	E. Counties	1 5	1 0½
B_1	Canterbury ..	S. Counties	1 3	11½
A	Cardiff ..	S. Wales & M.	1 5½	1 1½
A	Carlisle ..	N.W. Counties	1 5½	1 1½
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Carnforth ..	N.W. Counties	1 5½	1 1½
A	Castleford ..	Yorkshire	1 5½	1 1½
B	Chatham ..	S. Counties	1 3½	11½
A_3	Chelmsford ..	E. Counties	1 4	1 0
A_2	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester ..	N.W. Counties	1 5½	1 1½
A	Chesterfield ..	Mid. Counties	1 5½	1 1½
B_1	Chichester ..	S. Counties	1 3	11½
A	Chorley ..	N.W. Counties	1 5½	1 1½
B_1	Cirencester ..	S. Counties	1 3	11½
A	Clitheroe ..	N.W. Counties	1 5½	1 1½
A	Clydebank ..	Scotland	1 5½	1 1½
A	Coalville ..	Mid. Counties	1 5½	1 1½
A_3	Colchester ..	E. Counties	1 4	1 0
A	Colne ..	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_1	Consett ..	N.E. Coast	1 5	1 0½
A_2	Conway ..	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1½
A_2	Crewe	N.W. Counties	1 4½	1 0½
A	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1½
A	Darwen ..	N.W. Counties	1 5½	1 1½
B_1	Deal	S. Counties	1 3	11½
A_3	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby ..	Mid. Counties	1 5½	1 1½
A	Dewsbury ..	Yorkshire	1 5½	1 1½
B	Didcot ..	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1½
B_2	Dorchester ..	S.W. Counties	1 2½	11
A	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley ..	Mid. Counties	1 5½	1 1½
A	Dundee ..	Scotland	1 5½	1 1½
A	Durham ..	N.E. Coast	1 5½	1 1½
A_2	EASTBOURNE	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1½
A_1	E. Glamorganshire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter ..	S.W. Counties	*1 4½	1 0½
B	Exmouth ..	S.W. Counties	1 3½	11½
A_2	FELIXSTOWE	E. Counties	1 4	1 0
A_3	Filey	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1½
B_1	Folkestone ..	S. Counties	1 3	11½
A	Frodsham ..	N.W. Counties	1 5½	1 1½
B_2	Frome	S.W. Counties	1 2½	11
A	GATESHEAD	N.E. Coast	1 5½	1 1½
B	Gillingham ..	S. Counties	1 3½	11½
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole	Yorkshire	1 4½	1 0½
A_2	Gosport ..	S. Counties	1 4½	1 0½
A_3	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0½
A	Greenock ..	Scotland	*1 5½	1 1½
A	Grimsby ..	Yorkshire	1 5½	1 1½
B	Guildford ..	S. Counties	1 3½	11½
A	HALIFAX ..	Yorkshire	1 5½	1 1½
A	Hanley ..	Mid. Counties	1 5½	1 1½
A	Harrogate ..	Yorkshire	1 5½	1 1½
A	Hartlepools ..	N.E. Coast	1 5½	1 1½
B	Harwich ..	E. Counties	1 3½	11½
B_1	Hastings ..	S. Counties	1 3	11½
A_2	Hatfield ..	S. Counties	1 4½	1 0½
B	Hereford ..	S.W. Counties	1 3½	11½
A_2	Hertford ..	E. Counties	1 4½	1 0½
A	Heysham ..	N.W. Counties	1 5½	1 1½
A	Howden ..	N.E. Coast	1 5½	1 1½
A	Huddersfield ..	Yorkshire	1 5½	1 1½
A	Hull ..	Yorkshire	1 5½	1 1½
A	ILKLEY ..	Yorkshire	1 5½	1 1½
A	Immingham ..	Mid. Counties	1 5½	1 1½
A_2	Ipswich ..	E. Counties	1 4½	1 0½
B_2	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1½
A	KEIGHLEY ..	Yorkshire	1 5½	1 1½
B	Kendal ..	N.W. Counties	1 3½	11½
B	Keswick ..	N.W. Counties	1 3½	11½
A_2	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster	Mid. Counties	1 4½	1 0½
B_1	King's Lynn ..	E. Counties	1 3	11½
A	LANCASTER ..	N.W. Counties	1 5½	1 1½
A_1	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester ..	Mid. Counties	1 5½	1 1½
A	Leigh	N.W. Counties	1 5½	1 1½
B_3	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln ..	Mid. Counties	1 5½	1 1½
	Liverpool ..	N.W. Counties	*1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly ..	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12-15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1½
A	Loughborough	Mid. Counties	1 5½	1 1½
A_3	Luton	E. Counties	1 4	1 0
A	Lytham ..	N.W. Counties	1 5½	1 1½
A_1	MACCLESFIELD	N.W. Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11½
A_3	Malvern ..	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1½
A	Mansfield ..	Mid. Counties	1 5½	1 1½
B_1	Margate ..	S. Counties	1 3	11½
A	Matlock ..	Mid. Counties	1 4	1 0
A_1	Merthyr ..	S. Wales & M.	1 5	1 0½
A	Middesbrough	N.E. Coast	1 5½	1 1½
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1 2½	11
A	Morecambe ..	N.W. Counties	1 5½	1 1½
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson ..	N.W. Counties	1 5½	1 1½
A	Newcastle ..	N.E. Coast	1 5½	1 1½
A	Newport ..	S. Wales & M.	1 5½	1 1½
A	Normanton ..	Yorkshire	1 5½	1 1½
A	Northampton	Mid. Counties	1 5½	1 1½
A	North Staffs ..	Mid. Counties	1 5½	1 1½
A	North Shields ..	N.E. Coast	1 5½	1 1½
A_1	Norwich ..	E. Counties	1 5	1 0½
A	Nottingham ..	Mid. Counties	1 5½	1 1½
A	Nuneaton ..	Mid. Counties	1 5½	1 1½
A_2	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham ..	N.W. Counties	1 5½	1 1½
A_2	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford ..	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	*1 5½	1 1½
B_2	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth ..	Scotland	*1 5½	1 1½
A_2	Peterborough ..	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	*1 5½	1 1½
A	Pontefract ..	Yorkshire	1 5½	1 1½
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_2	Portsmouth ..	S. Counties	1 4½	1 0½
A	Preston ..	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate ..	S. Counties	1 3½	11½
A_3	Retford ..	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A_3	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1½
B	Rochester ..	S. Counties	1 3½	11½
A_1	Ruabon ..	N.W. Counties	1 5	1 0½
A	Rugby ..	Mid. Counties	1 5½	1 1½
A_2	Rugeley ..	Mid. Counties	1 4½	1 0½
A	Runcorn ..	N.W. Counties	1 5½	1 1½
A_1	ST. ALBANS ..	E. Counties	1 5	1 0½
A	St. Helens ..	N.W. Counties	1 5½	1 1½
B_2	Salisbury ..	S.W. Counties	1 2½	11
A_1	Scarborough ..	Yorkshire	1 5	1 0½
A	Scunthorpe ..	Mid. Counties	1 5½	1 1½
A	Sheffield ..	Yorkshire	1 5½	1 1½
A	Shipley ..	Yorkshire	1 5½	1 1½
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton ..	Yorkshire	1 4½	1 0½
A_2	Slough ..	S. Counties	1 4½	1 0½
A_1	Solihull ..	Mid. Counties	1 5	1 0½
A_2	Southampton ..	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A_2	Southport ..	N.W. Counties	1 5½	1 1½
A	S. Shields ..	N.E. Coast	1 5½	1 1½
A_1	Stafford ..	Mid. Counties	1 5	1 0½
A	Stockport ..	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud ..	S.W. Counties	1 3½	11½
A	Sunderland ..	N.E. Coast	1 5½	1 1½
A	Swadlincote ..	Mid. Counties	1 5½	1 1½
A	Swansea ..	S. Wales & M.	1 5½	1 1½
A_3	Swindon ..	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton ..	S.W. Counties	1 3½	11½
A	Teesside Dist. ..	N.E. Counties	1 5½	1 1½
A_2	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1½
A_1	Torquay ..	S.W. Counties	1 5	1 0½
B_2	Truro	S.W. Counties	1 2½	11
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall ..	Mid. Counties	1 5½	1 1½
A	Tyne District ..	N.E. Coast	1 5½	1 1½
A	WAKEFIELD	Yorkshire	1 5½	1 1½
A	Walsall ..	Mid. Counties	1 5½	1 1½
A	Warrington ..	N.W. Counties	1 5½	1 1½
A_1	Warwick ..	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid. Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby ..	Yorkshire	1 4½	1 0½
A	Widnes ..	N.W. Counties	1 5½	1 1½
A	Wigan	N.W. Counties	1 5½	1 1½
B	Winchester ..	S. Counties	1 3½	11½
A_2	Windsor ..	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_3	Worksop ..	Yorkshire	1 4	1 0
A_1	Wrexham ..	N.W. Counties	1 5	1 0½
A_3	Wycombe ..	S. Counties	1 4	1 0
B_1	YARMOUTH ..	E. Counties	1 3	11½
B_1	Yeovil	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	1 1½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given. The rates for every trade in any given area will be sent on request.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	£ s. d.
Bricklayer . . . . . per hour	1 7
Carpenter . . . . . ,,	1 7
Joiner . . . . . ,,	1 7
Machinist . . . . . ,,	1 8
Mason (Banker) . . . . . ,,	1 7
,, (Fixer) . . . . . ,,	1 8
Plumber . . . . . ,,	1 7
Painter . . . . . ,,	1 6
Paperhanger . . . . . ,,	1 6
Glazier . . . . . ,,	1 7
Slater . . . . . ,,	1 7
Scaffolder . . . . . ,,	1 3
Timberman . . . . . ,,	1 3
Navvy . . . . . ,,	1 2½
General Labourer . . . . . ,,	1 2½
Lorryman . . . . . ,,	1 5
Crane Driver . . . . . ,,	1 6
Watchman . . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£ s. d.
Grey Stone Lime . . . . per ton	2 2 0
Blue Lias Lime . . . . ,,	1 16 6
Hydrated Lime . . . . ,,	3 0 9
Portland Cement . . . . ,,	2 6 0
Rapid Hardening Cement . . . ,,	2 13 6
White Portland Cement . . . ,,	8 15 0
Thames Ballast . . . . per Y.C.	6 3
¾" Crushed Ballast . . . ,,	6 9
Building Sand . . . . ,,	7 3
Washed Sand . . . . ,,	8 3
2" Broken Brick . . . . ,,	8 0
¾" ,, ,, ... ,,	10 3
Pan Breeze . . . . ,,	6 6
Coke Breeze . . . . ,,	8 9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

	4" s. d.	6" s. d.
Straight Pipes . . per F.R	0 9	1 1
Bends . . . each	1 9	2 6
Taper Bends . . ,,	3 6	5 3
Rest Bends . . ,,	4 3	6 3
Single junctions . . ,,	3 6	5 3
Double . . ,,	4 9	6 6
Straight channels . . per F.R.	1 6	2 6
¾" Channel bends . . each	2 9	4 0
Channel junctions . ,,	4 6	6 6
Channel tapers . ,,	2 9	4 0
Yard gullies . ,,	6 9	8 9
Interceptors . ,,	16 0	19 6

IRON DRAINS:

	£ s. d.
Iron drain pipe . . per F.R.	1 6 2 6
Bends . . . each	5 0 10 6
Inspection bends . . ,,	9 0 15 0
Single junctions . . ,,	8 9 18 0
Double junctions . . ,,	13 6 30 0
Lead wool . . . lb.	6 —
Gaskin . . . ,,	5 —

BRICKLAYER

	£ s. d.
Flettons . . . . . per M.	2 18 0
Grooved do. . . . . ,,	3 0 0
Phorpres bricks . . . . ,,	2 17 3
Phorpres Cellular bricks . . ,,	2 17 3
Stocks, 1st quality . . . ,,	4 11 0
,, 2nd ,, . . . ,,	4 2 6
Blue Bricks, Pressed . . . ,,	8 17 6
,, Wirecuts . . ,,	7 17 6
,, Brindles . . ,,	7 0 0
,, Bullnose . . ,,	9 0 0
Red Sand-faced Facings . . ,,	6 18 6
Red Rubbers for Arches . . ,,	12 0 0
Multicoloured Facings . . ,,	7 10 0
Luton Facings . . . ,,	7 10 0
Phorpres White Facings . . ,,	3 17 3
Phorpres Rustic Facings . . ,,	3 12 3
Midhurst White Facings . . ,,	5 0 0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:	
Stretchers . . . . . ,,	21 0 0
Headers . . . . . ,,	20 10 0
Bullnose . . . . . ,,	27 10 0
Double Stretchers . . . ,,	29 10 0
Double Headers . . . ,,	26 10 0
Glazed Second Quality, *Less* . .	1 0 0
,, Buffs and Creams, *Add* . .	2 0 0
,, Other Colours . .	5 10 0
2" Breeze Partition Blocks . . per Y.S.	1 7
2½" ,, ,, ,, . . ,,	1 10
3" ,, ,, ,, . . ,,	2 1
4" ,, ,, ,, . . ,,	2 6

MASON

The following d/d F.O.R. at Nine Elms:

	s. d.
Portland stone, Whitbed . . F.C.	4 4½
,, ,, Basebed . . ,,	4 9
Bath stone . . . . ,,	2 11
York stone . . . . ,,	6 6
,, ,, Sawn templates . . ,,	7 6
,, ,, Paving, 2" . . F.S.	1 8
,, ,, ,, 3" . . ,,	2 6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£ s. d.
24" × 12" Duchesses . . per M.	28 17 6
22" × 12" Marchionesses . ,,	24 10 0
20" × 10" Countesses . . ,,	19 5 0
18" × 10" Viscountesses . ,,	15 10 0
18" × 9" Ladies . . . ,,	13 17 6
Westmorland green (random sizes) . per ton	8 10 0
Old Delabole slates d/d in full truck loads to Nine Elms Station:	
20" × 10" medium grey per 1,000 (actual)	21 11 6
,, green ,, ,,	24 7 4
Best machine roofing tiles . . ,,	4 10 0
Best hand-made do. . . . ,,	5 0 0
Hips and valleys . . . each	9½
,, hand-made . . . ,,	10
Nails, compo . . . . lb.	1 4
,, copper . . . ,,	1 6

CARPENTER AND JOINER

	s. d.
Good carcassing timber . . F.C.	2 2
Birch . . . . as 1" F.S.	9
Deal, Joiner's . . . ,, ,,	5
,, ,, 2nds . . ,, ,,	4
Mahogany, Honduras . . ,, ,,	1 3
,, African . . ,, ,,	1 1
,, Cuban . . ,, ,,	2 6
Oak, plain American . . ,, ,,	1 0
,, Figured ,, . . ,, ,,	1 3
,, Plain Japanese . . ,, ,,	1 2
,, Figured ,, . . ,, ,,	1 5
,, Austrian wainscot . ,, ,,	1 6
,, English . . . ,, ,,	1 11
Pine, Yellow . . . ,, ,,	1 0
,, Oregon . . . ,, ,,	4
,, British Columbian . ,, ,,	4
Teak, Moulmein . . . ,, ,,	1 3
,, Burma . . . ,, ,,	1 2
Walnut, American . . ,, ,,	2 3
,, French . . ,, ,,	2 3
Whitewood, American . . ,, ,,	1 1
Deal floorings, ¾" . . . Sq.	18 6
,, 1" . . . ,,	1 1 6
,, 1¼" . . . ,,	1 2 0
,, 1½" . . . ,,	1 5 0
,, 1¾" . . . ,,	1 10 0
Deal matchings ¾" . . . ,,	14 0
,, 1" . . . ,,	15 6
,, 1¼" . . . ,,	1 4 0
Rough boarding ¾" . . . ,,	16 0
,, 1" . . . ,,	18 0
,, 1¼" . . . ,,	1 6 0

Plywood, per ft. sup.

Thickness	⅛"	¼"	⅜"	½"
Qualities	AA. A. B.	AA. A. B.	AA. A. B.	AA. A. B.
	d. d. d.	d. d. d.	d. d. d.	d. d. d.
Birch	4 3 2	5 4 3	7½ 6 4½	8½ 7 6
Alder	3½ 3 2	5 4 3	6½ 5½ 4½	8 7 6
Gaboon				
Mahogany	4 3 3	6½ 5½ 4½	9½ 7½ –	1/0½ 10 –
Figured Oak				
1 side	8½ 7 –	10 8 –	11½ – –	1/6 – –
Plain Oak				
1 side	6½ 6 –	7½ 7 –	9½ – –	1/– – –
Oregon Pine	5 4 –	5½ 5 –	6 – –	– – –

	d.
Scotch glue . . . . . lb.	8

SMITH AND FOUNDER

Tubes and Fittings:

(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	¼"	½"	1"	1¼"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9
,, 3"-11½" long ,,	7	9	1/3	1/8	3/–
Long screws, 12"-23½" long ,,	11	1/3	2/2	2/10	5/3
,, ,, 3"M-1½" long ,,	8	10	1/5	1/11	3/6
Bends . . . . ,,	8	11	1/7½	2/7½	5/2
Springs not socketed . ,,	5	7	1/1½	1/11½	3/11
Socket unions . . . ,,	2/–	3/–	5/6	6/9	10/–
Elbows, square . . . ,,	10	1/1	1/6	2/2	4/3
Tees . . . . ,,	1/–	1/3	1/10	2/6	5/1
Crosses . . . . ,,	2/2	2/9	4/1	5/6	10/6
Plain Sockets and nipples ,,	3	4	6	8	1/3
Diminished sockets . ,,	4	6	9	1/–	2/–
Flanges . . . . ,,	9	1/–	1/4	1/9	2/9
Caps . . . . ,,	3½	5	8	1/–	2/–
Backnuts . . . . ,,	2	3	5	6	1/1
Iron main cocks . . ,,	1/6	2/3	4/2	5/4	11/6
,, ,, with brass plugs ,,	—	4/–	7/6	10/–	21/–

Discounts:

TUBES.	Per cent.		Per cent.
Gas . . .	65	Galvanized gas .	52½
Water . . .	61½	,, water	47½
Steam . . .	57½	,, steam	42½
FITTINGS.			
Gas . . .	57½	Galvanized gas .	47½
Water . . .	52½	,, water	42½
Steam . . .	47½	,, steam	37½

SMITH AND FOUNDER—*continued*

	s. d.
Rolled steel joists cut to length . . cwt.	10 9
Mild steel reinforcing rods, ¾" . . ,,	8 6
,, ,, ⅝" . . ,,	8 3
,, ,, ½" . . ,,	8 0
,, ,, ⅜" . . ,,	7 6
,, ,, ¼" . . ,,	7 6
,, ,, 1" . . ,,	7 6
,, ,, 1¼" . . ,,	7 6
,, ,, 1½" . . ,,	7 6
,, ,, 3" . . ,,	4"

	s. d.	s. d.
Cast-iron rain-water pipes of ordinary thickness metal . . F.R	8	10
Shoes . . . . each	2 0	3 0
Anti-splash shoes . . ,,	4 6	8 0
Boots . . . . ,,	3 0	4 0
Bends . . . . ,,	2 7	3 9
,, with access door . . ,,	—	6 3
Heads . . . . ,,	4 0	5 0
Swan-necks up to 9" offsets . ,,	3 9	6 0
Plinth bends, 4½" to 6" . ,,	3 9	5 3
Half-round rain-water gutters of ordinary thickness metal . . F.R.	5	6
Stop ends . . . . each	6	6
Angles . . . . ,,	1 7	1 11
Obtuse angles . . . ,,	2 0	2 6
Outlets . . . . ,,	1 9	2 3

PLUMBER

	£ s. d.
Lead, milled sheets . . . cwt.	18 6
,, drawn pipes . . . ,,	17 0
,, soil pipe . . . ,,	18 6
,, scrap . . . ,,	10 6
Solder, plumbers' . . . lb.	9½
,, fine do. . . . ,,	1 0
Copper, sheet . . . ,,	8½
,, tubes . . . ,,	11

L.C.C soil and waste pipes:	3"	4"	6"
Plain cast . . F.R.	1 0	1 2	2 6
Coated . . ,,	1 1	1 3	2 8
Galvanized . . ,,	2 0	2 6	4 6
Holderbats . . each	3 10	4 0	4 9
Bends . . ,,	3 9	5 3	10 3
Shoes . . ,,	2 10	4 4	9 6
Heads . . ,,	4 8	8 5	12 9

PLASTERER

	£ s. d.
Lime, chalk . . . per ton	2 5 0
Plaster, coarse . . ,,	2 10 0
,, fine . . ,,	4 15 0
Hydrated lime . . ,,	3 0 9
Sirapite . . . ,,	3 6 0
Keene's cement . . ,,	3 0 8
Sand, washed . . Y.C.	11 6
Hair . . . lb.	6
Laths, sawn . . . bundle	2 4
,, rent . . . ,,	3 9
Lath nails . . . lb.	3½

GLAZIER

	s. d.	s. d.
Sheet glass, 21 oz., squares n/e 2 ft.	s. F.S.	2
,, ,, 26 oz. ,, ,, ,,	,,	3½
Flemish, Arctic, Figured (white)*	,,	7
Blazoned glasses . . .	,,	2 6
Reeded; cross reeded	,,	11
Cathedrals: eleven varieties (white)*	,,	6½
Crown sheet glass (n/e 12 in. x 10 in)	,,	2 0
Flashed opals (white and coloured)	,, 1 0 and	2 0
¼" rough cast, rolled plate . .	,,	7
¼" wired cast; wired rolled . .	,,	10
¼" Georgian wired cast . .	,,	11
¼" Polished plate, n/e 1 ft. . .	,, †10 to	‡1 1
,, ,, 2 . .	,, †1 2 ,,	‡1 4
,, ,, 4 . .	,, †2 3 ,,	‡2 6
,, ,, 8 . .	,, †2 9 ,,	‡3 2
,, ,, 20 . .	,, †3 7 ,,	‡4 2
,, ,, 45 . .	,, †3 11 ,,	‡4 7
,, ,, 100 . .	,, †5 0 ,,	‡5 7
Vita glass, sheet, n/e 2 ft. . .	,,	1 3
,, ,, over 2 . .	,,	1 9
,, ,, plate, n/e 2 ft. . .	,,	3 0
,, ,, ,, 7 . .	,,	5 0
,, ,, ,, 15 . .	,,	6 0
,, ,, ,, over 15 . .	,,	7 6
"Calorex" sheet 21 oz., and 32 oz.	,, 2 6 and	3 6
,, rough cast ¼" and ½"	,,	8½ ,, 1 0
Putty, linseed oil . . .	lb.	3

*Colours 1d. F.S. extra.

†Ordinary glazing quality. ‡Selected glazing quality.

PAINTER

	£ s. d.
White lead in 1 cwt. casks . .	cwt. 2 6 0
Linseed oil	gall. 2 2½
Boiled oil	,, 2 4½
Turpentine	,, 4 1½
Patent knotting	,, 14 0
Distemper, washable . . .	cwt. 2 6 0
,, ordinary . .	,, 2 0 0
Whitening	,, 4 0
Size, double	firkin 3 0
Copal varnish	gall. 13 0
Flat varnish	,, 14 0
Outside varnish	,, 16 0
White enamel	,, 1 15 0
Ready-mixed paint . . .	,, 13 6
Brunswick black . . .	,, 7 6

Changes from last week are set out in heavier type.

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR		£ s. d.
Digging over surface n/e 12" deep and cart away	Y.S.	2 9
" to reduce levels n/e 5' 0" deep and cart away	Y.C.	8 6
" to form basement n/e 5' 0" deep and cart away	"	9 0
" " 10' 0" deep and cart away	"	9 6
" " 15' 0" deep and cart away	"	10 0
If in stiff clay	add "	2 6
If in underpinning	" "	4 0
Planking and strutting to sides of excavation	F.S.	1 0
" " to pier holes	"	5
" " to trenches	"	5
" " extra, only if left in	"	3
Hardcore, filled in and rammed	Y.C.	10 0
Portland cement concrete in foundations (6-1)	"	1 6 0
" " (4-2-1)	"	1 12 6
" " underpinning	"	1 16 0
Finishing surface of concrete, spade face	Y.S.	7

DRAINLAYER		4" s. d.	6" s. d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1 6	2 3
Extra, only for bends	Each	2 8	3 9
" junctions	"	3 9	4 6
Gullies and gratings	"	16 6	18 0
Cast iron drains, and laying and jointing	F.R.	4 9	6 9
Extra, only for bends	Each	10 6	15 6

BRICKLAYER		£ s. d.
Brickwork, Flettons in lime mortar	Per Rod	27 10 0
" " in cement	"	28 15 0
" Stocks in cement	"	35 0 0
" Blues in cement	"	52 0 0
Extra only for circular on plan	"	2 0 0
" backing to masonry	"	1 10 0
" raising on old walls	"	2 0 0
" underpinning	"	5 10 0
Fair Face and pointing internally	F.S.	1½
Extra over fletton brickwork for picked stock facings and pointing	"	8¼
" " " red brick facings and pointing	"	11
" " " blue brick facings and pointing	"	1 4
" " " glazed brick facings and pointing	"	3 6
Tuck pointing	"	7
Weather pointing in cement	"	3½
Slate dampcourse	"	10
Vertical dampcourse	"	1 1

ASPHALTER		s. d.
½" Horizontal dampcourse	Y.S.	4 6
½" Vertical dampcourse	"	6 9
½" paving or flat	"	4 0
1" paving or flat	"	5 6
1" × 6" skirting	F.R.	1 0
Angle fillet	"	2
Rounded angle	"	2
Cesspools	Each	5 0

MASON		s. d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C.	17 9
Bath stone and do., all as last	"	13 6
Artificial stone and do.	"	13 0
York stone templates, fixed complete	"	10 6
" thresholds	"	13 6
" sills	"	1 0 6

SLATER AND TILER		£ s. d.
Slating, Bangor or equal, laid to a 3" lap, and fixing with compo nails, 20" × 10"	Sqr.	3 10 0
Do., 18" × 9"	"	3 7 0
Do., 24" × 12"	"	3 17 0
Westmorland slating, laid with diminished courses	"	6 0 0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course	"	3 0 0
Do., all as last, but of machine-made tiles	"	2 16 0
20" × 10" medium Old Delabole slating, laid to a 3" lap (grey)	"	4 6 0
" " " " " (green)	"	4 15 0

CARPENTER AND JOINER		£ s. d.
Flat boarded centering to concrete floors, including all strutting	Sqr.	2 5 0
Shuttering to sides and soffits of beams	F.S.	8
" to stanchions	"	8
" to staircases	"	1 8
Fir and fixing in wall plates, lintols, etc.	F.C.	3 9
Fir framed in floors	"	4 6
" " roofs	"	6 6
" " trusses	"	7 6
" " partitions	"	8 6
½" deal sawn boarding and fixing to joists	Sqr.	1 14 6
1" " " " "	"	1 17 6
1½" " " " "	"	2 3 0
3" × 2" fir battening for Countess slating	"	9 6
Do. for 4" gauge tiling	"	12 0
Stout feather-edged tilting fillet	F.R.	4½
Patent inodorous felt, 1 ply	Y.S.	2 3
" " " 2 "	"	2 9
" " " 3 "	"	3 3
Stout herringbone strutting to 9" joists	F.R.	10½
1" deal gutter boards and bearers	F.S.	1 2
1½" " " "	"	1 6
2" deal wrought rounded roll	F.R.	8
1" deal grooved and tongued flooring, laid complete, including cleaning off	Sqr.	2 1 0
1½" do.	"	2 10 0
2½" do.	"	2 17 0
1" deal moulded skirting, fixed on, and including grounds plugged to wall	F.S.	1 6
1½" do.	"	1 9

CARPENTER AND JOINER—*continued*		s. d.
1½" deal moulded sashes of average size	F.S.	1 9½
2" " " " "	"	1 11½
1½" deal cased frames double hung, of 6" × 3" oak sills, 1¼" pulley stiles, 1¼" heads, 1" inside and outside linings, ⅝" parting beads, and with brass faced axle pulleys, etc., fixed complete	"	3 7
2" " " " "	"	3 10
Extra only for moulded horns	Each	6
1½" deal four-panel square, both sides, door	F.S.	2 0
2" " " " "	"	2 8
1½" " but moulded both sides	"	2 4
2" " " " "	"	3 0
4" × 3" deal, rebated and moulded frames	F.R.	1 0
4½" × 3½" " " "	"	1 4
1½" deal tongued and moulded window board, on and including deal bearers	F.S.	1 9
1½" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	"	2 6
1½" deal moulded wall strings	"	2 1
1½" " outer strings	"	2 4
Ends of treads and risers housed to string	Each	1 9
3" × 2" deal moulded handrail	F.R.	1 3
1" × 1" deal balusters and housing each end	Each	2 0
1½" × 1½" " " "	"	2 9
3" × 3" deal wrought framed newels	F.R.	1 3
Extra only for newel caps	Each	6 0
Do., pendants	"	6 0

SMITH AND FOUNDER		£ s. d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt.	15 6
Riveted plate or compound girders, and hoisting and fixing in position	"	19 6
Do. stanchions with riveted caps and bases and do.	"	19 0
Mild steel bar reinforcement, ½" and up, bent and fixed complete	"	17 6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S.	11
Wrot-iron caulked and cambered chimney bars	Per cwt.	1 10 0

PLUMBER		£ s. d.
Milled lead and labour in flats	cwt.	1 12 0
Do. in flashings	"	1 15 6
Do. in covering to turrets	"	2 3 0
Do. in soakers	"	1 7 6
Labour to welted edge	F.R.	3½
Open copper nailing	"	3
Close " "	"	4

Lead service pipe and fixing with pipe hooks	½" s. d.	¾" s. d.	1" s. d.	1¼" s. d.	2" s. d.	4" s. d.
	F.R. 10	1 0	1 3	2 0	2 10	—
Do. soil pipe and fixing with cast lead tacks	—	—	—	—	—	5 6
Extra, only to bends	Each —	—	—	—	2 0	6 9
Do. to stop ends	" 6½	8	9	11	1 0	—
Boiler screws and unions	" 3 3	3 9	5 0	8 0	—	—
Lead traps	" —	—	—	6 3	8 9	—
Screw down bib valves	" 6 9	9 6	11 0	—	—	—
Do. stop cocks	" 7 0	9 6	12 6	—	—	—

		s. d.
4" cast-iron ½-rd. gutter and fixing	F.R.	1 0
Extra, only stop ends	Each	1 0
Do. angles	"	1 6
Do. outlets	"	2 9
4" dia. cast-iron rain-water pipe and fixing with ears cast on	F.R.	1 2
Extra, only for shoes	Each	1 3
Do. for plain heads	"	5 6

PLASTERER AND TILING		s. d.
Expanded metal lathing, small mesh	Y.S.	2 0
Do. in n/w to beams, stanchions, etc.	"	2 9
Lathing with sawn laths to ceilings	"	1 3
½" screeding in Portland cement and sand for tiling, wood block floor, etc.	"	1 5
Do. vertical	"	1 7
Rough render on walls	"	1 2½
Render, float and set in lime and hair	"	1 9
Render and set in Sirapite	"	1 11
Render, backing in cement and sand, and set in Keene's cement	"	2 9
Extra, only if on lathing	"	4
Keene's cement, angle and arris	F.R.	6
Arris	"	1½
Rounded angle, small	"	3
Plain cornices in plaster, including dubbing out, per 1" girth	"	1½
1" granolithic pavings	Y.S.	3 6
1½" " "	"	4 6
6" × 6" white glazed wall tiling and fixing on prepared screed	"	17 6
9" × 3" " " " "	"	1 2 6
Extra, only for small quadrant angle	F.R.	8

GLAZIER		s. d
21 oz. sheet glass and glazing with putty	F.S.	7½
26 oz. do. and do.	"	8½
Arctic glass and glazing with putty	"	1 1
Cathedral glass and do.	"	1 2
Glazing only, British polished plate	"	7
Extra, only if in beads	"	2
Washleather	F.R.	4

PAINTER		s. d.
Clearcolle and whiten ceilings	Y.S.	6½
Do. and distemper walls	"	9
Do. with washable distemper	"	1 1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	"	3 3
Do. on woodwork	"	3 6
Do. on steelwork	"	3 0
Do. and brush grain and twice varnish	"	5 6
Stain and twice varnish woodwork	"	1 11
Stain and wax-polish woodwork	"	4 6
French polishing	F.S.	1 2
Stripping off old paper	Piece	2 0
Hanging ordinary paper	from "	2 9

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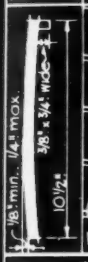
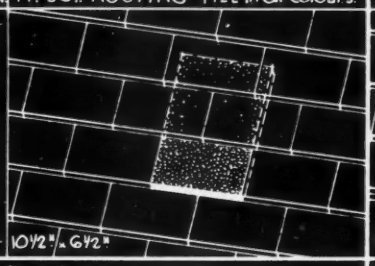
THE ARCHITECTS' JOURNAL LIBRARY OF PLANNED INFORMATION

ROOFING TILE FITTINGS:

SECTION

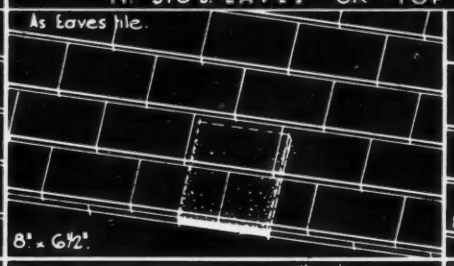


Nº 301. ROOFING TILE in all colours.

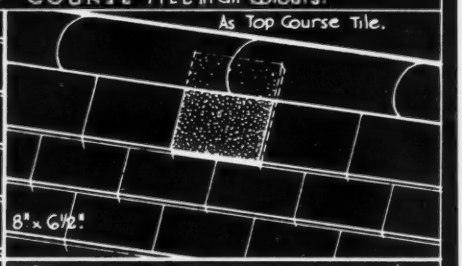


Nº 310 B. EAVES OR TOP COURSE TILE in all colours.

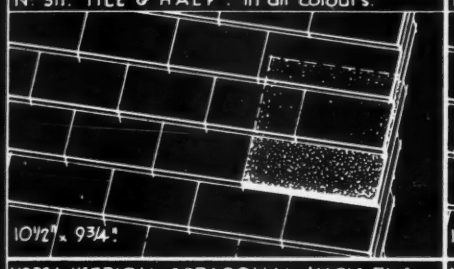
As Eaves Tile.



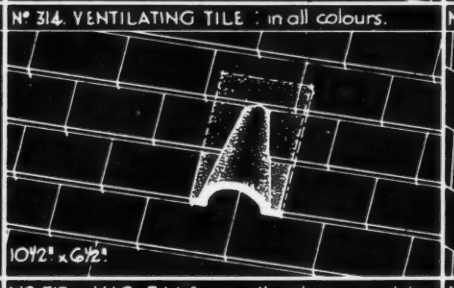
As Top Course Tile.



Nº 311. TILE & HALF : in all colours.

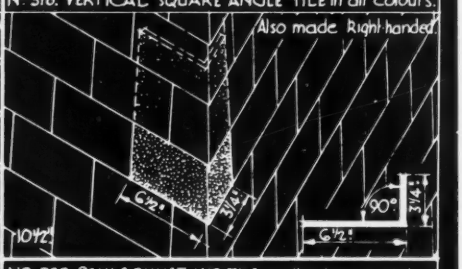


Nº 314. VENTILATING TILE : in all colours.



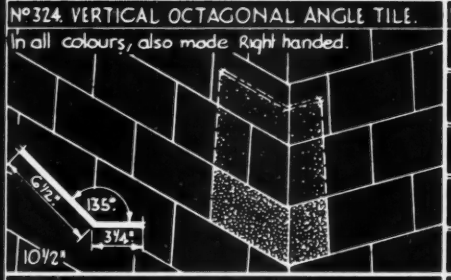
Nº 318. VERTICAL SQUARE ANGLE TILE in all colours.

Also made Right handed.

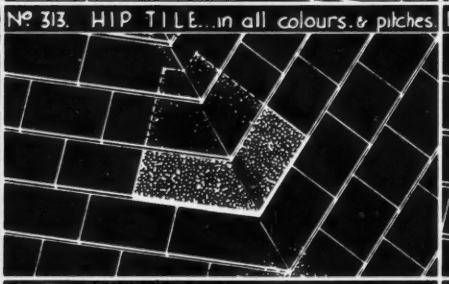


Nº 324. VERTICAL OCTAGONAL ANGLE TILE.

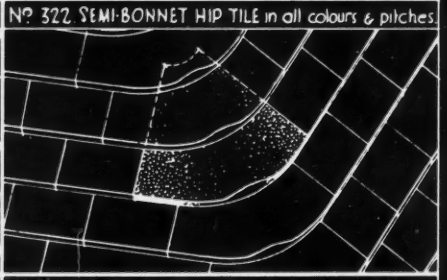
in all colours, also made Right handed.



Nº 313. HIP TILE... in all colours & pitches.

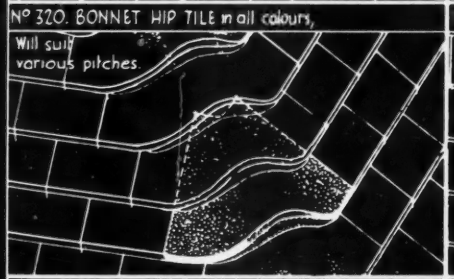


Nº 322. SEMI-BONNET HIP TILE in all colours & pitches.



Nº 320. BONNET HIP TILE in all colours,

Will suit various pitches.



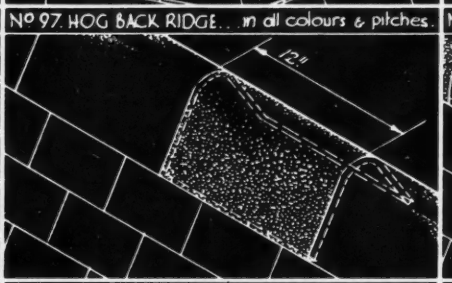
Nº 321. OCTAGONAL BAY WINDOW HIPS.

In all colours, also made Left handed.

Nº 312. VALLEY TILE in all colours & pitches.

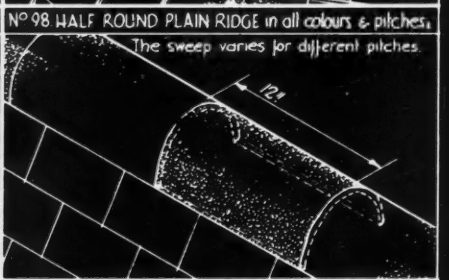
Nº 323. ROUNDED VALLEY TILE in all colours & pitches.

Nº 97. HOG BACK RIDGE... in all colours & pitches.



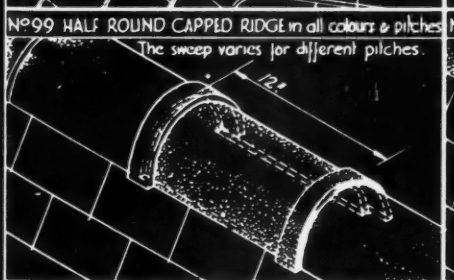
Nº 98 HALF ROUND PLAIN RIDGE in all colours & pitches.

The sweep varies for different pitches.

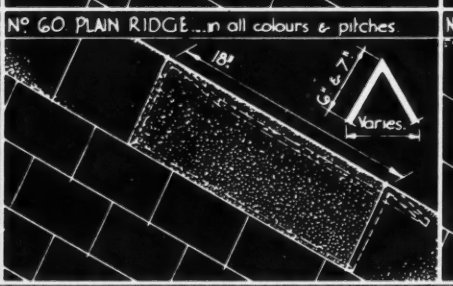


Nº 99 HALF ROUND CAPPED RIDGE in all colours & pitches

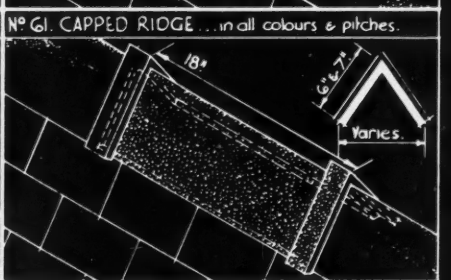
The sweep varies for different pitches.



Nº 60 PLAIN RIDGE ... in all colours & pitches



Nº 61. CAPPED RIDGE ... in all colours & pitches.



Information from Wheatly & Co, Springfield Tileries, Newcastle, Staffs. (in association with The Silverdale Tileries Co. Ltd. Silverdale, Staffs.)

INFORMATION SHEET : ROOFING TILES : BCM/TRITON TILE FITTINGS

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.1.

INFORMATION SHEET • 103 • ROOFING TILE FITTINGS

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

• 103 •

ROOFING TILE FITTINGS

Name of Product: BCM/Triton Tiles

Type Illustrated: General Fittings

Sizes:
BCM/Triton Tiles are made to conform with the British Standard Specification for roofing tiles, size: $10\frac{1}{2}'' \times 6\frac{1}{2}''$.

Guarantee:
Where a definite written guarantee is given with Best BCM/Triton Tiles, the manufacturers undertake to replace any tiles which laminate, free of all charge on the roof.

Varieties:
BCM/Triton Tiles are made in the following qualities:
(1) Hand-made Hand-pressed,
(2) Hand-made Sand-faced,
(3) Hand-made Rustic,
(4) Hand-made Antique.

Antique tiles are made only to order.

Colours:
Each of the above qualities is made in the following colours:
(a) Red,
(b) Light Brindled,
(c) Medium Brindled,
(d) Dark Brindled,
(e) Blue Brindled,
(f) Blue,
(g) No. 2 (Bright) Red,
(h) Stained Green,
(i) Stained Variegated Lichen,
(j) Stained Brown,
(k) Stained Gloucester Grey,
(l) Stained Black,
(m) Stained Purple.

No. 2 (Bright) Red and Gloucester Grey are made only to order. Various multi-coloured combinations can be supplied.

Ornamental Tiles:
Ornamental tiles for roof or gable ends can be supplied in a number of patterns to match the plain tiles in colour and variety.

Ridge Fittings:
In addition to the fittings shown on this Sheet, all necessary Hip Ends, Quoins, Hip (3 way) Junctions, "T" Junctions, Angles, Ventilating Ridges, etc., can be supplied to match any pattern, pitch or colour of Ridge.

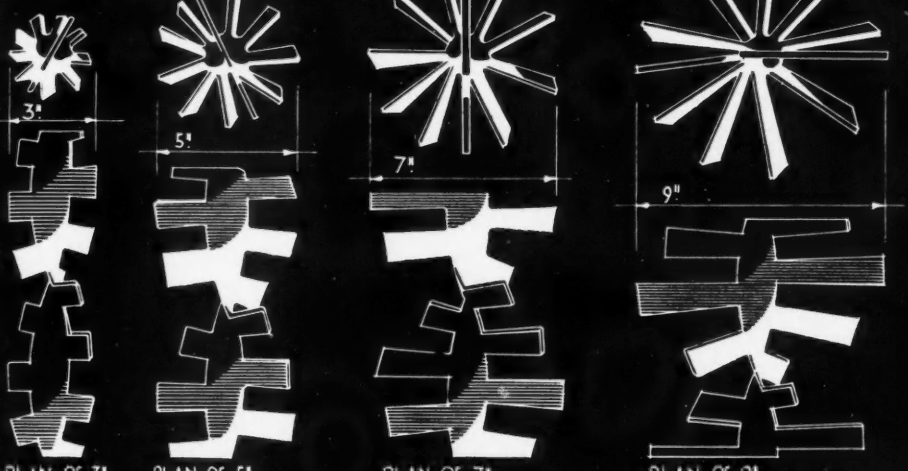
Name of Manufacturers: Wheatly & Co. (in association with the Silverdale Tileries Co. Ltd., Silverdale, Staffs)

Address: Springfield Tileries, Newcastle, Staffs

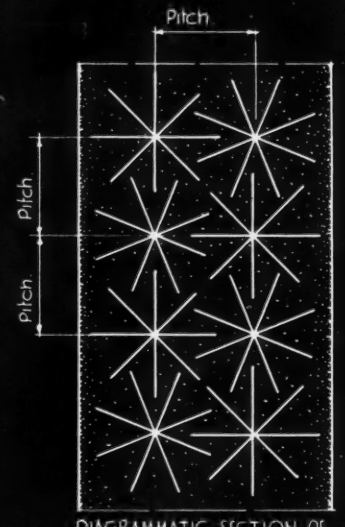
Telephone: 6251 and 6252 Newcastle, Staffs

THE ARCHITECTS' JOURNAL LIBRARY OF PLANNED INFORMATION.

END ELEVATIONS OF THE FOUR STANDARD SIZES OF TANGBAR REINFORCEMENT.

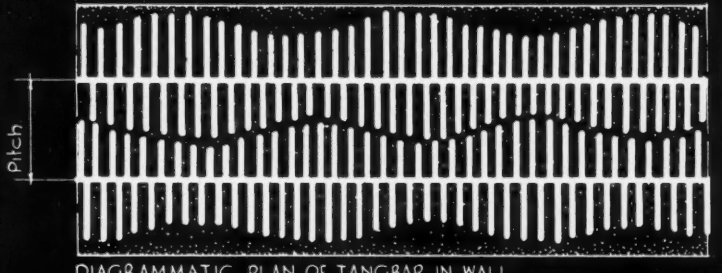


PLAN OF 3" PLAN OF 5" PLAN OF 7" PLAN OF 9"

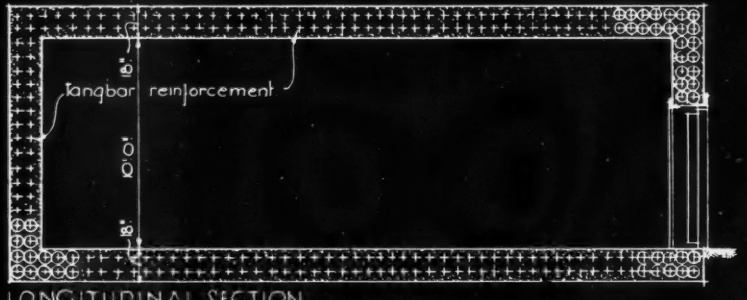


DIAGRAMMATIC SECTION OF TANGBAR IN WALL.

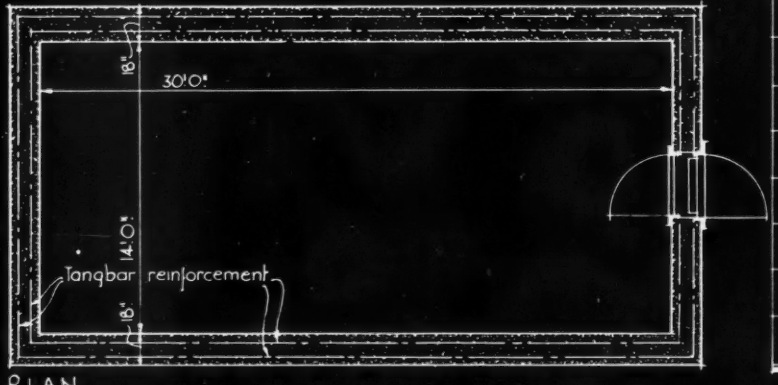
PLAN OF 9" TANGBAR BEFORE TWISTING.



DIAGRAMMATIC PLAN OF TANGBAR IN WALL.



LONGITUDINAL SECTION.



PLAN.
TYPICAL ARRANGEMENT OF STRONGROOM.

Information from Chubb & Sons Lock & Safe Co. Ltd.

RECOMMENDATIONS :

THICKNESS OF FLOOR WALLS & ROOF	NUMBER OF ROWS OF TANGBAR	SIZE OF TANGBAR	PITCH
4"	1.	3"	3"
6"	1.	5"	4"
9"	1.	7"	5"
12"	1.	9"	7"
12"	2.	5"	4"
14"	2.	7"	5"
18"	2.	9"	7"
21"	2.	9"	7"
24"	3.	9"	7"
27"	3.	9"	7"
30"	3.	9"	7"
33"	4.	9"	7"
36"	4.	9"	7"

INFORMATION SHEET : STRONGROOMS : DETAILS OF TANGBAR REINFORCEMENT.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.1.

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

• 104 •

STRONG ROOM CONSTRUCTION

Name of Product : Tangbar Reinforcement

Description :

General :

Chubb's Tangbar Reinforcement is for reinforcing concrete walls, floors and roofs of Strong Rooms to resist attack by burglars. It is made from steel strips $\frac{3}{16}$ in. or $\frac{1}{8}$ in. thick, the width varying according to the size the resultant Tangbar is required to be. The strip is placed in a machine and converted into a comb as shown in the illustration, the central member and the tangs projecting from it being 1 in. in width. It should be noted that each bar is made from one piece of steel, there being no welding or other method of joining in its manufacture. After combing, the strip is placed in a twisting machine, one complete revolution of the machine being made for each foot of Tangbar in the length being twisted, the result being that the centre member is twisted in corkscrew fashion and the tangs projecting from it are automatically made to radiate from its centre. This is clearly shown in the illustration.

Its high efficiency is obtained by the irregular distribution of a comparatively light metal through the thickness of the concrete, and this has been proved by test to be a great advantage over the heavier types of reinforcement that have been generally used in the past.

The formation of the tangs necessitates a constant change of tools by the attackers, and at the same time prevents disintegration of the concrete in the event of explosives being used.

Laying :

The Tangbar is not erected in its entirety before concreting is commenced. Shuttering is erected in the ordinary way and one, two or three Tangbars (according to the number specified in the thickness of the wall) are then placed in position and concreted in to within 2 in. of the top of the bar. There is plenty of room available for the concrete to be properly rodded. At the corners the Tangbars in one wall can be readily connected with those of the wall meeting it by interlocking the tangs, and this method is recommended as the strength of the corners is considerably increased by so doing. Where the length of a bar is less than the length of a wall (which is usually the case) the bars are arranged to overlap longitudinally.

When Strong Rooms are built to give a high degree of resistance it is frequently arranged for the Tangbar to be laid transversely through the thickness of the wall alternately with the bars laid longitudinally.

If, for any special reason, an Architect should require the bars to be stiffer than standard the Tangbar can be twisted round a central rod.

For shipping purposes the Tangbar is usually packed in its flat state, i.e., before twisting, which is done on the building site by a special twisting machine, several of which are kept available for this purpose. These machines can be loaned from the manufacturers and returned to them after the job is completed.

Concrete :

Owing to the simplicity of handling Tangbar Reinforcement and the ease with which the concrete can be tamped and rodded, any specification of concrete mixture likely to be specified can be used. A good mixture is :—

1 part Cement (British Standard Specification).
$1\frac{1}{2}$ parts Clean Washed Sand, and
3 parts Whinstone or Granite Chippings, $\frac{3}{4}$ in. to $\frac{1}{4}$ in. mesh.

The water content should be sufficient to allow a minimum fall of $1\frac{1}{2}$ in., and a maximum fall of $2\frac{1}{2}$ in. under the slump test.

Structural Reinforcement :

It should be noted that Tangbar Reinforcement is for burglar-resisting purposes only, and structural reinforcement should be provided in addition for the roof and the floor if necessary.

General Notes on Strong Rooms :

Concrete Strong Rooms are frequently lined with steel plates, and these are often arranged to act as shuttering. This arrangement serves a double purpose ; it not only reduces the cost of the concreting by obviating the necessity of one set of wooden shuttering, but the result is far stronger as the concrete and steel are in close contact. Special arrangements are made to anchor the steel plates to the concrete.

The finish of the walls is generally done to suit the Architects' ideas, but in the event of the room being required as a Public Safe Deposit the finishing would have to be on a more elaborate scale than if the room were solely for its owner's use. In the latter case the walls are usually finished in Keene's cement or similar, and the floor is usually finally finished in granolithic to prevent slipping. When a concrete Strong Room is lined with steel plates these are usually finished by painting.

The ventilation is highly important and should be given serious consideration. Space will not permit of the matter being dealt with here, but the manufacturers are always ready to give their advice, which is based on many years' experience.

The entrance doors vary in strength according to the thickness of the concrete chamber, and here again the manufacturers are always pleased to give Architects their ideas.

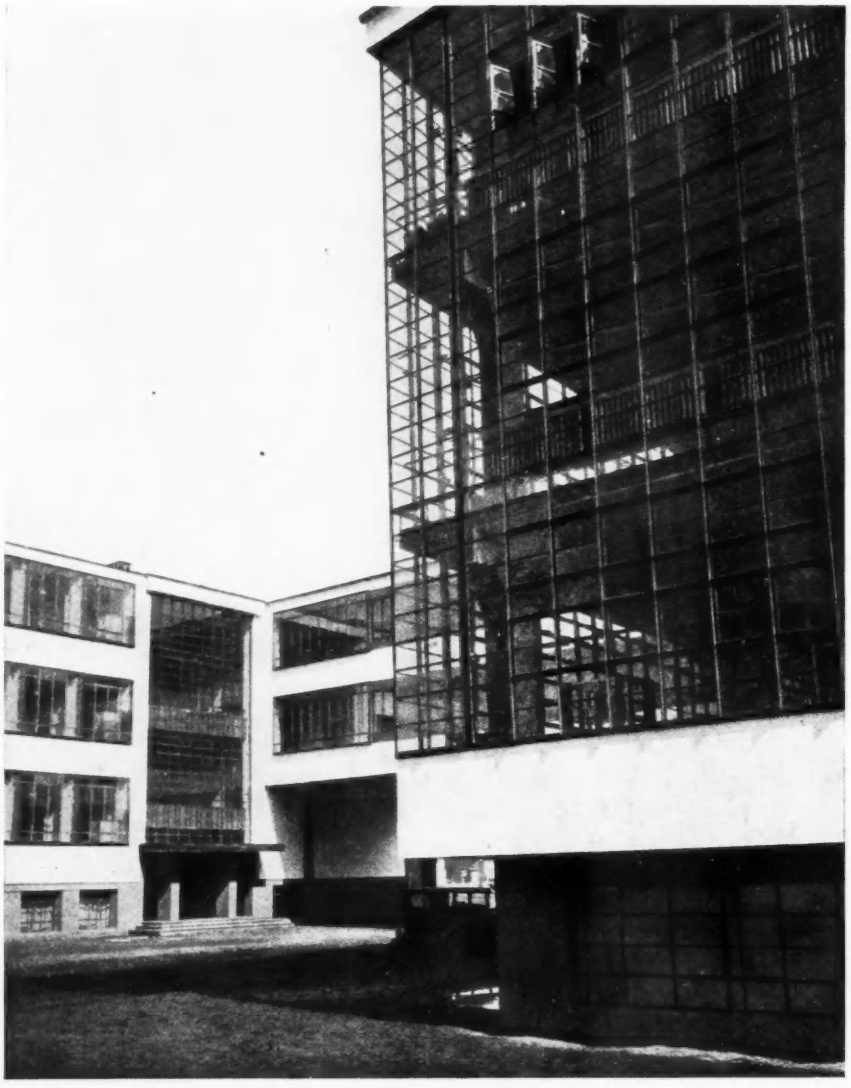
The lighting must be arranged according to the purpose for which the room is used, and each individual case has to be dealt with on its merits.

Name of Manufacturers : Chubb & Son's Lock & Safe Co., Ltd.
Address : 128 Queen Victoria Street, E.C.4
Telephone : Central 6111 (3 lines)

SOMETHING TO LIVE UP TO

THE TOWN HALL AT WOLVERHAMPTON

CONDITIONS have just been published of the new competition for Municipal Assembly Halls at Wolverhampton. The site adjoins the existing Town Hall, of which the above is a photograph. The conditions, however, specify that "the Corporation do not require that the elevation of the proposed new building should continue the treatment of the Town Hall." The assessor is Mr. C. Cowles-Voysey, and the conditions are *reviewed on page 632 of this issue.*



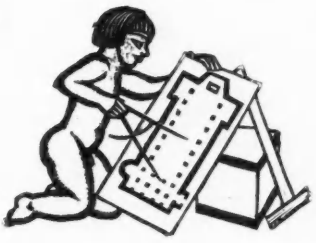
THE BAUHAUS

BY

WALTER GROPIUS

Walter Gropius arrives in England on the seventh of May. While he is here an exhibition of his work will be held at the R.I.B.A., from May 15 to 18 and 23 to 26. He will also deliver an address to the Institute.

These photographs illustrate his most celebrated work: The Bauhaus at Dessau.



WATERLOO BRIDGE IS A QUESTION OF TOWN PLANNING

THE Carlton House Terrace controversy, though some people criticized it at the time as being too violent, and though it failed to prevent the erection of the one new building, did a great deal more for the cause of town planning than any one dared to hope at the time. The Crown Lands Advisory Committee was set up, and this Committee has consistently advocated the necessity for town planning. When proposals for new buildings in Arlington Street were laid before it, the Committee recommended the Commissioners of Crown Lands and the L.C.C. to get out a plan immediately covering the area between St. James's Street and the Green Park, and further to prepare a scheme which would safeguard the amenities of all areas surrounding the Royal parks. Last week the report on Carlton House Terrace, drawn up by the Advisory Committee, was made public, and here again the importance of town planning is stressed. Carlton House Terrace is declared to be a monumental site which must be treated as a whole and in relation to its very important surroundings. Moreover, the Commissioners of Crown Lands have learnt their lesson. They have agreed to produce a scheme in conjunction with the L.C.C. for the Arlington Street area, and the preparation of this scheme is at present proceeding.

But although Crown Lands have learnt the importance of planning, the L.C.C. have not yet done so. The battle over Waterloo Bridge has been a very much longer one than the Carlton House Terrace affair. Everyone is tired of the subject, and everyone fondly believed that it was all finally settled. But the Labour L.C.C. came into power, and almost the first thing they did was to start the Waterloo Bridge dispute over again. It has been up to Parliament and been settled once, but now it must come up and be settled again.

With all due respect to the new L.C.C., they seem during recent years to have learnt nothing about town planning. In taking up the Waterloo Bridge question again they have made the precise mistake made by their predecessors of the opposite party, the mistake which all sensible people hoped they would not make. They are totally ignoring the principles of town planning by treating Waterloo Bridge as an isolated question.

We do not now want to argue whether Rennie's bridge should or should not be pulled down. For the moment we are content to admit that there may be good arguments on both sides. But we do say strongly that it is not just a question of a single bridge, or even of a choice between a new bridge at Waterloo or a new bridge at Charing Cross. In fact, a new bridge over the Thames is not in any way a problem by itself. It is a question concerning the whole of that quarter of London and how it is to be developed.

There are plenty of members of the new L.C.C. intelligent enough to realize that the first and pre-eminently important thing in regard to Waterloo Bridge is for the Council to sit down and work out how that section of London is going to be used. Whether a new and bigger bridge is built at Waterloo should depend not only on such things as whether the traffic in the Strand is congested today; but on whether it is intended to widen the Strand and adjacent streets at a future date, whether there will be a new bridge at Charing Cross and what its approaches are going to be, and whether that section of London is going to be re-developed with bigger office buildings. And then there is the south side of the Thames, that squalid waste of valuable land. Have the L.C.C. a plan for developing the south bank in a way which links up with a new bridge? We think not.

If the L.C.C. would get out a sound and comprehensive town-planning scheme, and thereby show that a new bridge at Waterloo and/or Charing Cross, was or was not necessary, no sensible person would obstruct their policy, nor would Parliament. But so long as there is no plan it is the duty of every sensible person, and Parliament, to obstruct any scheme which is not founded on sound and comprehensive town planning. It will be sadly disappointing and disillusioning to those people who hoped the new L.C.C. would bring good common sense and order into the government of London if the Council carries on in the old happy-go-lucky way instead of taking the only reasonable course, which, as Major Nathan emphasizes in a letter to the JOURNAL this week, is to *plan*.

We have heard that the L.C.C. are proposing to produce a complete town-planning scheme for London. It sounds much too good to be true, but it is just what a really live body like the new L.C.C. might do. If they are alive and sensible, the first thing for them to do, here and now, is to get out a scheme for the area between Westminster and Waterloo covering both sides of the Thames. When they have done that they are justified in demanding our acquiescence and approval.

The Architects' Journal
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9 2 1 2 - 7
Telegrams:
Buildable
Parl
London

NOTES & TOPICS

WALTER GROPIUS

THE visit of Walter Gropius to this country during the exhibition of his work at the R.I.B.A. Galleries is a matter of considerable importance to a country which is just beginning to realize that modern architecture is not a stunt, but the expression of a humanistic view of life in terms of the most advanced technique.

*

Gropius is more than an architect. He is one of the few architectural figures who become prime movers and educationalists through an overflowing of the spirit of creation. He is in this sense a prophet, though unlike le Corbusier, he speaks through his works, and was bound to found the Bauhaus at Dessau as the only real *practical* means of safeguarding the vital stream of his creative impulses.

*

His exhibition, which opens on May 15, will provide the sort of comprehensive view from which young men may learn to know what standards are set them by their masters. I shall be disappointed if the galleries are not thronged to capacity.

DEBAUCH AT THE NEW R.I.B.A.

On Monday the highest stone was placed in position on the new R.I.B.A. building. Or something of the sort. Anyway, I believe they cheered and hoisted a flag. Later, when the spring dusk was mingling with the traffic lights, a select company of master craftsmen, master concretors and master bricklayers—nearly all going by the name of Harry—repaired to the Albany tavern, where Mr. Wornum feasted and toasted them with great feasting and toasting.

*

The orgy is recorded graphically on another page by Ledoux. When I crept in there was a ding-dong struggle going on at the dart board, where Mr. Bainbridge Copnall was doing his best to bury his darts in the bosom of a distant wall. Shove-halfpenny and Corinthian bagatelle also had their fans. Mr. Wornum slunk amongst us with jugs and bottles, surveying with an indulgent smile our steady progress downhill.

*

I am glad to be able to tell his many friends that Harry, the Concretor, has completely recovered from his recent illness. He was in the finest dialectical form.

THIRTY-THREE-AND-A-THIRD OF THE TWENTIETH CENTURY

The first third of this century ended on April 30, and *The Architectural Review* celebrates the close of that dramatic, tragic and stimulating period with a special 33⅓ number.

*

Eyes belonging to vastly different types of brain and character have been turned back to those past years, and the retrospective musings that have followed those backward glances are set down from the architectural, sociological and scientific points of view.

*

In recognition of the fact that the layman is always the patron of architecture, a number of prominent people, in the news, in the Press, and in the political battlefield, have been interviewed about their ideas on architectural development since the beginning of the century. Among them are Miss Ellen Wilkinson, Lord Castlerosse, Mr. A. P. Herbert, Professor Julian Huxley, and Mr. Jimmy Walker, the ex-Mayor of New York.

*

A mixed bag; richly surprising in its disclosures.

MODERNIZATION OF LYNN

Having heard Mr. Guy Dawber's praises of the architectural felicities of King's Lynn, I determined, next time I was in that part of Norfolk, to visit the town that Henry Bell built and see it thoroughly.

*

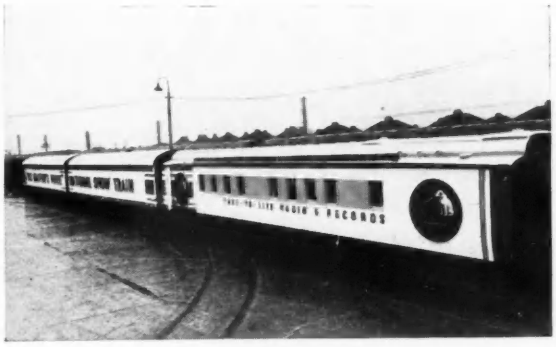
Everyone has heard of the Custom House at Lynn, a building of which Wren might well have been proud, and of the quiet side streets, lined with late seventeenth and early eighteenth century houses of the rich Lynn merchants. These are as yet unmutilated.

*

But the High Street has been kicked into disorder by the cloven hoof of commerce. I understand now why such barbarities are permitted. An educated and intelligent local gentleman accompanied me to Lynn. He had never observed (1) that Lynn had any architectural merit at all, or (2) that the High Street was practically wrecked.

*

He dismissed me as a "highbrow" because I was sensitive to such matters; but then he was one of those charming people who would have dismissed anyone as a "highbrow" whose reading took them further than Edgar Wallace and P. G. Wodehouse. Public schools and popular newspapers have combined to give the English a con-



The H.M.V. "trade train," outside and in. See Astragal's note on this page.

tempt for education unparalleled in the history of civilization.

SHOW TRAIN

On Friday last week the Prime Minister officially inspected a national show train which is going to tour the country to display "His Master's Voice" gramophones, radiograms, and so forth, during the next few months. The idea of a trade train is not a new one, but the design of such a travelling showroom has never in England reached the agreeable standard that the H.M.V. show train has attained.

*

It consists of three coaches in cream and a soft, rich pink. The inside has been designed with great skill and with great reticence. The three coaches contain a demonstration saloon, a refreshment room, sleeping accommodation for a crew of three, and electrical generating plant. Metal furniture and fittings have really done their best for the interiors of these coaches. The most compact equipment has been used; and these coaches are really models of what showrooms ought to be.

*

Nothing competes with the things that are shown; everywhere cool, restful colours provide a perfect background for the different instruments in their various wood cabinets.

*

It is a heartening thought that such an example of intelligent design is going to travel nearly 3,000 miles up and down England. It is propaganda for good design as well as for H.M.V. gramophones.

*

I wonder if it will have *any* effect upon those great occasions of display: The Shopping Weeks of England.

THE SOVIET ACADEMY

The newly formed Soviet Academy of Architecture has drawn up a detailed plan of work and done some good practical jobs of work already, among them being the institution of an Institute of Post-graduate Studies.

*

What makes my mouth water is the account of the work of its research bureaux, prominent among which is that investigating communal dwellings, and about to go on with a study of club buildings and their equipment.

*

But best of all, and it is a thing vitally needed here, is the proposed research into the design of city squares, parks and open spaces.

*

A book is to result from this, covering the principal cities of Europe and America. Another is to follow on town planning. And, as though this were not enough, there are plans for building a central architectural library and holding an international exhibition of architecture in the U.S.S.R.

*

Architectural prospects seem brighter.

*

Is the little wave of reaction over, I wonder? Hard lines on the classical boys, if it is. But one might always waylay one of the visiting academicians with a copy of Banister Fletcher.

BOOK: SLUMS

There is just issued a book upon housing—it calls itself *Slum Clearance and Housing in London*, but is a deal more than that—which in my opinion is the most penetrating and well-based analysis of the subject yet written.

*

Hugh Quigley and Ismay Goldie are its authors, and Miss Goldie's power of telling the grim history of London housing is only surpassed by Mr. Quigley's genius for bringing this into the picture of the contemporary problem, and extracting from it the essential arguments for a planned community to replace the muddled individualism out of which the slum menace has arisen.

*

I have no doubt that a longer review of the book will appear later, but in the meantime I cannot refrain from stealing someone else's thunder and recommending everybody with half an interest in housing to read it immediately.

THE SCOTTISH EXHIBITION

The Scottish architectural subjects at the Scottish Exhibition at the Imperial Institute, South Kensington, displayed by the Office of Works, are, I am told, very much worth seeing; so are the water-colours by Scottish artists.

*

The Exhibition will remain open until May 19. Admission is free.

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

The first thing for the L.C.C. to do is to get out a planning scheme for the area between Westminster and Waterloo covering both sides of the Thames 627

A Code of Safety for the installation of lifts and escalators in buildings, drawn up by the Lifts and Escalators Installation Panel, will be published within the next few weeks. This code will be the first of its kind to be applied in England 630

In the Mersey tunnel "we have a repetition of the old story. The engineer determines the job. The architect is called in afterwards to clothe something that has been settled without reference to æsthetic principles" 630

CARDIFF CIVIC SOCIETY

The Executive Committee of the Cardiff Civic Society have recently issued a booklet entitled *The Lay-out and Design of Small Houses*.

Copies of this booklet are being sent to all architects, builders and others interested in building operations in Cardiff and neighbourhood with the object of arousing a keener interest in the æsthetic side of the problem and thus raising the general level of small house design.

Copies are obtainable from Mr. W. S. Purchon, A.R.I.B.A., Hon. Secretary, The Technical College, Cardiff.

OVERCROWDING IN "SHARED" HOUSES

Sir Hilton Young, the Minister of Health, speaking at the dinner of the Metropolitan Boroughs Standing Joint Committee on April 26, said that a permanent remedy for the evil of overcrowding must depend in the long run upon the active and energetic enforcement of the bye-laws. It was most desirable that a better standard of the application of existing bye-laws as regards "shared" houses should be obtained before the time came when there would have to be a big extension of the application of bye-laws against overcrowding in general.

BUILDING INDUSTRIES NATIONAL COUNCIL

The second annual meeting of the Building Industries National Council was held at the R.I.B.A. on April 26. Sir Raymond Unwin (President) occupied the chair.

THE ARCHITECTS' DIARY

Friday, May 4

ARCHITECTURAL ASSOCIATION. *At 36 Bedford Square, W.C.1. Exhibition, "Slums." Until May 12.*

Monday, May 7

CHARTERED SURVEYORS' INSTITUTION. *At 12 Great George Street, S.W.1. "The Legal Aspects of the Land Drainage Act, 1930." By F. M. Farmer, M.B.E., Clerk to the River Ouse (Yorks.) Catchment Board.* 8 p.m.

Tuesday, May 8

COUNCIL FOR THE PRESERVATION OF RURAL ENGLAND. *At the R.I.B.A., 9 Conduit Street, W.1. Annual General Meeting. Sir John Squire will address the meeting.* 3.30 p.m.

ILLUMINATING ENGINEERING SOCIETY. *At the Institution of Mechanical Engineers, Storey's Gate, S.W.1. "Recent Progress in Illuminating Engineering in the United States." By Samuel G. Hibben, B.Sc.,E.E.* 6.30 p.m.

Wednesday, May 9

ROYAL SOCIETY OF ARTS. *At John Street, Adelphi, W.C.2. "Pottery, and what the Public Wants Today." By Mrs. Ronald Copeland, M.P.* 8 p.m.

The General Purposes Committee reported that progress had been made towards the institution of organized and progressive standardization within the industry, in connection with which it was hoped that special arrangements to that end would be made with the British Standards Institution.

The question of the mitigation of booms and slumps in the building trades was continuing to receive careful attention. Such questions as the assessment and rating of buildings, inferior quality of building work and delays in the approval by Local Authorities of building schemes, were also receiving the attention of the Committee.

In the report of the Advisory Committee on Building Acts and Bye-laws, it was stated that the Code of Safety for the installation of lifts and escalators in buildings, drawn up by the Lifts and Escalators Installation Panel, will be published within the next few weeks. This code will be the first of its kind to be applied in England.

The President, at the termination of the formal business of the meeting, said: The general trend of modern economic organization rendered absolutely essential the continuance of a widely representative Council such as this, charged, by the second largest industry of the country, with the duty of investigation and guidance with respect to all questions of common interest and concern.

A WEST END CLUB TO BE DEMOLISHED

The building in Piccadilly which, up to January, 1932, housed the Junior Athenæum Club, is to be pulled down and replaced by flats. It was built in 1849 by Mr. Henry Thomas Hope, M.P.

BIRMINGHAM CIVIC CENTRE

The Birmingham City Council, on May 1, had before it for approval certain features of a scheme for the city's civic centre. The scheme, drawn up by Mr. S. N. Cooke, F.R.I.B.A., and Mr. J. A. Swann (the City Surveyor) replaces a plan submitted by a Paris architect some seven years ago, and considered too prohibitive in cost.

BUILDING MATERIALS

The Inter-Departmental Committee appointed to survey the prices of building materials has just issued its sixth interim report, which is obtainable from H.M. Stationery Office (price 1d.).

INSTITUTE OF OFFICIAL ARCHITECTS

At a private meeting of the newly formed Institute of Official Architects, held at the Kingsway Hall, London, on Friday last, Mr. Percival Ware was appointed secretary.

LIVERPOOL ARCHITECTURAL SOCIETY

Lieutenant-Colonel Ernest Gee, F.R.I.B.A., was appointed president, and Mr. Herbert J. Rowse, F.R.I.B.A., and Professor L. B. Budden, M.A., F.R.I.B.A., vice-presidents, of the Liverpool Architectural Society, at the annual general meeting last week. The following were elected to the council: Professor L. P. Abercrombie, M.A., Messrs. Duncan A. Campbell, H. A. Dod, M.A., L. H. Keay, E. B. Kirby, O.B.E., T. T. Rees, J.P., F.S.I., and B. M. Ward, FF.R.I.B.A., and Messrs. L. C. Howitt and H. S. Silcock, BB.ARCH., AA.R.I.B.A.

Colonel Gee was appointed the Society's representative on the Council of the R.I.B.A.

After the meeting Mr. Rowse described some of the problems which had to be solved in designing the Mersey Tunnel ventilation buildings (illustrated in this issue). His talk was illustrated by slides showing certain of the drawings, perspectives, and a few photographs of completed work.

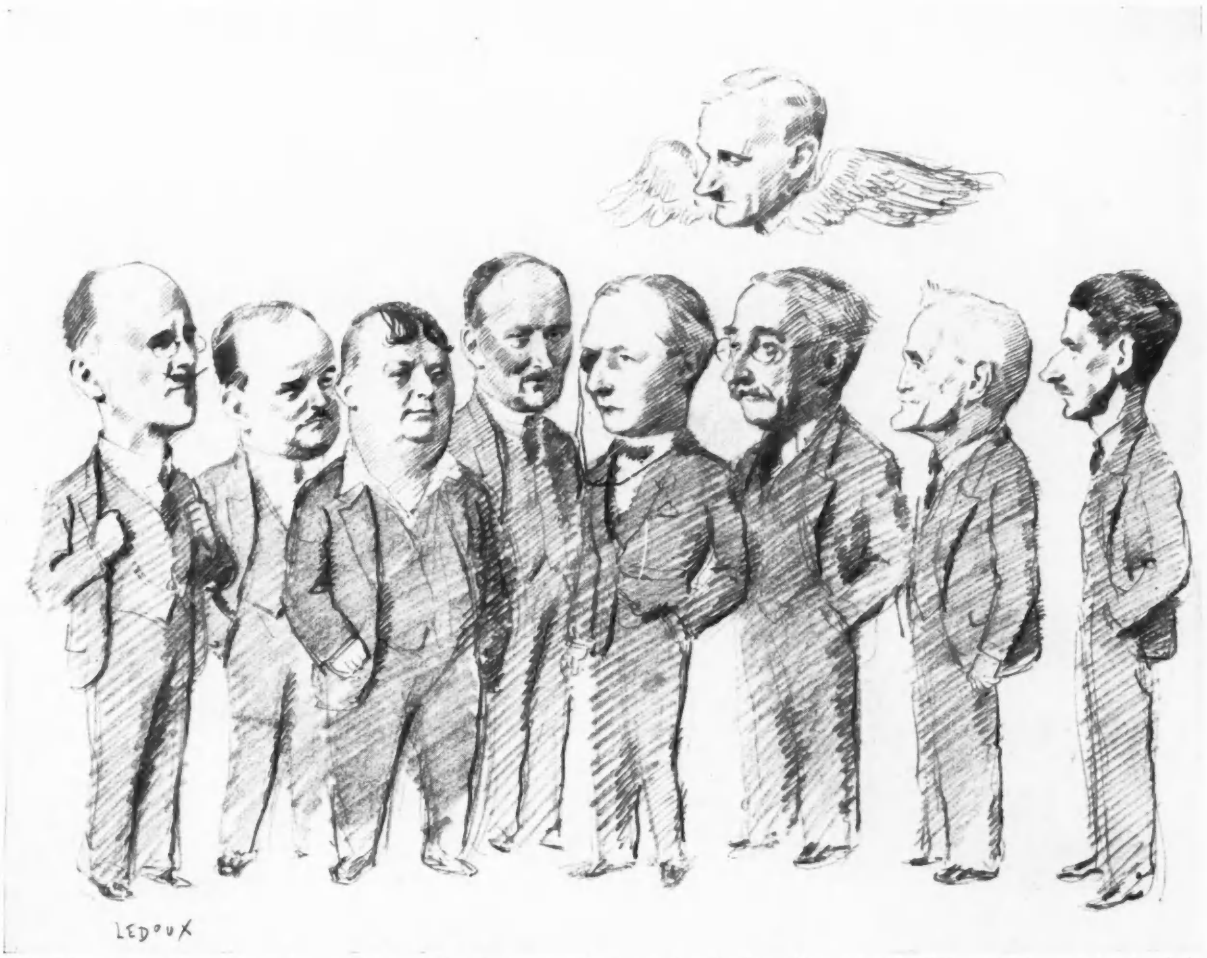
Nothing had been decided as to the type of buildings when the architect came on the scene, Mr. Rowse said, but the type of fans and driving gear had been decided. The first step was to turn to the best-known example of such work already done, the Hudson River tunnel, to see if there was any data. But there they had used a multiplicity of small fans, instead of the small number of large fans which had been decided upon for the Liverpool undertaking, and these resulted in an entirely different type of building.

Their buildings, too, were in such positions that the air intakes could be placed in the walls. In Liverpool it was impossible to bring in air through the faces of the buildings. The next step was to gather evidence about noise, vibration, and air pulsations. After study of this it was decided to use double wall construction for all but the Woodside building—which, on the quay wall, was in such a position that the noise made in it would not matter—so that as far as possible all noise and vibration should be kept inside the buildings.

Professor Budden, seconding the vote of thanks (proposed by Mr. B. Ward), said that no architect at any time had so completely transformed the silhouette of the district on both sides of the river, and in transforming it Mr. Rowse had enriched it.

"I only wish, personally, that his advice

THESE NAMES MAKE NEWS



The Harrys—and some others—drawn by our artist, Ledoux, at the party given by Mr. Wornum at the Albany Restaurant, to the clerk of works, foremen, master bricklayers, master stonemasons, etc., of the new R.I.B.A. Building, which reached an important stage in its construction on Monday last. The Guardian Angel is R. C. Long, clerk of works; the others, from left to right: Harry Bush (foreman mason); Bert. Bush (in charge of stonework); Harry Spearpoint (navvy ganger); Harry Izzard (foreman bricklayer); G. Grey Wornum, F.R.I.B.A. (the architect); Harry Everitt (foreman plumber); M. Pile (general foreman); M. Chinn (assistant general foreman.)

and gifts had been employed earlier," said Professor Budden. "I feel that if they had the main entrance at Old Haymarket it would have come out axially with St. John's Gardens and St. George's Hall. However, that was, of course, a predetermined issue. In fact, we have simply seen a repetition of the old story. The engineer determines the job. The architect is called in afterwards to clothe something that has been settled without reference to æsthetic principles. People continue to think that architecture is merely a question of surface treatment.

"I think we all admire the great skill which Mr. Rowse has brought to the Old Haymarket site and mitigated, as far as is architecturally possible, the mistake that was made."

Professor Budden added a reference to certain tall concrete lamp standards which have recently appeared in the Old Haymarket. The profession and those who cared for the seemliness of Liverpool's streets, he said, should say very definitely what they thought about them. He did not know where they originated, but they were of ghastly appearance. Liverpool had some fairly bad examples of street furniture. But these lamp standards were a disgrace and they were obviously going to compete with the great lighting shaft now rising, which should clearly have nothing else of such a scale about it. When the Tunnel architect had expended his skill upon it it was a civic disaster that his work should be faced by such abominations.

Colonel Gee said that he understood that the lamps were to be placed all over the city. Professor Budden was quite right to make his protest, and it should be made clear that such lamps had no right to be there.

WEST YORKSHIRE SOCIETY OF ARCHITECTS

Mr. B. R. Gribbon, F.R.I.B.A. (retiring president), occupied the chair at the annual meeting of the above Society, held at its Leeds headquarters on April 26, when the following members were elected officers for the ensuing session: President: Mr. Victor Bain, F.R.I.B.A.; vice-presidents: Messrs. William Illingworth and Douglas Bowman, F. & L.R.I.B.A.; hon. secretaries: Messrs. Norval R. Paxton and Harold Conolly, AA.R.I.B.A.; hon. treasurer: Mr. Douglas Bowman.

In the report of the Council, it was stated that the membership of the Society now stood at 435.

R. I. B. A.

COUNCIL MEETING

Following are some notes from a recent meeting of the Council of the Institute:

Examinations Recognized for the Probationership of the R.I.B.A.: On the recommenda-

tion of the Board of Architectural Education it was agreed to include the Preliminary Examination of the Scottish Universities in the list of examinations recognized for the Probationership.

Officers of the Board of Architectural Education: The Officers of the Board of Architectural Education for the year ending March 31, 1935, were appointed as follows: Mr. A. H. Moberly (Chairman). Mr. T. A. Darcy Braddell (Chairman of the Examinations Committee); Professor A. C. Dickie (Chairman of the Schools Committee); Mr. G. D. Gordon Hake (Chairman of the Prizes and Scholarships Committee); Mr. Hubert Lidbetter, Hon. Secretary.

Departmental Committee on the Cost of Hospitals and other Public Buildings: Report of the R.I.B.A. Committee: It was decided to publish copies of this report for the use of members at 1s. 6d. a copy.

Professional Classes Aid Council: Mr. Arthur J. Davis, A.R.A. (F.), was appointed to represent the R.I.B.A. on the Professional Classes Aid Council in succession to Mr. H. Austen Hall (F.), and the cordial thanks of the Council were conveyed to Mr. Hall for the valuable work which he has done in this capacity.

The Public Relations Committee: It was agreed to invite the Science Standing Committee to appoint a member to serve on the Public Relations Committee.

Reinstatements: The following ex-members were reinstated: As Fellows: Messrs. John Hamilton and Herbert Read. As Licentiate: Mr. Henry W. W. Lovegrove.

Transfer to the Retired Members Class: The following members were transferred to the Retired Members Class: As Retired Associate: Mr. Arthur George Morrice. As Retired Licentiates: Messrs. George Ratcliffe and Albert P. Stokes.

Resignations: The following resignations were accepted with regret: Messrs. I. Ulmer Englefield (A.); Norman William Goodacre (A.); Samuel Richard Kirby (L.); Alan Francis Royds (L.); Henry Edward Tufton (L.).

Election of Students: The following Probationers were elected as Students of the R.I.B.A.: Baines, George Grenfell (Special Exemption); Barnes, Philip Mayfield (University of Sheffield); Brown, Daniel Maclaren (secured approved qualification in the Dominions); Brundle, Kenneth Alfred (School of Arts and Crafts, Southend); Dean, Jesse (Leeds School of Architecture); Denney, John Matthew (R.W.A., Bristol); Johnston, Mona Blair McGarel (University of London); Massey, William Hubert (University of Manchester); Nisbet, Arthur George (University of London); Parelkar, Khanderao Anandrao (Sir J. J. School of Art, Bombay); Patefield, Harry Herman (Leeds School of Architecture); Rogers, William Herbert Henry (The Polytechnic, Regent Street, London); Stein, Eve Idaam (The Polytechnic, Regent Street, London); Sutherland, Elsie (R.W.A., Bristol); Tarbolton, Norman Eric (University of Cambridge); Thorn, Francis William (Leeds School of Architecture); Wakefield, Peter Laurence Hartley (R.W.A., Bristol); Watson, Harry (University of London); Webster, Harry (Leeds School of Architecture); Williams, Francis Clifton (University of Manchester).

COMPETITION NEWS

THE WOLVERHAMPTON COMPETITION

THE CONDITIONS REVIEWED

[By Iodos]

Wolverhampton Corporation. Competition for proposed Municipal Assembly Halls. Assessor: C. Cowles-Voysey, F.R.I.B.A. Premiums: £350, £250 and £150. Conditions (deposit one guinea) from the Town Clerk, Town Hall, Wolverhampton. Last day for questions: May 21. Sending-in day: October 1.

THE PROBLEM IN OUTLINE

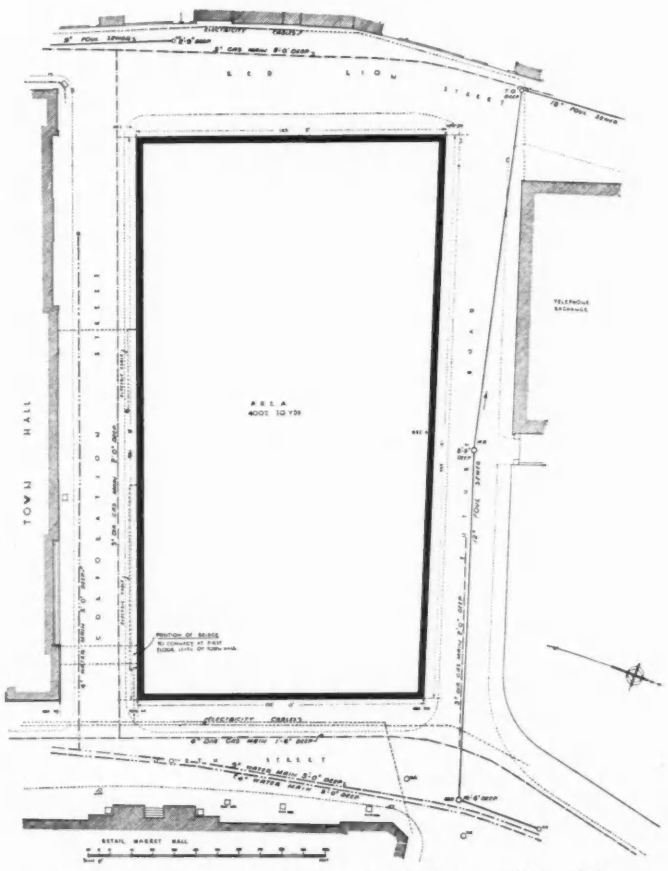
THE requirements of this recently announced Wolverhampton competition are extremely straightforward—a good deal more so than many of the subjects set in architecture schools. The problem is simply to provide, for not more than £100,000, two assembly halls—one for 2,000 people, the other for 800 people; to be used either separately or together and to be equipped with a normal provision of cloak-rooms, platform retiring-rooms, kitchens, etc.—on an island site which, for practical purposes, can be regarded as a rectangle of about 132 ft. frontage and about 262 ft. depth. Two points only present any special difficulty. The first and smaller is the requirement that the building shall be capable of connection by a bridge at a specified point with the adjoining Town Hall. The second is more fundamental. It is specifically provided that, while the two halls must have ready and convenient interconnection, they "need not necessarily be on the same floor level." On a site of wider frontage and as great or greater depth most competitors would doubtless choose to put the halls side by side at the same level, thus almost certainly obtaining the best type of connection between them. On a site of narrower frontage or materially smaller area it would, on the other hand, become essential to place the halls one above the other at different levels. Actually, a first rough computation serves to show that the site is just of the awkward "between" size which makes choice in this basic point very uncertain. It seems quite possible to place both halls, with the immediately connected foyers and refreshment rooms, at ground floor level; but it does not seem at all easy to do so without seriously cramped planning at one point or another.

A good deal of juggling about with the two main units and the various subsidiary parts may be predicted before competitors are likely to be satisfied that they have reached the best arrangement on plan. An important point to watch in such scheming out is that the site is far from level. The pavement on the main frontage to North Street, where it is suggested that the principal entrance should be placed, falls 3 ft. 6 in. from south to north, and there is also fall to the back of site of 10 ft. 6 in. along the south side and 14 ft. along the north side. The maximum difference is thus no less than 17 ft. 6 in.

THE ELEVATIONS

Since a sloping site is very difficult to "feel" on paper only, and since very little indication is given by the conditions of the general lie of the land, relative importance of streets, etc., competitors will be well advised to accept the assessor's suggestion that they should visit the site.

As to elevations the proposed building is not required to conform to the ebulliently Victorian Classic treatment of the Town Hall. This is just as well: the Town Hall is in its way a rather fine monument of its age, but it may be doubted whether any living person could conform to it with any conviction, or indeed within the limit of cost. Positive direction as to treatment is studiously vague, the requirement being a dignified character not necessarily "stylistic" nor extremely "modern . . . with detail that may soon become out of fashion" (but who are we to predict the fashions?). Materials are at competitors' discretion, but stone facing is suggested for



The Wolverhampton Competition: Site Plan.

the North Street frontage. Competitors should not take this as a suggestion that a building with one good façade will do. An island site needs presentable elevations all round: the assessor is not the man to accept a Sunday smiling front to washing-day sides and back.

ACCOMMODATION REQUIRED

The detailed requirements in accommodation may be summarized from the conditions, as follows:—

A. (1) *Large Hall* to seat 1,800-2,000 people (including optional gallery) with (2) an *Entrance Foyer*, (3) a *Platform* for an orchestra of 40, a choir of 200 and space for an organ, and (4) *Platform Retiring-rooms* (five, totalling about 2,000 sq. ft.) with Lavatories. The hall is to be used for "meetings, concerts, banquets, receptions, dancing and other assembly purposes," but does not require a theatrically equipped stage. A cinema projection equipment is required, and close attention to acoustics enjoined.

B. (1) *Small Hall* to seat 800 people (including optional gallery) with (2) an *Entrance Foyer*, (3) a *Platform* of about 750 sq. ft., and (4) *Platform Retiring-rooms* (three, totalling about 1,000 sq. ft.) with Lavatories. The hall is to be used in the same way as the Large Hall, but cinema projection equipment, though desirable, is not essential.

C. For use with both halls—(1) a *Refreshment Room* (or two rooms) of about 2,000 sq. ft., (2) a *Kitchen* and *Service Rooms* (to provide teas and light refreshments in the Refreshment Room *and* in both Halls; food for banquets would be cooked outside), (3) a *Manager's Office* and *Box Office* with small stores attached, (4) ample *Cloak-rooms* and *Lavatories* for the public, also *Staff Lavatories* and *Cleaner's Stores*, (5) *Chair Stores* to accommodate all chairs from the main floors of both halls, and (6) *Plant Rooms* for heating, ventilating, vacuum-cleaning, etc.

DRAWINGS REQUIRED

Competitors are not required to produce anything elaborate in the way of drawings. Plans of each floor (not drainage or roof), four elevations and "sufficient" sections are required, all to $\frac{1}{16}$ in. scale (the scale of the site plan accompanying the conditions) except the North Street elevation which is to be to $\frac{1}{8}$ in. scale. No $\frac{1}{2}$ in. scale detail or perspective is required, and elevations are not to be rendered. From the drawing point of view this competition should be a good deal less laborious than most of its kind.

Competitions Open

June 26.—Sending-in Day. Proposed Council Offices, Slough, for the Slough U.D.C. Assessor: H. S. Goodhart-Rendel, V-P.R.I.B.A. Premiums: £250, £150 and £100 for designs placed first, second and third, respectively. Conditions, etc., may be obtained from F. R. Duxbury, Clerk to the Council, Council Offices, Slough. (Deposit £1 1s.). Last day for submission of designs: June 26.

July 16.—Sending-in Day. Proposed Council School, Dudley. The competition is limited to architects having an office within 15 miles radius of Dudley. Assessor, H. T. Buckland, F.R.I.B.A. Premiums: £150, £100 and £50. The last day for application for conditions was April 23. Designs should be submitted to the Director of Education, Education Offices, St. James' Road, Dudley.

July 31.—Sending-in Day. Proposed Municipal Sanatorium and Children's Hospital Belfast. Competition limited to architects who have resided in Northern Ireland since March 1, 1933. Assessor: R. S. Wilshere, F.R.I.B.A. Premiums: 500, 200 and 100 guineas. Last day for questions: April 28. Designs should be submitted to the Town Clerk, City Hall, Belfast.

THIS ARSHETECTURE

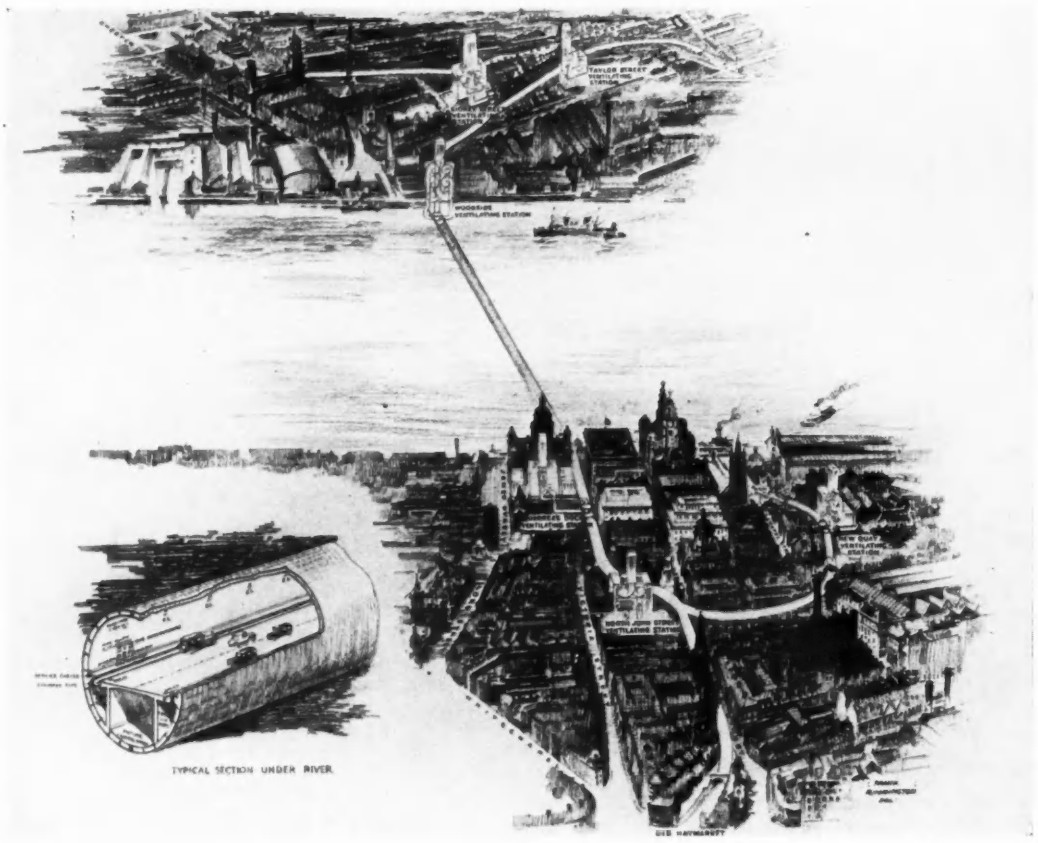
A decision may shortly be taken on the question of erecting the four kiosks on Hampton Court bridge—two at either end—which were embodied in the original design of Sir Edwin Lutyens. The Surrey County Council deferred erection of the kiosks under the stress of the national economic crisis of 1931.

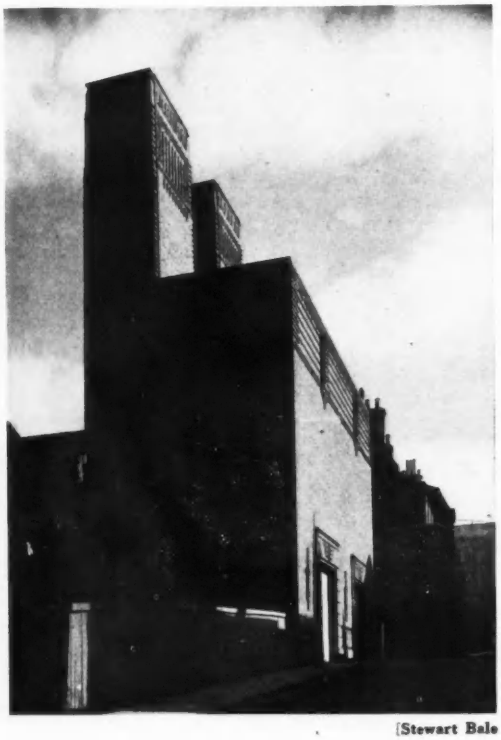
"No definite statement can be made until the council has formally considered the matter," a Surrey County Hall official told a representative of *The Daily Telegraph* yesterday. "Undeniably the bridge looks incomplete, and it is quite clear that it cannot be left as it is.

"It is not certain to what use the kiosks would be put when they are built. Perhaps they would be used to sell newspapers."

FROM *The Daily Telegraph.*

THE MERSEY TUNNEL:





[Stewart Bale

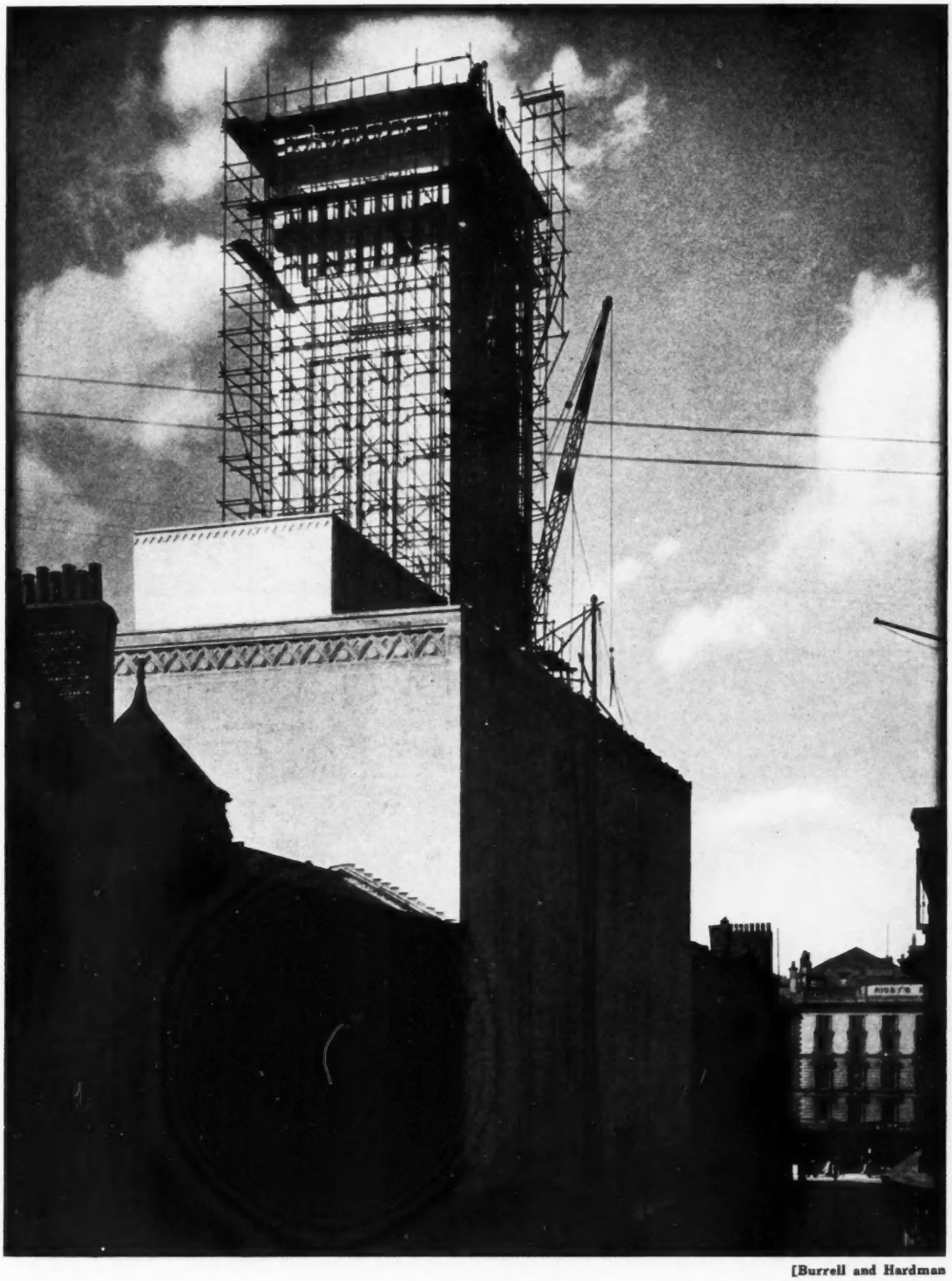
ARCHITECT:

H. J. ROWSE

The Mersey Tunnel is to be opened by H.M. the King on July 18 of this year. It provides two traffic ways, connecting Liverpool and Birkenhead, 36 feet wide, at a cost of £7,500,000. The total length, from one main entrance in the Old Haymarket, Liverpool, to the other in Chester Street, Birkenhead, is 2·13 miles. The six ventilation stations on both sides of the river, which house the ventilating machinery, together with the tunnel entrances and approaches, have been designed by H. J. Rowse.

On this page is a sketch showing the lay-out of the tunnel and the system of ventilation, and a view of the New Quay ventilation building.

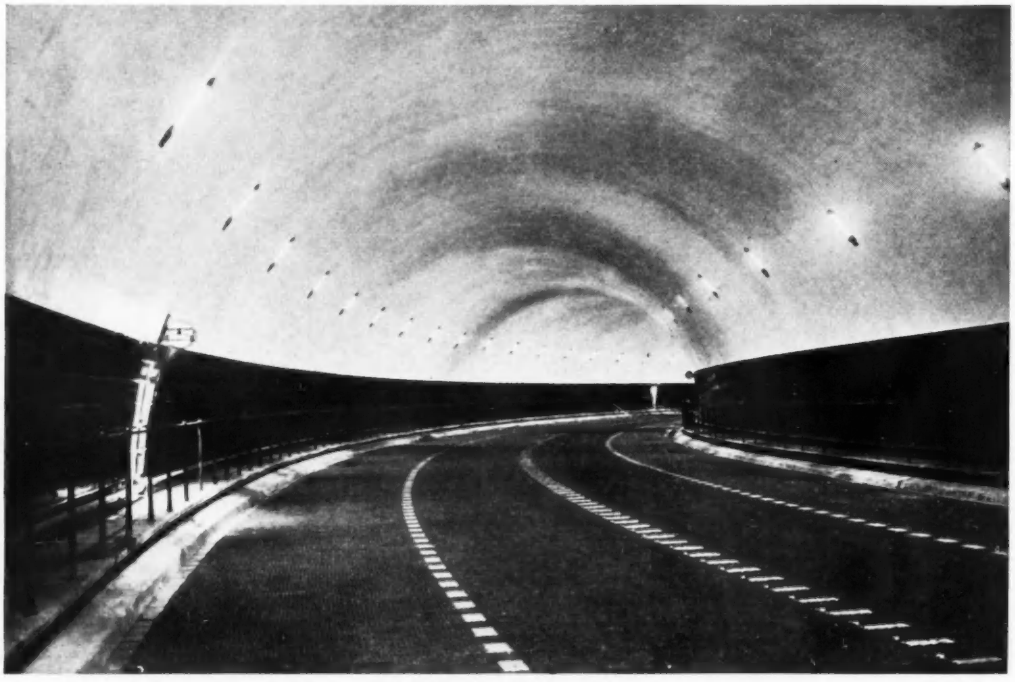
LIVERPOOL TO BIRKENHEAD



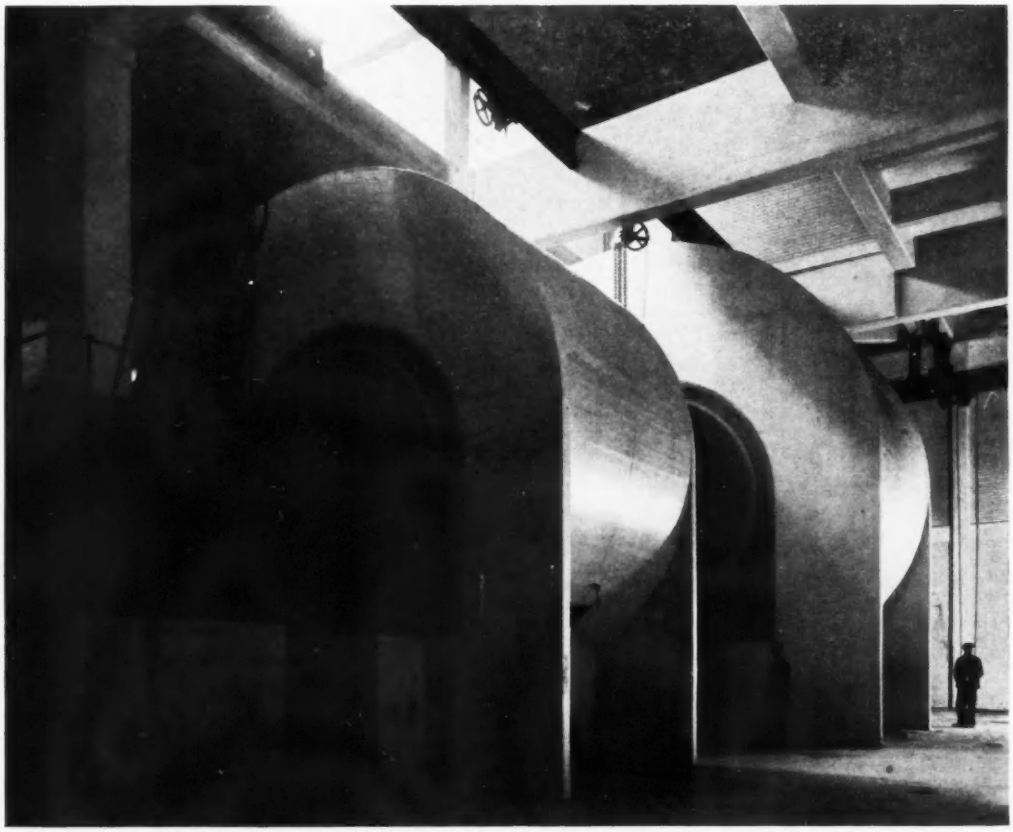
[Burrell and Hardman

Another of the six ventilation stations; that at North John Street, Liverpool, in the final stages of construction. The tower is 170 ft. high.

THE MERSEY TUNNEL



The interior of the tunnel.



Blowing chamber and fans, the Sidney Street ventilation building, Birkenhead. [Stewart Bale

LETTERS FROM READERS

Municipal Engineers and the Amenities

SIR,—In common with most of your readers I have read with satisfaction the vigorous way in which you have called attention to the fundamental principle involved in the circular letter issued by the I.M.C.E. to Local Authorities.

This question of control of elevations is one of the most delicate matters the architectural profession has yet had to face. Questions of taste can be discussed lightheartedly in the lecture room, the press column, and between one man and another. But when the same question becomes involved in the law of the land, it is necessary to tread very warily. The adviser to an authority cannot adopt some dogmatic attitude in the "take it or leave it" spirit; nor can he permit things to drift in the other extreme. He has to find some indefinable prescription whereby he may exclude æsthetic beastliness from the building developments of the future.

To the layman who really thinks about the matter, the problem may well appear unsurmountable. But the architect has not shirked; but, entering the field in the most responsible frame of mind, has freely offered his services to advise. For the problem is, after all, not so unlike those he has had to face job by job, in acting for clients who have had little sympathy for anything that may be included in the term "fine art." The difference is only that the scale of operations is vastly wider.

It must surely be obvious that such a task can be done only by a man trained to apply the æsthetic sense to work-a-day affairs. How very much otherwise is the public official. He is brought up with two main weapons to his equipment: (1) That the official word is final and unalterable, and (2) that the law has scheduled facts within which only he may administer it. The official attitude is thus inevitably narrow and machine-like. Quite apart from the absence of art training, the official attitude of mind is the antithesis of that adaptability to the occasion which the tactful panel member turns to success.

The facts are thus obvious to those who have helped to operate the panel system.

Now let us turn to the official point of view. For what purpose does the borough engineer seek this new and onerous addition to his duties? Does he, as an average individual, really seek it? He can hardly wish to earn his salary more energetically than he earns it at present, nor can he desire an increase in official staff to enable it to be done? Quite frankly, I do not believe the average official wants anything of the kind. Why then does the I.M.C.E. put such a proposition forward? Can it be some unfortunate backwash of Registration disputes?

Speculation is probably futile, and the architect is best occupied in showing the essential rightness of his case, which he puts up in the public interest.

A PANEL MEMBER

SIR,—Speaking generally, I believe that the control of elevations would be more effective if we treated it as a means of preventing eyesores rather than of securing beauty. Certain things ought not to be tolerated anywhere and could be forbidden altogether to our great benefit. For instance, I should like to see a complete prohibition of the following:—

1: Sham half-timbering, or "Fake Tudor."

2: Pink asbestos-cement. Blue, green, brown, and grey can be excellent and there is no reason why pink should exist.

I may be wrong in thinking that the majority of the members of the Institution of Municipal and County Engineers would build their own houses in Fake Tudor with pink roofs, but I believe they would, and for that reason I think that at the present time they would be most unsuitable people to control elevations.

Some of the panels, as in the Peak District, have transmuted ugliness into beauty, but, taking the country as a whole, success will probably best be achieved by preventing obvious outrages—such as building a red brick house in a Cotswold village, in redeeming the unfortunate proportions of the catalogue bungalow, and in cutting out fake timbers and pink asbestos. In these circumstances the fears expressed by Mr. Scott-Giles concerning architects having to criticize the work of their fellows would not be justified since architects seldom do the distressing things I have enumerated, and when they do are so much open to criticism that they have nothing to complain of.

The Ministry says that powers of control should be exercised to prevent "what may reasonably be regarded as outrages." Architects are, in essentials, in agreement as to what constitutes an outrage; laymen, including engineers, as a rule admire outrages; hence architects must, in the interests of society and posterity, stand out rigorously against powers of control being in the hands of anyone except architects.

MANNING ROBERTSON

A PANEL MEMBER
MANNING ROBERTSON, F.R.I.B.A., M.R.I.A.I.
MAJOR H. L. NATHAN, M.P.
A. SEYMOUR REEVES (Secretary, A.A.S.T.A.)
A. S. PYNE
A.S.S.T.O.
R. D. MANNING, L.R.I.B.A.
E. JULIAN WHITE, A.R.I.B.A.
E. T. SARGENT
ARTHUR WELFORD, A.R.I.B.A.
S.F.N.
JAMES TODD

Planned Development for London

SIR,—May I return once more to the important questions of housing and planning in Greater London? It is indeed satisfactory that the Town Planning Committee of the newly elected London County Council has appointed a sub-Committee to consider and report upon the desirability of preparing a town plan for the administrative county area. This step will be welcomed by all planners, but it surely does not go nearly far enough.

It is absolutely essential that an operative master-plan should be prepared for the whole of the Greater London region—which covers 1,846 square miles, houses nearly 9,000,000 people, and embraces practically all land within a radius of 25 miles from Charing Cross. This incontestable fact was recognized by the Minister of Health in his Circular (1305) explaining the Town and Country Planning Act, 1932, in the following terms:—

"Where neighbouring districts have common interests or where they form one economic unit, there is obvious advantage in having one master-plan for the whole unit providing at least for the large matters of regional importance. . . . The better practice is to appoint an executive Regional Committee, with powers to prepare an operative master-plan."

Unfortunately, it is clear from a statement made by Sir Hilton Young in the House of Commons on February 8 that an executive Regional Committee cannot be successfully established because of the conflicting views and interests of the 160 different Local Authorities who at present control the destiny of Greater London.

There are, moreover, additional reasons for preparing an efficient master-

plan for the region. In consequence of great pressure from housing reformers of all parties, the Minister of Health has at last been forced to acknowledge that overcrowding among the poorer classes constitutes a problem as grave as that of slum clearance, and when addressing the Association of Municipal Corporations recently he foreshadowed the introduction of a comprehensive Bill to deal with overcrowding, reconditioning, etc. It seems likely that substantial Exchequer grants will be provided for the construction of block-dwellings—probably as high as 10 storeys—in some of the inner metropolitan boroughs.

While the erection of a certain number of these skyscraper flats may possibly be unavoidable, it will be deplorable if these proposals are put forward as a substitute for a well-devised scheme for the decentralization of certain industries in properly planned and organized "satellite" towns. The paramount need in London is to reduce congestion, but this will remain—vertically rather than horizontally—in those areas where multi-storey tenement buildings are erected. There are, in fact, many serious objections to these huge block-dwellings for the poorer classes.

London must be reorganized, and I contend that these impeding developments reinforce my insistent demand for the appointment of a Royal Commission to inquire into and report both upon Greater London's housing and planning problems and also upon the whole question of the future government of this vastly important region.

H. L. NATHAN

R.I.B.A. and A.A.S.T.A.

SIR,—A letter from Mr. Maurice Webb appears in your issue for April 19, in which he states that if the policy of the A.A.S.T.A. is adopted it will cause a reduction in the salaries of assistants. He then complains that no one knows what scale the A.A.S.T.A. is proposing. I leave your readers to reconcile these remarks as best they can.

Mr. Webb is a vice-president of the R.I.B.A., but it is evident that he does not pay much attention to their proceedings, otherwise he would know that *the Council of the R.I.B.A. was asked to arrange with the A.A.S.T.A. a scale of salaries for private offices in proportion to the scale for departmental offices already recommended by the Council of the R.I.B.A.* It was intended that upon the new scale being agreed between the two bodies the Council of the R.I.B.A. would recommend employers within the Institute to adopt it. This proposal was rejected on principle, and by that decision the Council thereby nullified their previous recommendation for a scale in departmental offices.

Mr. Webb would have your readers believe that he, as an employer, is better able to protect the interests of employees than their own representatives. Really, such an attitude is offensive, although I can understand it might have been tolerated in early Victorian days. I suggest that the issue of these specious arguments might well be discontinued. They may please a number of employers, but employees at least can assess them at their true value.

A. SEYMOUR REEVES

SIR,—The letter from Mr. Maurice Webb in your issue for April 19 particularly interests me.

I gather from Mr. Webb's plea for "freedom from rules and regulations" that presumably his own assistants arrive and depart from their office at any hour dictated by their personal whims, and absent themselves without leave.

When they are at the office it is to be assumed that they do their own private work or crossword puzzles or engage in football, and at the end of the week receive an amount of salary which varies according to the weather.

In the event of my practice falling off, I shall certainly make application to Mr. Webb, although I should imagine all vacancies, if any, on his staff will be immediately filled.

A. S. PYNE

SIR,—As a father I should very much like to know if Mr. Raymond Walker, who appears very desirous of protecting trusting parents, could tell me to what trade, profession or calling I can safely put my sons? So that, regardless of their abilities or capabilities, I shall be certain of them securing a more than ample share of this world's goods, and know there will be no risk of their survival being prevented by the really strong.

A.S.S.T.O.

Town Planning Administration

SIR,—I note from the JOURNAL for April 26, that the promoters of the Portslade Motor Racing Track scheme have asked the Ministry of Health for a public inquiry into their proposal.

Happenings which have come to my notice lately, which can possibly be amplified by other examples in the knowledge of some of your subscribers, seem to me to present an aspect of the administration of the town and country planning schemes which needs public ventilation.

First, a scheme is being promoted to build a petrol station and garage in a heavily wooded and essentially rural area, on the outskirts of a town. With the exception of a few cottages about 100 years old, the district is only occupied by fair-sized houses with large gardens, and also by a golf-course. One of the largest properties, some 65 acres in area, is now being developed as a good-class building estate. The nearest shops and garages are about one mile distant. It is, I think, a reasonable contention that people choosing to live in such an area do so largely because of its rural nature and freedom from commercialism, and the distance from shops is, if anything, an advantage.

The local authority turned down this garage scheme, on the ground that the district is scheduled in the local town-planning scheme as a residential area with a restriction of four houses to the acre. The promoter, however, has obtained provisional sanction over the local council's head from the county town planning committee. A protest has been made by a large proportion of the local residents, and an inquiry is to be made by the Ministry of Health, but it appears very likely that the scheme will succeed.

Now the point is, the promoter is not a local resident, and presumably has only one motive—the financial one. His only influential supporter is the builder who is developing the estate, who hopes to sell more houses by attracting the type of person who likes to have everything on his doorstep, and who is the owner of the land on which the garage is to be built—i.e., his motive also is financial. He also is not a local resident.

The opposition to the scheme is not so much directed against the garage itself, which is to be carried out quite well, and will not be an eyesore; but is based on the probability that it is only too likely to be the thin end of the wedge. Once the precedent has been established, it will be impossible to prevent the intrusion of shops, etc., as soon as the estate is sufficiently built up; and yet another quiet rural area will have disappeared.

Secondly, a civil engineer of my acquaintance is at present employed on a main sewerage scheme covering a large area. His principals have, naturally, designed their lay-out in accordance with the various local town planning schemes; the sewers running under the scheduled open spaces whereever possible, rather than under buildings. He tells me that it is repeatedly found that these open spaces, when reached, are being built over with small houses and shops.

He asked one of the borough surveyors concerned why they troubled to work out town-planning schemes if they did not intend to work to them. The reply was that it was not the local authorities' fault; that they were anxious to retain as much open space as possible, but that applications were

continually being made over their heads to the Ministry of Health, and that the Ministry as continually failed to support them.

The official reply would doubtless be that anyone applying over the head of the local authority to the Ministry has to put up a reasonable case for any alteration from the local town-planning schemes. It is, however, perfectly easy to make out some sort of plausible argument in support of almost any scheme, and the intention of the Act seems to be in process of being nullified.

ROGER D. MANNING

The Register

SIR,—I wonder how many registered architects have inspected the cover of the recently issued Register, and have noticed the design of the emblem. To my mind, the representation of a "stele-head"—in other words, the top of a Greek tombstone—is hardly

The design on the cover of the Architects' Register.

appropriate for the official emblem of the Architects' Registration Council. But perhaps there is some subtle significance attached to the selection of this design. "The paths of glory lead but to the grave."

E. JULIAN WHITE

SIR,—Much has been said for and against Registration and for and against the Council, but surely nothing can be said for the "seal" that decorates the cover of the new "Register." It is really very, very bad, and why a new body should have the symbol of a tombstone I, for one, cannot understand. Perhaps Registered Architects will try and do something about it.

E. T. SARGENT

Fascist Architecture

SIR,—The official Fascist declaration of policy as regards architecture, in your number dated April 19, is vague and incomplete.

I find in it only one definite statement: "All these (Gothic) buildings manifest the common source of inspiration which was shared by all the leading architects of the day." True; that inspiration was religion. Are we to understand that the new religion which will produce a new architecture is to be Fascism; the suppression of the individual and the deification of the State?

The declaration is incomplete because it omits any reference to finance, a rather important factor in present-day economics, including building and, I suppose, Fascism. Modern credit finance is a growth of the Renaissance and was unknown in mediæval times; it was not a factor in the growth of "Gothic" architecture. It would be interesting to know what is the Fascist policy with regard to it and what system a Fascist state would adopt. Perhaps Mr. Raven Thomson will make this public also.

ARTHUR WELFORD

Building Economies

SIR,—As one who has been reading with interest the series of articles by Mr. Heaven on "Economy in Small House Construction" that have been appearing in the JOURNAL, may I be permitted to make some additional observations on the same subject.

The annual cost of a house includes not only rent and maintenance, but heating, cooking, cleaning, lighting and any special expenses such as doctor's bills, caused by dampness, vermin or other defects in a house.

Therefore one must study all these items to see whether, on a capitalized basis, true reductions can be made over a period of say 20 or even 40 years.

This principle affects the ordinary householder, but much more does it affect the ratepayer because all council houses, slum clearance and subsidized houses can only be paid for partly by the occupant, and the remaining costs are paid by the rate or taxpayer.

For example, a gas oven may be partly insulated, so that 70 per cent. of the heat is used. The annual gas bill may be £10, hence £3 is lost through incomplete insulation; in 20 years that becomes £60 (simple interest). By spending perhaps an extra 10s. on insulation and increasing the heating efficiency from 70 per cent. to 85 per cent., £30 capital might be saved.

In the roof, lower-priced houses have a tiled roof on battens or weather-boards, and a thin plasterboard ceiling. The heat loss through the ceiling is very high, and the bedrooms are bound to be cold, and for those who cannot afford fuel, people will, and do, live in one room for warmth.

By insulating the ceiling, which can be done at an extra cost of under 10s. per square, the heat loss will be halved and reasonable warmth retained in the upper bedrooms. Alternatively, the cost of heating the rooms is avoided or made less.

Provided the slated roofs give real weather protection, by using say 24 in. by 12 in. slates on battens, giving 240 sq. ft. to the square, there is little need for the boarding, but the ceiling must be insulated; which will cost less than the boarding under the slates.

The domestic boiler is designed for a 4 in. flue; yet we generally build a 9 in. by 9 in. brick chimney. With the 4 in. flue, a column of air only 12 sq. ins. has to be heated instead of a column of 81 sq. ins.

The flue of a plastic material has a smooth surface, and is well insulated. Hence the temperature of the gases at a height of, say, 15 ins., is much greater in the flue than in the chimney. The draught is much greater and more able to combat external winds, while condensation of gases will not occur in the flue owing to the higher temperature, though it can occur in the chimney.

If the plastic flue is built during construction into the external wall, there will be a saving of perhaps £2, a more efficient method provided and also the flue need not be carried so high.

Can painting costs be reduced? Iron exposed to weather is painted every four years; the capitalized cost of painting iron is often equal to or more than the first cost of the metal product.

Where materials which require no painting, such as certain plastics, can be used at the same first cost (or less) than iron, it is clearly a saving to use them if equal performance is provided.

Our 60-ft. by-pass roads are usually of concrete with a bitumen surface, practically waterproof. Hence, each half width of 30 ft. has one gentle slope of about one-thirty-fifth with one drain. Why then for roads of a total width of 30 ft. or 20 ft. do we still provide a camber with two drains, gutters and gullies?

For existing roads it would cost money to alter; but for new roads for housing estates, etc., of 20 ft. or 30 ft. width, it is better to have a single slope of say one-thirty-fifth to one drain, and save perhaps 10s. per yard run.

The macadam road required a camber; today's roads require far less rapid a slope to get the water away, and are practically waterproof; the camber tends to keep traffic to the middle of the road. On the whole it is better and cheaper to do away with camber and keep to a gentle slope.

Then the ashes beneath the concrete might be covered with sacking to

prevent sulphur from the clinker attacking the concrete. We should there reduce the thickness of the concrete by 1 in. or 2 ins.

Necessity has originally caused a certain method which has become a convention. Forgetting the cause, many improvements or economies are prevented by the Building Acts which tie us to convention, but where there is freedom, let us use materials on their merits of true cost over 20 years.

S. F. N.

Storage of Wine

SIR,—It is the aim and object of all architects to design a perfect house, and great strides have been made in recent years towards this ideal, especially with regard to the exterior, and many labour-saving devices have been introduced and adapted to the interior. Airy and clean kitchens and larders are provided, but few architects seem to have realized that ninety per cent. of their clients are not total abstainers and the accommodation for storing wine, etc., if any is provided, has been unsuitable for the purpose, and many big houses today have no wine cellar at all.

May I suggest that in building a proper wine cellar, the following considerations should be borne in mind :—

Wine must be kept in an equitable temperature—preferably about 57 deg., and this can only be accomplished if all the cellar walls are inside ones. Also it should not be placed near any hot water pipes.

In the case of fairly large cellars, a gas jet should be provided for use in very severe weather, and some ventilation provided.

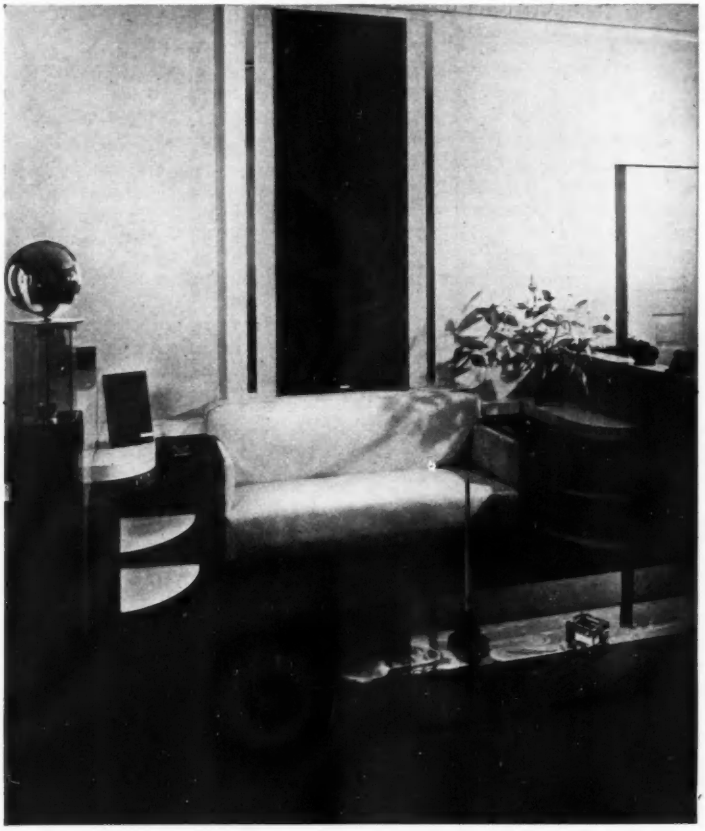
The number and size of the bins would depend upon the size of the cellar and house. A space of 22½ ins. wide by 12¾ ins. high and 17½ ins. deep will take fifteen bottles of wine, and this is the maximum sized bin which should be used for flats or small houses. In the case of large cellars, the bins should be built to hold not more than four dozen, as large bin spaces are not economical.

I am sure that three or four of the smaller sized bins could be fitted into all flats and houses of, say, £120 per annum and upwards. This would save the tenant a great deal of unnecessary trouble; as at present he has either to get his wine merchant to store his wine for him and send it in a few bottles at a time, or fetch it as he requires it for use. Either event provides frequent and quite unnecessary trouble to both parties, and in some cases is harmful to the wine.

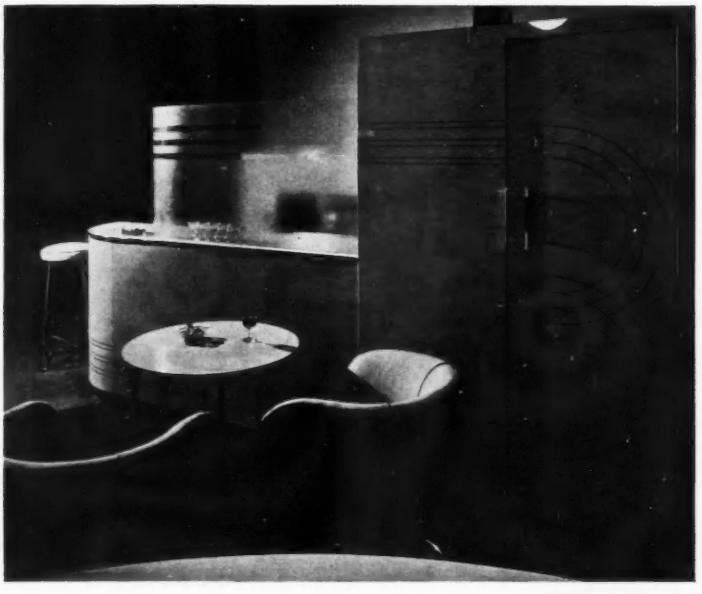
What is the opinion of your readers on this subject?

JAS. H. TODD

SHOWROOMS IN



These showrooms have been designed for Messrs. Vitrolite, for the display of their products. The display samples shown in the photograph above include a decorative panel designed by Siegmund Pollitzer and executed by sand blasting. The shaped tops of the fitments are in ¾ in. black glass. The table in the foreground is also in black glass, with a centre strip sandblasted on the underside and illuminated by means of tube lamps. Below : cocktail counter and screen.



[Dell and Wainwright

A L B E M A R L E S T R E E T , W .

D E S I G N E D

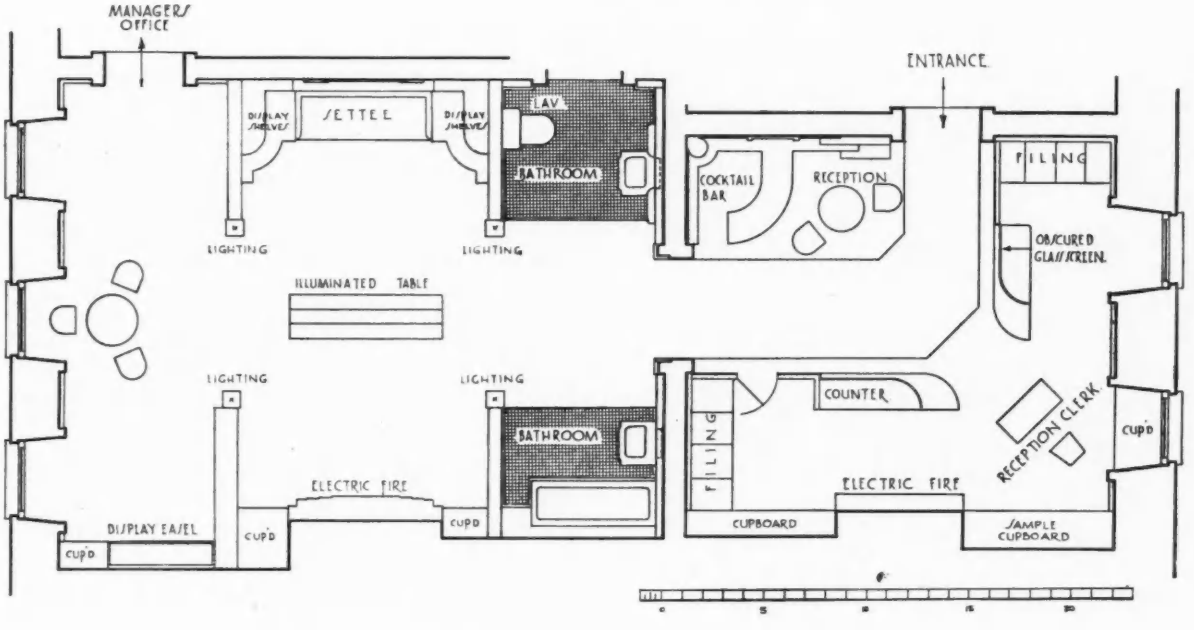
B Y

K E N N E T H C H E E S M A N

[Dell and Wainwright

The photograph on the right shows the fireplace group in the main showroom. The electric fire is chromium-plated and surrounded by panels of wedgwood Vitrolite, alternating with panels of silvered plate glass. The cupboards are of pearl-grey Vitrolite, with a centre strip sandblast fluted. The decorative panel, in a single sheet, designed by Siegmund Pollitzer, has the lines acid embossed and painted.

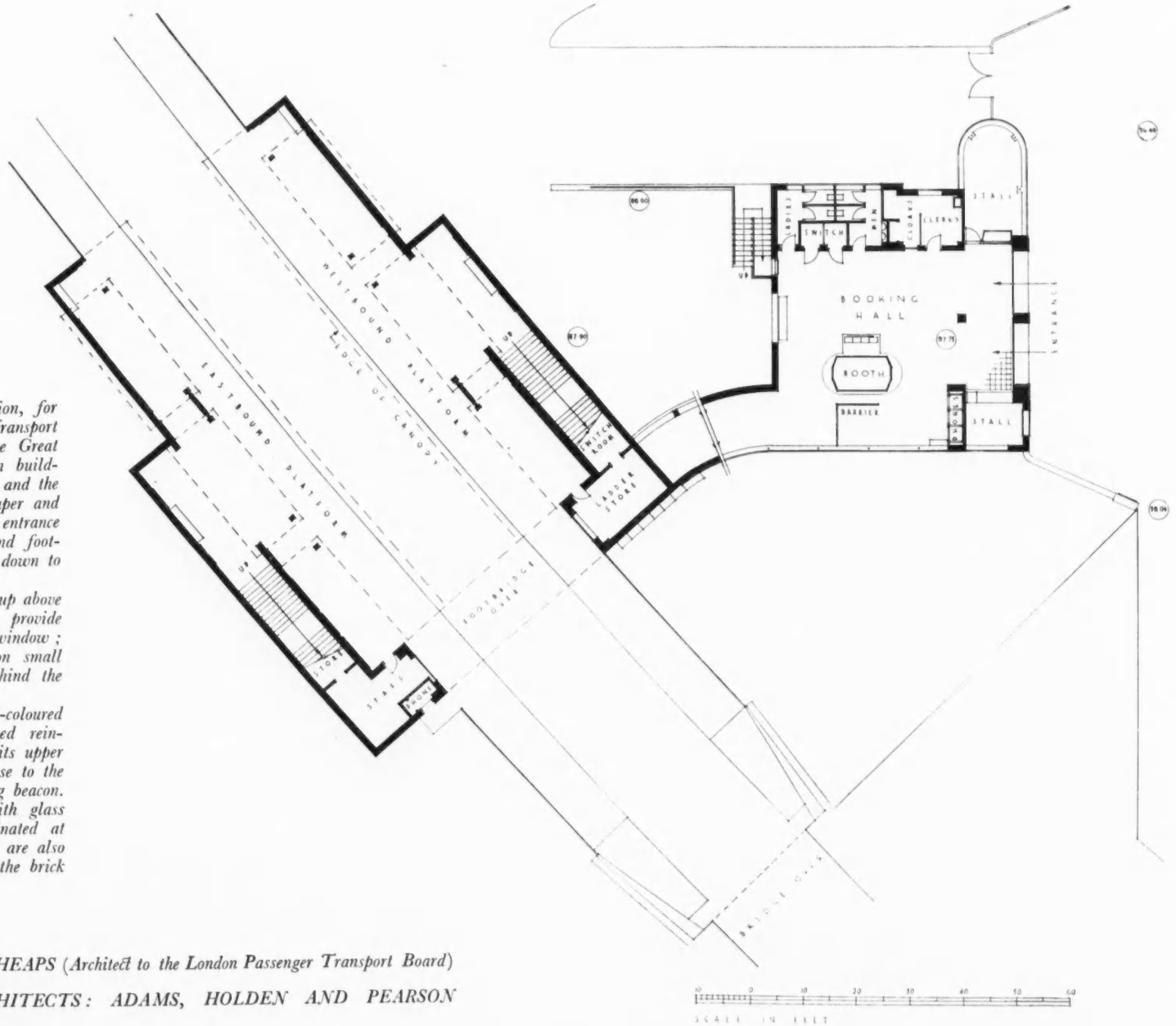
On the right in the foreground is one of the four floodlight pylons by which the showroom is lighted. The base of the pylon is formed of dull grey silvered plate glass, stippled on the face, above which are fins of clear pale blue plate glass supporting a pale blue glass disc. The lighting unit is a 10 in. opal globe surrounded by a plain chromium-plated hemispherical adjustable reflector.



LAY-OUT PLAN

OSTERLEY UNDERGROUND STATION

[Spender and Edmiston



The new Osterley Station, for the London Passenger Transport Board, is situated on the Great West Road. The station building consists of ticket hall and the usual offices, with newspaper and tobacconist's stalls in the entrance hall. A covered way and footbridge leads to staircases down to platforms.

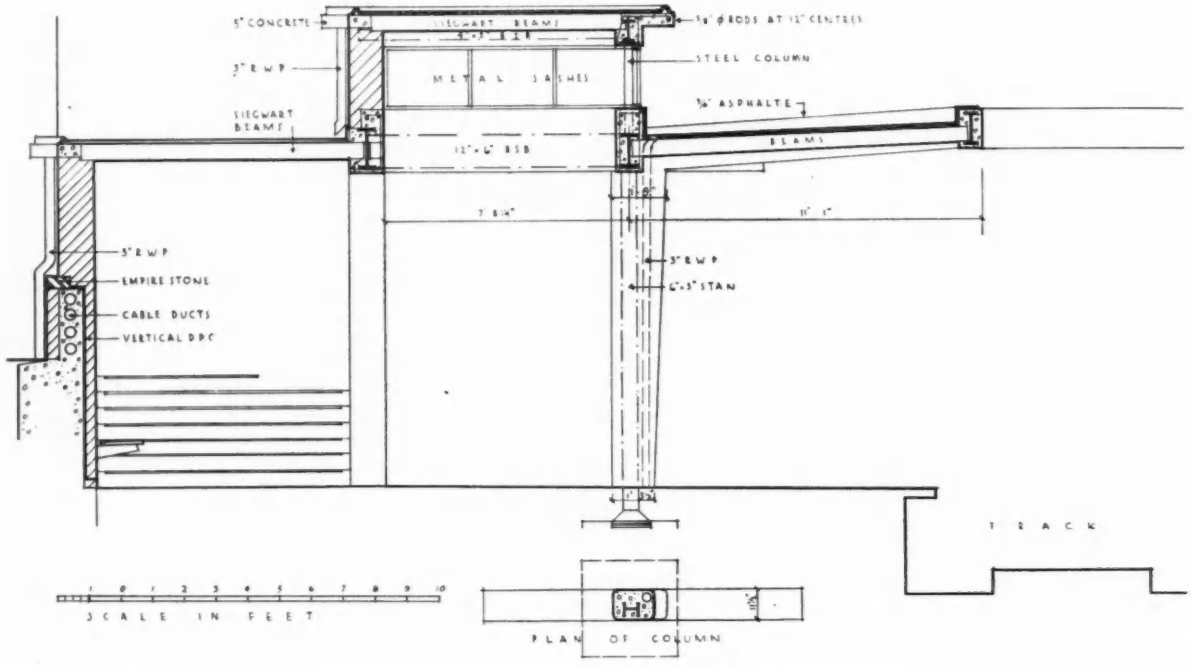
The ticket hall is taken up above the general roof level to provide a continuous clerestory window; the roof being carried on small steel circular columns behind the glazing.

The tower is in multi-coloured bricks with a brick-faced reinforced concrete frame in its upper part, which forms the base to the reinforced concrete lighting beacon. This beacon is inset with glass panels which are illuminated at night. Illuminated signs are also provided in the sides of the brick tower.

ARCHITECT: S. A. HEAPS (Architect to the London Passenger Transport Board)

CONSULTING ARCHITECTS: ADAMS, HOLDEN AND PEARSON

OSTERLEY UNDERGROUND STATION



[Spender and Edmiston

Top: cross-section through platform and canopy, showing system of clerestory lighting. Bottom: platforms, canopies and footbridge.

Construction is in brick, with steel joists carrying the floor and the flat roofs in pre-cast beam construction. The exterior and interior walls are faced with multi-coloured bricks, with a plinth of dark grey brindle bricks up to the cill course; the cill courses and coping to tower being of reconstructed stone. The roofs are covered with asphalt. Circular steel columns are used to carry the reinforced concrete roof over the circular ended shop and the continuous window to the covered way and footbridge.

The platform structure is of steel encased in concrete, with pre-cast beam slabs to roof panels; the concrete being of Portland stone aggregate with the exposed faces polished. The platform roofs are constructed with clerestory windows, to provide the maximum weather protection at platform edge and the necessary height and lighting for advertisement panels on the back wall.

Interior doors are laminated and flush face teak finished; the door and poster frames and shop surrounds being painted green.

ARCHITECT: S. A. HEAPS

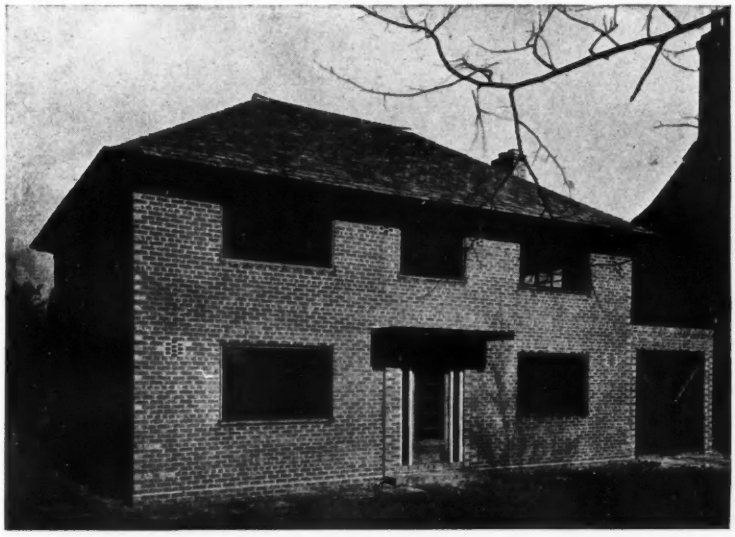
(Architect to the London Passenger Transport Board)

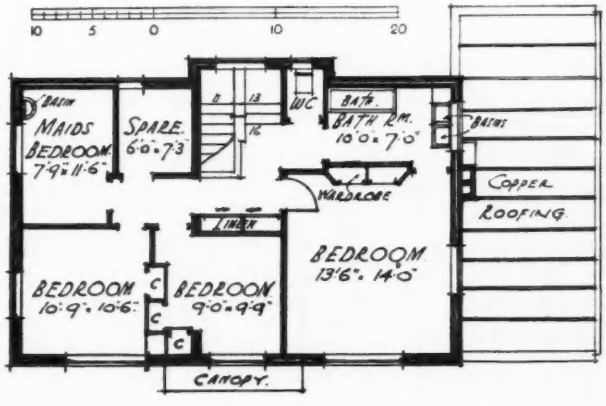
CONSULTING ARCHITECTS: ADAMS, HOLDEN AND PEARSON

HOUSE IN COOMBE LANE, WIMBLEDON.

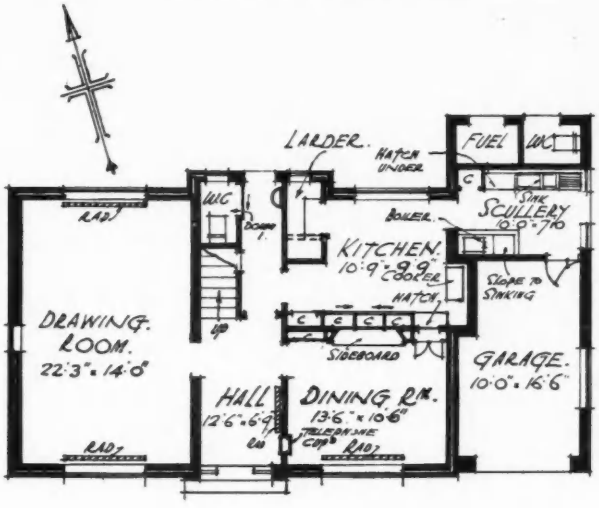
DESIGNED BY W. A. DOWNE

Throughout the design of this house, strict attention has been paid to economy, but more expensive equipment has been employed whenever the increased first cost may be reasonably considered as balanced by reduced upkeep. The total cost was £1,435, exclusive of the site, and at this figure the cube cost works out at slightly less than 1s. 2½d. This includes hollow tile fireproof floors finished with Cellulin, about £150 for joinery (built-in wardrobes, dressers and panelling), a central heating and hot water system in which all taps have independent valves for re-washering, and all external doors in oiled teak to save annual painting.





FIRST FLOOR PLAN

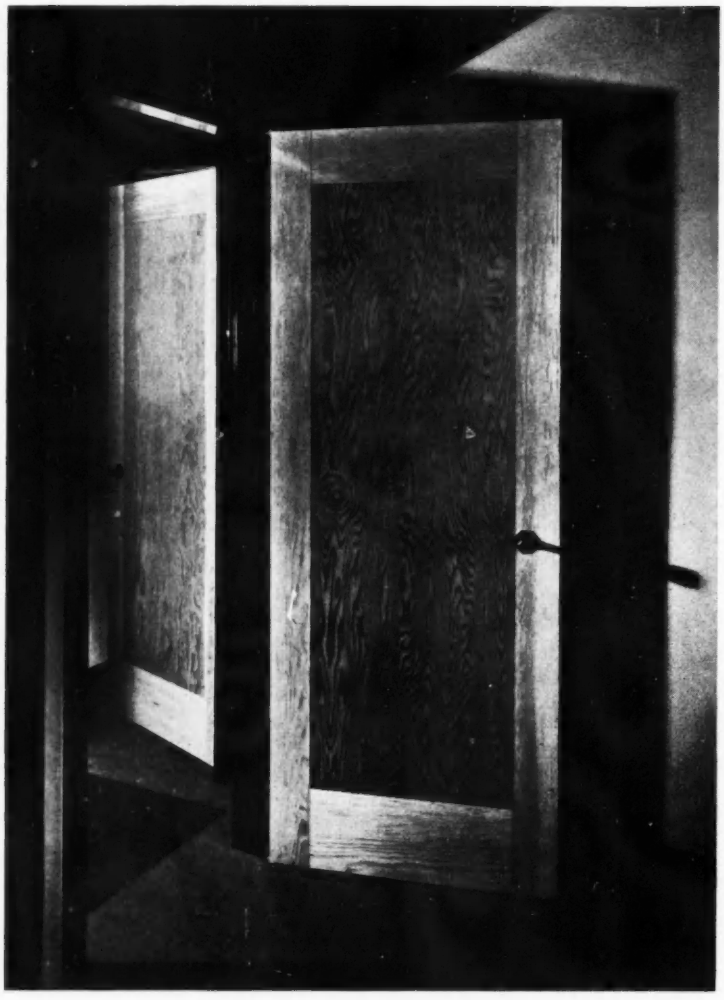


GROUND FLOOR PLAN

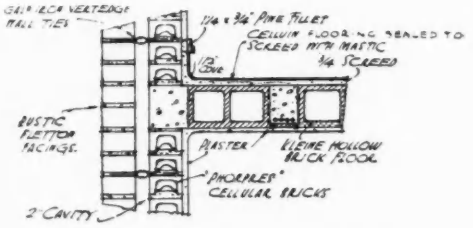
[J. Somerset Murray

Above, a general view; below, the main entrance.

HOUSE IN COOMBE LANE,



Left, one of the Columbian pine doors which are made with solid stiles and rails rebated to take the $\frac{5}{8}$ in. flush panel; cross-battens are provided to prevent drumming.

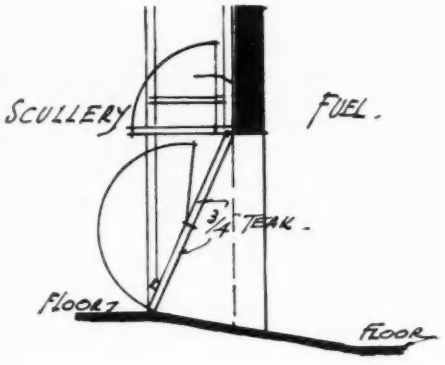


SECTION THROUGH FIRST FLOOR

Section through the hollow tile floor showing the screeding and coved Cellulin flooring. It is of interest to note that this floor showed a slight saving in cost over the more usual joist and board type, as the linoleum on screed provides the final floor finish, and no floor boards are necessary.

[J. Somerset Murray

The scullery, showing the stainless steel sink and teak surround, with the hinged flap giving access to the coal store on the left. Also a section showing the hanging of the hatch and shelf.



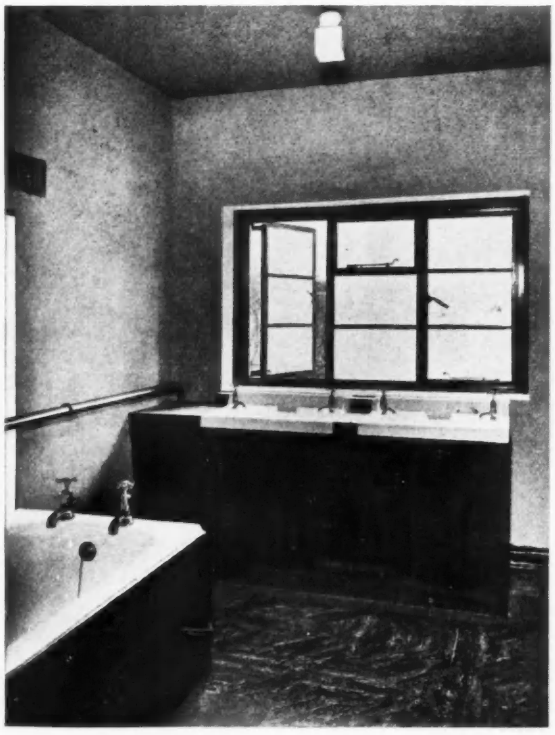
SECTION THROUGH COAL STORE

WIMBLEDON: BY W. A. DOWNE

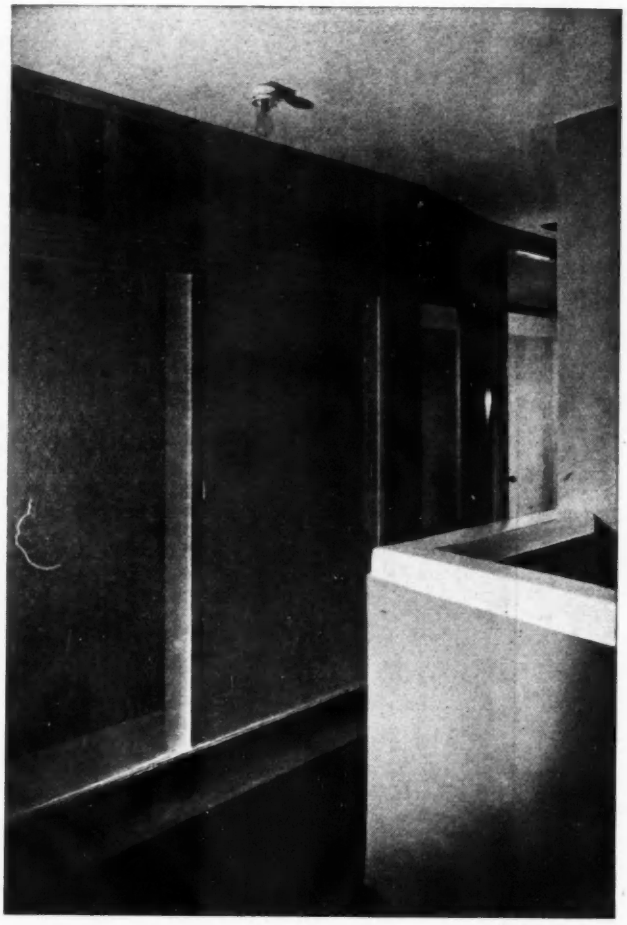
[J. Somerset Murray

A view looking down the staircase from the half-way landing. The staircase is covered in Cellulin with rubber nosings, and the handrail is in oak.

HOUSE IN COOMBE LANE, WIMBLEDON



DESIGNED BY W. A. DOWNE



[S. W. Newbery

The walls are in Phorpres cellular bricks, Phorpres rustic being used for the facings, the joints pointed with cement gauged sand and lime, and wiped off flush. The external walls are 11 in. cavity, tied with special double-twisted wall ties, which offer only a thin vertical edge to catch mortar droppings, as opposed to the broader flat of the normal tie. There are snapped headers every fifth course. The roof is covered with grey-green Delabole slates, the hips close cut and mitred, with the ridge in dark blue half-round tiles; the whole roof is lined with Sisalkraft paper for extra insulation. The garage flat is covered with sheet copper sealed to the cement with bitumen. All windows are metal in oiled teak frames, with a lead flashing nailed to the underside of the cills and dressed over the wall face.

The floors are hollow tile, screeded and finished with mastic-sealed Cellulin, which is turned over a 1½ in. cove and stopped against a 1¼ in. by ¾ in. fillet 4 ins. up the walls; a similar turn-up is made round the bath, cupboards and all other fittings.

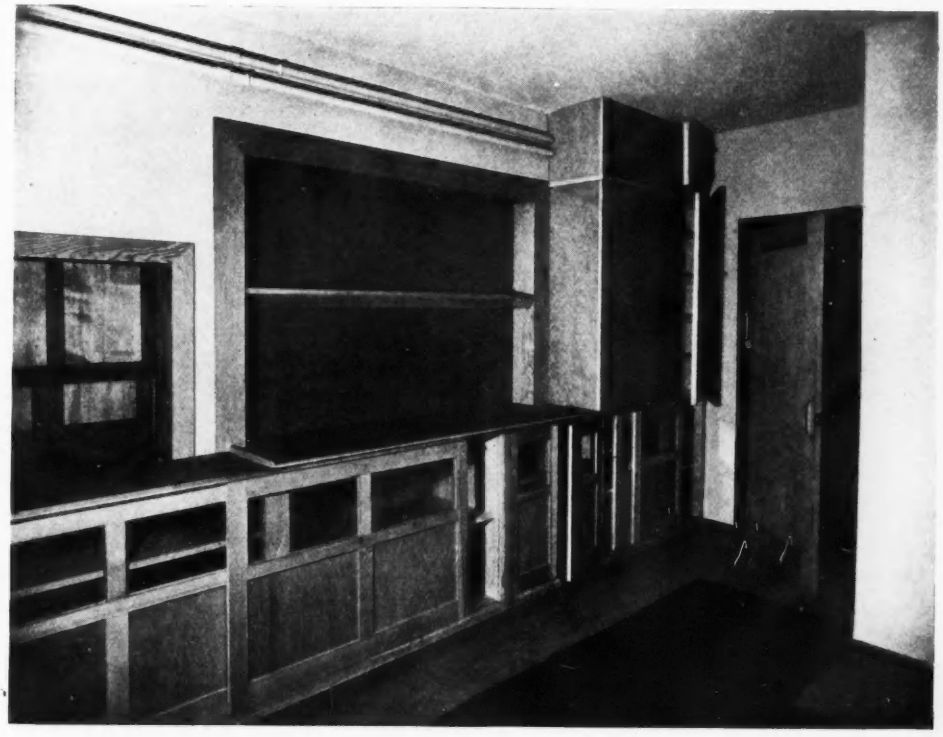
The external doors, including those of the garage, are in oiled teak to save upkeep costs. Internal doors are in flush Columbian pine with exposed stiles and rails. Gaboon plywood and Nigerian mahogany stiles and rails are used in the main ground floor rooms.

Above: the bathroom, with basins and bath cased in teak, and the landing with Columbian pine linen cupboards. Left: a built-in wardrobe fitting in Sapele mahogany.

FILING REFERENCE:

WORKING DETAILS : 45

BUILT-IN FURNITURE • HOUSE AT WIMBLEDON • W. A. DOWNE

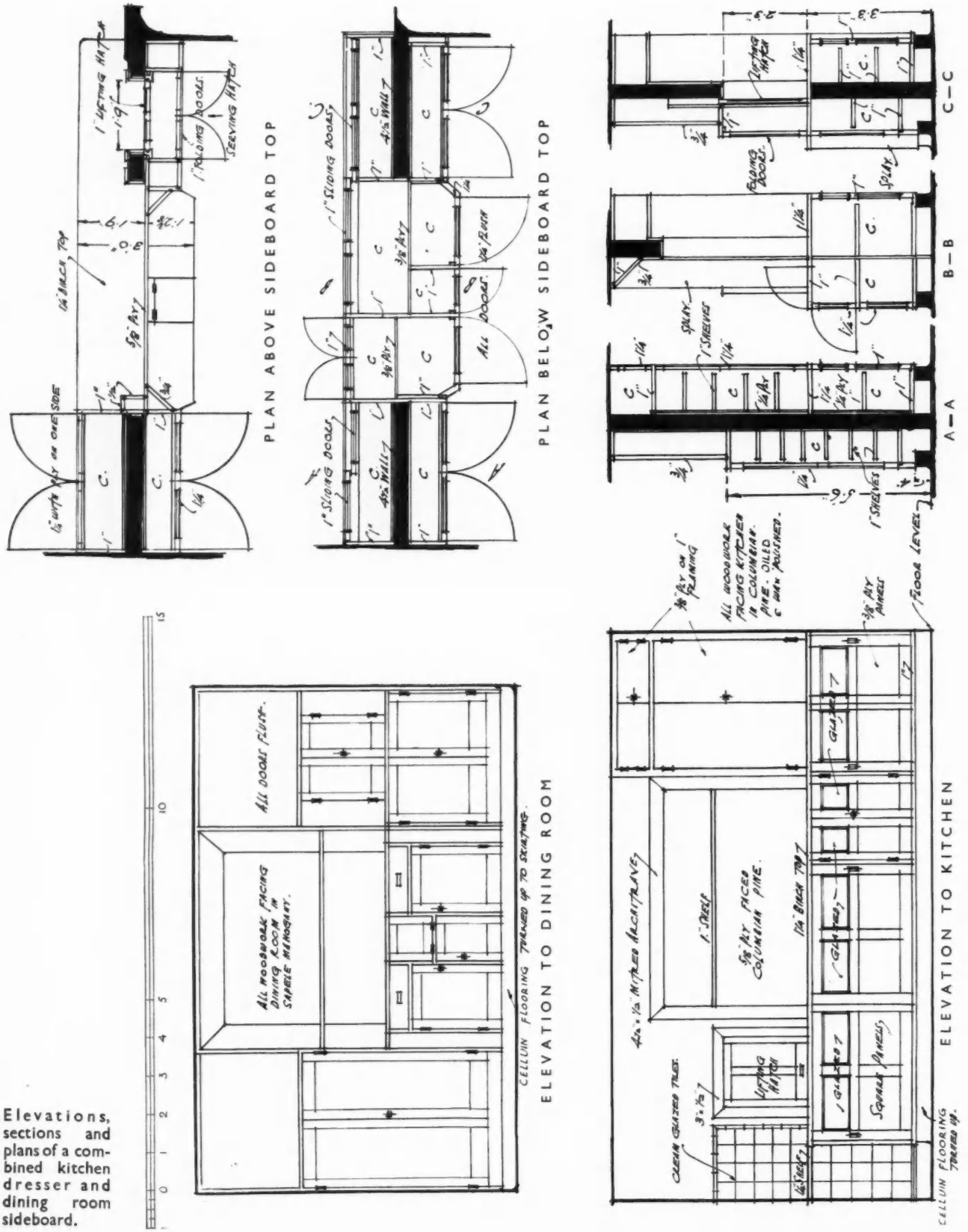


This double-sided kitchen fitting and sideboard is placed in the common wall of the kitchen and dining room, and the illustration shows the kitchen side of the fitting, which is in Columbian pine. On the left is the hatch to the dining room, and below the service shelf are cupboards with glazed sliding doors. The dining room side of the fitting is in Sapele mahogany.

FILING REFERENCE:

WORKING DETAILS : 46

BUILT-IN FURNITURE • HOUSE AT WIMBLEDON • W. A. DOWNE



Elevations, sections and plans of a combined kitchen dresser and dining room sideboard.

WORKING DETAILS : 47

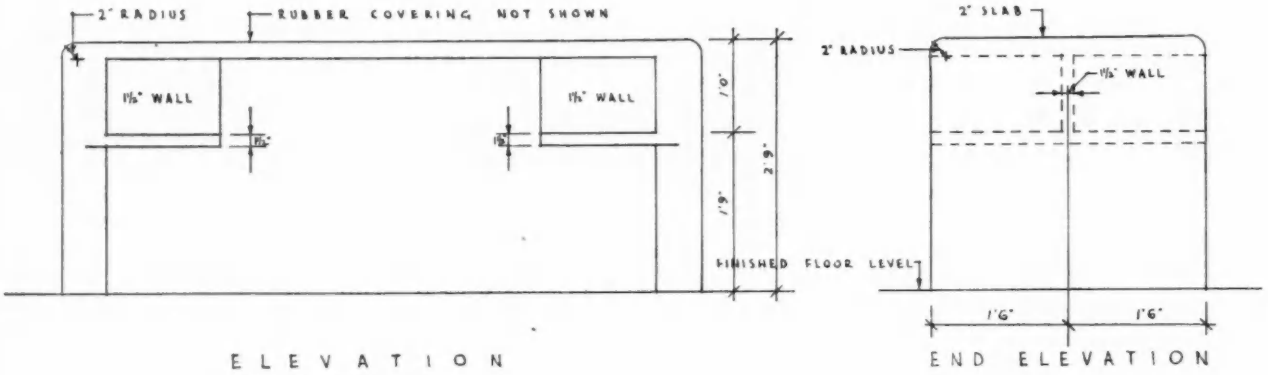
CONCRETE DESK • LABORATORY AT THURROCK • SIR E. OWEN WILLIAMS

This Desk, in the slurry testing room in a new research laboratory at Thurrock, Essex, is entirely constructed in reinforced concrete. Dimensions and reinforcement details are given on the drawing overleaf. The desk-top is covered with rubber.

FILING REFERENCE:

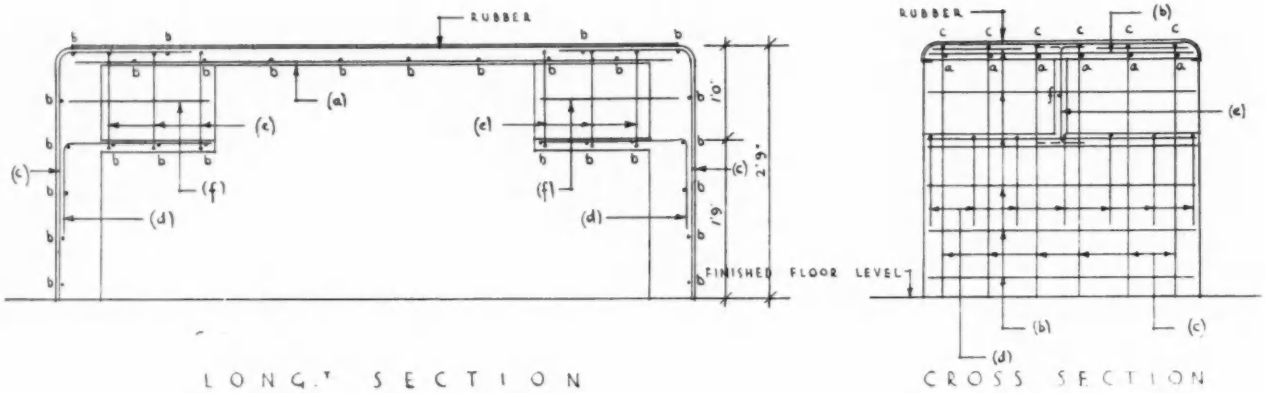
WORKING DETAILS : 48

CONCRETE DESK • LABORATORY AT THURROCK • SIR E. OWEN WILLIAMS



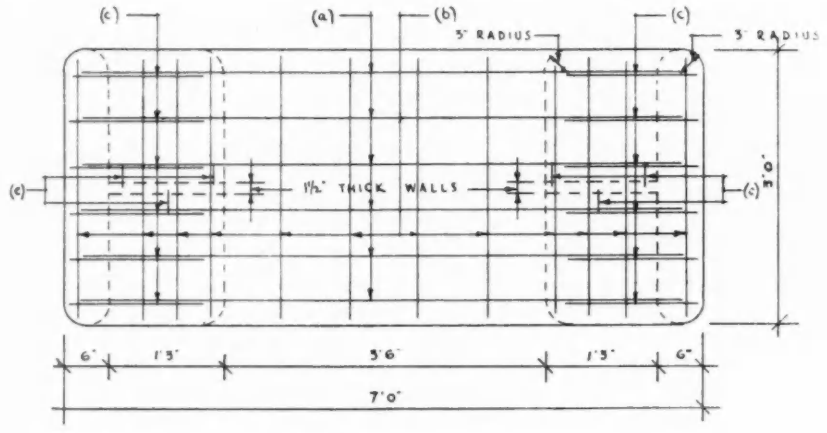
ELEVATION

END ELEVATION



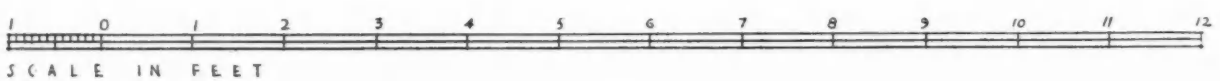
LONG.T SECTION

CROSS SECTION

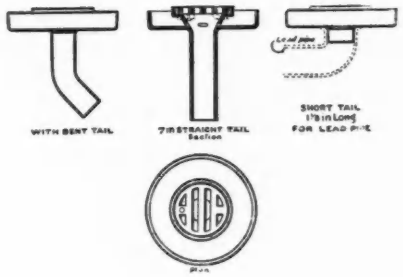


PLAN

REMARKS:
(1) CONCRETE 3:1 MIX
(2) ALL REINFORCEMENT TO BE ⅜" DIAMETER.
(3) ALL RIGHT ANGLE CORNERS TO BE RUBBED DOWN TO A SLIGHT RADIUS.



SCALE IN FEET



TRADE NOTES

[BY F. R. S. YORKE, A.R.I.B.A.]

Rain-water Outlets from Flat Roofs

I HAVE received from the Thames Bank Iron Company a leaflet illustrating a new type of composite junction to take the rain-water from balconies on blocks of

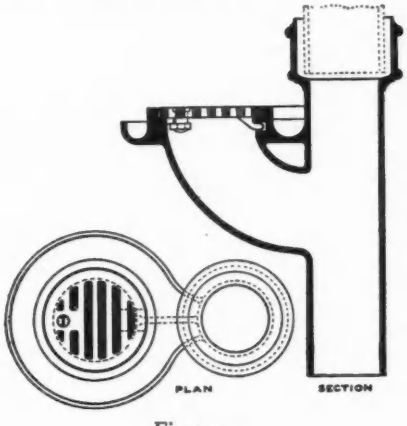


Figure 1.

flats, or similar intermediate exposed floor or roof surfaces, into the main down-pipe. The fitting eliminates the usual built-up junction and bend. A special bend, rising to a grating at roof-surface level, is cast in one piece with a length of standard down-pipe. A lute is provided, round the opening that takes the grating, to accommodate asphalt or other surfacing material, and provide an impervious joint (Fig. 1).

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A leak-proof outlet to take a 2 in. pipe from a larger asphalt roof surface, at a greater distance from the down-pipe, is shown in the diagram at the head of these notes. This is made with a straight or bent tail, or with a short tail to fit a lead pipe.

Concrete Surface Reinforcement

Lindsay's Fabric is a *surface* reinforcement for concrete, asphalt, composition or similar paving. Embedded flush in the granolithic or asphalt, it forms a continuous integral part of the paving and provides a surface of considerable durability.

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The fabric is composed of straight steel strips laid on edge, in parallel grille formation. The top edges of the steel strips form part of the wearing surface, thereby limiting the rate of wear of the entire surface to that of the steel. The strips further distribute over the paving the traffic and impact loads to which the surface is subjected. Thus the fabric enables the paving to withstand destructive traffic; it prevents cracking, creeping, and disintegration, and localizes injury or defect.

•

Each steel strip is interconnected to adjacent strips by steel cotter-pins. This construction provides a grille so flexible that it can be rolled up for handling and transport. Its flexibility enables the fabric to conform to cambers or undulations of the road or floor surface, and makes warping impossible.

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The continuity of the fabric may be broken at any point by closing the cotter-pins and withdrawing the steel strip. The reverse process of joining up separate lengths of fabric is equally simple.

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The fabric can be made to fit any irregular area, and may be laid on those portions of the paving at which wear is most severe. The standard width is 37 inches; adjoining widths are lapped 1 in. at either end, giving an effective width of 3 ft.

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The steel strips are 12 gauge, 1 in. deep, and spaced 1 in. apart. The fabric can be made to other dimensions if desired, with strips of any suitable metal and gauge.

•

Immediately the concrete base has hardened sufficiently, and whilst it is still green, the fabric is unrolled, placed in position and pulled taut. The strips of adjoining widths of fabric are lapped 1 in. and interconnected by passing rods through the holes in the ends of the overlapping strips (Fig. 2).

•

The granolithic filling must be laid immediately, and should be composed as follows:

Portland cement, conforming to British Standard Specification.

Aggregate, consisting of clean washed whin or granite chips, graded ¼ in. down, containing not more than 10 per cent. of fine grit passing a 76 by 76 sieve.

Water, clean and free from all injurious chemicals.

Proportions of the mix in the ratio of 2 parts of cement to 5 parts of aggregate, by volume.

Consistency of the mix as dry as practicable.

The fabric should be filled flush with granolithic immediately after mixing. The granolithic should then be compacted and levelled with a screeding board and wood float and left until it becomes "tacky." As soon as this initial set begins, the granolithic should be steel trowelled flush with the top edges of the steel strips.

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All new granolithic work requires a certain amount of care. The paving should be protected against rain for 12 hours after being laid, and against too rapid drying out by sun or wind whilst

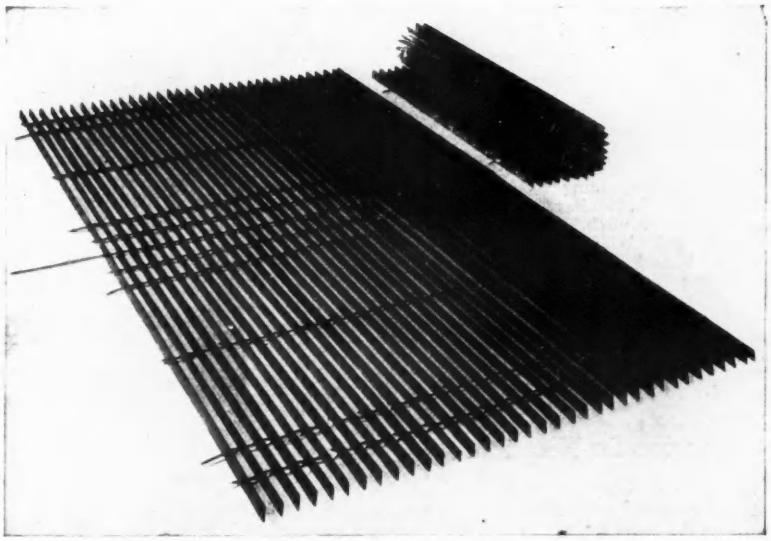

Figure 2.—Steel strip surface reinforcement for concrete and asphalt.

hardening. Immediately it has attained its final set, the finish should be covered with wet sacks, hessian canvas, sand, or deal sawdust, which should be kept continuously damp for 10 days.

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The paving should not be subjected to heavy traffic within three weeks of laying, unless rapid-hardening cement be used, in which case the surface will be ready for heavy traffic in four to seven days.

Metal Trim

In notes on metal trim in THE ARCHITECTS' JOURNAL for April 19, the price for corner pieces should have been given as 33s. to 39s. per 100, instead of per 100 feet.

THE BUILDINGS ILLUSTRATED

Sub-Contractors' List

Following are the names of the general contractors and some of the sub-contractors for the buildings illustrated in this issue :—

Osterley Station (pages 642-644). General contractors, J. Jarvis and Sons, Ltd. Sub-contractors : Rubery Owen & Co., steelwork ; Ames and Finnis, facing bricks ; Limmer and Trinidad Asphalt Co., asphalt ; Rapid Floor Co., precast flooring and roofing ; The Allied Guilds, artificial stone ; Safety Tread Syndicate, stair treads ; Art Pavements and Decorations, Ltd., tile paving ; Carter & Co., terrazzo paving ; The Merchant Trading Co., teak doors ; W. James & Co., steel sashes ; Light Steelwork Co., bronze handrailing ; Haywards, Ltd., collapsible gates ; Rowe Bros., sanitary fittings ; Starkie Gardner, Ltd., enamelled faced doors ; Cutting & Co., lightning conductors ; Kingsmill Metal Co., booking booth ; Carter & Co., wall tiling ; G. Johnson Bros., litter baskets ; Atlas Stone Co., platform paving slabs ; Roneo Co., steel stationery cupboard ; Allen and Greaves, w.i. ladders ; Art Metal Construction Co., metal shelving and lockers ; Constructors, Ltd., cycle racks ; Kingsmill Metal Co., bronze letter boxes and illuminated fascias ; Pollards, stall fronts, grilles and bronze enamelled letters ; Sankey Sheldon, steel shelving.

House at Wimbledon (pages 645-648). General contractors, C. H. King and Son. Sub-contractors : Wm. D. Gough, joinery ; London Brick Co. and Forders, Ltd., brick work (Phorpres rustic and cellular flettons) ; J. H. Sankey and Son, Ltd., slating (Old Delabole slates) and building paper ; Minton Hollins & Co., Ltd., wall tiling ; George Jennings (Lambeth), Ltd., sanitary goods ; Parker, Winder and Achurch, Ltd., ironmongery ; Williams and Williams, Ltd., windows ; Chas. P. Kinnell & Co., Ltd., heating and ventilating ; Electrical Contracts and Maintenance Co., Ltd., electric light ; Enfield Rolling Mills, Ltd., copper roofing ; Kleine Co., Ltd., floors ; Cellulin Flooring Co., floor finish ; Troughton and Young, electric light fittings ; A. Johnson & Co., stainless steel synkunit.

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£350,000 for New Schools

The Glasgow Corporation has approved a programme of school building and extension submitted by the Education Committee, the full cost of which is estimated at about £350,000.

ECONOMY IN SMALL HOUSE CONSTRUCTION

[BY FRANK H. HEAVEN, A.R.I.B.A., P.A.S.I.]

This is the last of the series of articles on the above subject, and concludes with a summary of all the possible savings the author has suggested in the course of the series.

X. PLUMBER

IN a well-planned building the sanitary fittings on each floor are grouped together as closely as possible, so as to reduce the amount of piping required in delivering supplies to and in carrying waste away from such fittings. Any economy, therefore, is a matter of design and planning than of construction, but, by the adoption of the single-pipe method of waste carrying it is possible to eliminate a small amount of external cast iron pipe required as waste pipe from fittings on upper floors ; because these can then discharge directly into the one essential ventilated soil pipe. In a single cottage the saving may amount to about 9 ft. of cast iron pipe, a waste head, and the necessary fixings to the same, less the price of a Y junction on the main soil

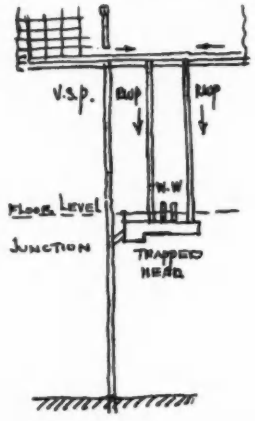

Figure 13

pipe. If one or more rain-water down pipes could be concentrated at about the same spot, a greater saving could be

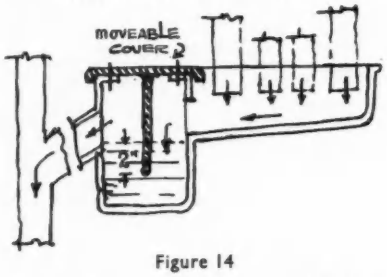

Figure 14

effected, because a cast iron head, with a trap combined in it, could be utilized to receive both waste and rain-water, and be made to discharge through a single Y junction pipe into the ventilated soil pipe, as shown in Fig. 13. Such a scheme would reduce the amount of piping, and the number of junctions required. The receiving head would be of the type suggested by Fig. 14. Of course, present bye-laws

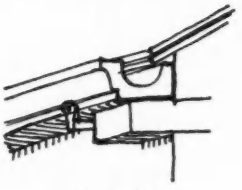

Figure 15

would need to be revised to admit of such procedure, but laws must be made subservient to progress in every day and generation.

Where roofs can be kept to simple forms, the adoption of wood rain-water gutters in long lengths and without joints would be more economical than cast iron, zinc, or even asbestos gutters. Such wood gutters

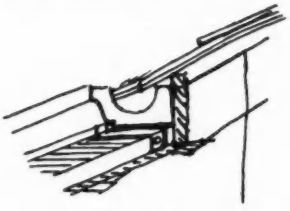

Figure 16

are in common use in northern counties. They may be fixed on brick or stone corbels and held by iron wall hooks, as shown in Fig. 15, so are easily taken out and replaced. Another manner of fixing the same type of gutter is given in Fig. 16, and another form of wood gutter is shown in Fig. 17, which is simple to make and fix, being secured by iron brackets screwed to the sides of the roof rafters.

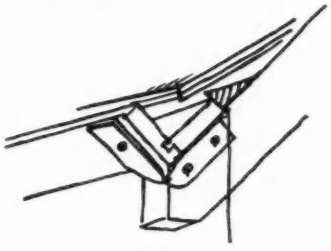

Figure 17

XI. SUMMARY

To summarize the suggestions made and to convert them into practical application, the case of a standard parlour-type cottage, built in pairs, has been chosen as an example. The approximate amounts of the several items required are given below, and the savings effected calculated on present-day prices.

For a single cottage the result is as follows :—

Description	Quantity	Rate	Amount
			£ s. d.
EXCAVATOR			
1. Trench for concrete foundation 27 in. wide to 11 in. and 9 in. external and party walls respectively. Length required per house = 26 lineal yards. Saving in excavation, if method shown at "A" in Fig. 1 is adopted = 26 by 0·16 cube yards =	4·16 c.yd.	4/6	0 18 8
2. Trench for 4 in. diam. drain, average 3 ft. deep—18 in. wide at bottom, and 30 in. wide at top—for an average length of 22 yards per house. Saving in excavation, if method of sloping sides, as in Fig. 2, is adopted = $\frac{(30-18)\times(\frac{3}{4})\times 3}{27}$ = ⅛ cube yard by 22 =	3⅜ c. yd.	4/6	0 16 6
3. Inspection Chamber on Drainage System. Assume size to be 3 ft. by 2 ft. 3 in. internal dimensions and 3 ft. deep to invert., and that there is one only to a house. Saving in excavation if method shown at "A" in Fig. 1 is adopted. Length of cutting to edge of concrete base = 6⅔ lineal yards, which at $\frac{0\cdot16}{2}$ c. yd. =	½ c. yd.	4/6	0 2 3
4. Trenches to half-brick partition walls. Assume size of ordinary base to be 13½ in. by 6 in. and the additional depth below site concrete if method shown at Fig. 4 (b) is adopted, to be 13½ in. by 2in. Length of partition wall per house to be 50 ft. The saving in excavation is equal to $\frac{\frac{2}{3}\times 1\frac{1}{8}\times\frac{1}{2}\times 50}{27}$ =	$\frac{7}{10}$ c. yd.	4/6	0 3 1
CONCRETOR			
1. Saving in concrete in foundations to 11 in. and 9 in. external and party wall, if trench cutting as at "B" in Fig. 1 is adopted. As before, length of foundation = 26 lin. yds. Ditto. to one Inspection Chamber. As before, length of cutting to edge of concrete base = 6⅔ lineal yards × ½ = 3⅓ lin. yds. Total = 29⅓ lin. yds. Therefore 29⅓ lineal yards × 0·01 c. yd. = (See page 468, Mar. 29, 1934.)	$\frac{3}{10}$ c. yd.	29/6	0 8 10
2. Saving on concrete bases to half-brick partition walls. As Excavation above	$\frac{7}{10}$ c.yd.	29/6	1 0 7
BRICKLAYER			
1. Saving on external walls, if 9 in. Rat-trap Bond, hollow walls be substituted for 11 in. cavity walls. Area required per house = 128 super yds.			
(*a*) Bricks = 128 × (96—72) (see Table I, page 504, Ap. 5, 1934) =	3072 No.	1½d.	
(*b*) Mortar = $128\times\frac{(1\cdot12-0\cdot65)}{27}$,, =	2¼ c. yd.	20/–	
(*c*) Wall Ties = 128 × 3 ,, =	384 No.	2d.	
a = £19 4 0			
b = 2 5 0			
c = 3 4 0			
£24 13 0			
Less the cost of rendering in plain cement (2 coats) 128 super yds. at 2s. 9d. = £17 12 0			
Net Saving =			7 1 0
2. Saving on Honeycomb Sleeper walls, if reduced to 3 in. thickness as shown in Fig. 7 (see page 504, Ap. 5, 1934) Area required per house = 6 super yards. Therefore 6 yds. by 9 bricks (see page 504, Ap. 5, 1934) =	54 No.	2d.	0 9 0
3. Saving on 9 in. Fender walls to two fireplaces, if deeper joists and trimmers are used in floor. Area of wall per house = 1⅛ super yds. which at 14s. 6d. per super yd. = 16s. 11d. Less cost of extra timber in trimming joists from 7 in. by 2 in. to 7 in. × 2½ in. = 40 ft. lin. × $\frac{7\text{ in.}\times\frac{1}{2}\text{ in.}}{144}$ = 1 c. ft. at 6s. = 6s. 0d.			
Net saving =			0 10 11
CARPENTER			
1. Saving on wall plate and damp-proof course, if sleeper walls be reduced from 4½ in. to 3 in. in thickness as Fig. 7. Length required per house = 72 lineal ft.			
(*a*) Fir in wall plate = ⅓ × 72 × $\frac{4\frac{1}{2}\text{ in.}\times 3\text{ in.}}{144}$ =	2¼ c. ft.	4/6	0 10 1
(*b*) Damp-proof course = ⅓ × 72 × $\frac{4\frac{1}{2}\text{ in.}}{12}$ =	1 sq. yd.	5/–	0 5 0
2. Further saving on wall plates, if reduced from 3 in. to 2 in. in thickness = ⅓ × 72 × $\frac{3\times 3}{144}$ =	1½ c. ft.	4/6	0 6 9
3. Saving in timber if ground floor joists be increased to 7 in. by 2 in. and set at 4 ft. centres. Area of floor per house = 29 sq. yds. ∴ 29 × 0·16 c. ft. (see page 581, Ap. 19, 1934) =	4·6 c. ft.	6/–	1 7 9
4. Saving in timber of suspended floors, if ceilings below are not of plaster, and joists are set at 2 ft. centres. Area of floor per house = 48 super yds. Therefore 48 by 0·22 c. ft. (see page 581, Ap. 19, 1934) =	10½ c. ft.	6/–	3 3 0
5. Saving in timber of ceiling joists, if ceilings are not of plaster, and joists are set at 2 ft. centres. Area of ceiling per house = 49 super yds. Therefore 49 by 0·12 c. ft. (see page 581, Ap. 19, 1934) =	5·8 c. ft.	6/–	1 15 3
6. Further saving in timber in ceiling joists, if reduced from 4 in. by 2 in. to 3 in. by 2 in. Area, as before = 49 by 0·19 c. ft. (see page 581, Ap. 19, 1934) =	9·3 c. ft.	6/–	2 15 9
7. Saving in timber of wall plates to roof, if reduced from 4½ in. by 3 in. to 4 in. by 2 in. Length required per house = 70 lineal ft. Therefore 70 by 41 per cent. (see page 581, Ap. 19, 1934) × $\frac{4\frac{1}{2}\text{ in}\times 3\text{ in.}}{144}$ =	2¾ c. ft.	4/6	0 12 4
8. Saving in timber of roof carcasing, if spacing of rafters be increased from 16 in. to 24 in., and slate battens be deepened from ¾ in. to 1¼ in. Area of roof surface = 82 super yards. Therefore 82 by 0·023 c. ft. (see page 581, Ap, 19, 1934) = 1·8 c. ft. at 7s. 3d. = 13s. 0d.			
9. As an alternative to the last : a roof of boards and purlins in place of rafters and battens. Area of roof surface = 7·44 squares. Therefore, 7·44 by 0·70 c. ft. (see page 582, Ap. 19, 1934.) =	5·2 c. ft.	7/3	1 17 9
10. Reduction in labour on tusk tenon joints of trimmers to floors, if made as suggested in Fig. 8, assuming that there are 12 such joints in a house	12 no.	2/–	1 4 0
JOINER			
1. Substitution of hard plaster with slightly rounded arris to window openings, in place of linings and window boards with architraves, as Figs. 9 and 10. Length of arris per house = 172 lin. ft.			
(*a*) Cost of 1 in. linings and window board. 172 ft. by 6 in. = 86 super ft. at 1s. 10d. = £7 17 8			
Cost of 3 in. architrave and grounds. 172 ft. + ⅛ for mitres = 13 lin. 8ft. at 6d. = 4 11 6			

Description (*continued*)	Quantity	Rate	Amount
			£ s. d.
Cost of knot, stop, prime and two coats of paint on above = (86+46) super ft. = 14⅔ super yds. at 2s. 9d. = 2 0 4			
£14 9 6			
(*b*) Cost of two coats sirapite plaster (86+46) super ft. = 14⅔ super yds. at 2s. 9d. = 2 0 4			
Cost of extra labour to form arris. 172 lin. ft. at 3d. = 2 3 0			
Cost of two coats of distemper 14⅔ super yds. at 1s. 3d. = 0 18 4			
£5 1 8			
Difference	=		9 7 10
PLASTERER			
1. Saving if two coats of hard plaster to walls and ceilings be substituted for three coat lime plaster. Area of walls, 295 super yds. Area of ceilings, 97 super yds.			
(*a*) Render, float, and set in lime plaster and hair to walls and ceilings. 392 super yds. at 2s. 6d. = £49 0 0			
Sawn laths to ceilings 97 super yds. at 1s. 6d. = 7 5 6			
£56 5 6			
(*b*) Render and set in sirapite to walls and ceilings, 392 super yds. at 2s. 9d. = £53 18 0			
Sawn laths to ceilings, 97 super yds. at 1s. 6d. = 7 5 6			
£61 3 6			
Less the time saved in execution. Rent received, two weeks at 15s. = 1 10 0			
Overhead charges, two weeks at 70s. = 7 0 0			
8 10 0			
£52 13 6			
Difference	=		3 12 0
2. Additional saving if matched boarding be used for ceilings in place of hard plaster.			
(*a*) Render and set in Sirapite, 97 super yds. at 2s. 9d. = £13 6 9			
Sawn laths, 97 super yds. at 1s. 6d. = 7 5 6			
Clearcolle and whiten, 97 super yds. at 6½d. = 2 12 7			
£23 4 10			
(*b*) Match boarding, ⅝ in. thick, 97 super yds. at 1s. 3d. = 6 1 3			
Stain and once varnish, 97 super yds. at 1s. 2d. = 5 13 2			
£11 14 5			
Difference	=		11 10 5
3. Saving on two coat external plastering and colour-wash, if rough rendered with colour added as suggested on page 616, Ap. 26, 1934 and Fig. 11. Area of external plastering per house = 109 super yds.			
(*a*) Render and float in cement, 109 super yds. at 2s. 9d. = £14 19 9			
Two coat distemper, 109 super yds. at 9d. = 4 1 9			
£19 1 6			
(*b*) Rough render in cement, 109 super yds. at 1s. 9d. = 9 10 9			
Cost of colour added to mixture = 1 0 0			
£10 10 9			
Difference	=		8 10 9

Description	Quantity	Rate	Amount
			£ s. d.
SLATER			
1. Saving on slating if slates of random width be used in place of regular-sized slates. Area of roof = 7·44 squares			
(*a*) Countess slates, $7{\cdot}44 \times \frac{160}{1000} = 1\frac{1}{4}$ mille at £20 = £25 0 0			
(*b*) Random width slates, 1¼ mille at £18 = 22 10 0			
Difference	=		2 10 0
TILER			
1. Alternative to last : Substitution of feather-edged boarding to receive tiles as Fig. 12, in place of flat boarding and battens. Area of roof, 7·44 squares			
Saving on battens = 7·44 squares at 14s. = £5 4 0			
PLUMBER			
1. Saving on waste pipe, if single-pipe system be adopted, as suggested on page 654.			
3 in. dia. cast iron waste pipe, 9 lin. ft. at 1s. = 9 0			
No. 1 shoe, 1 at 2s. = 2 0			
No. 1 waste head, 1 at 4s. 8d. = 4 8			
15 8			
Less Y- junction on 4 in. cast iron soil pipe, 1 at 3s. = 3 0			
			0 12 8
2. Further saving if rainwater down pipes and wastes are concentrated as in Fig. 13 3 in. dia. cast iron rainwater pipe, 9 ft. at 1s. = 9 0			
No. 1 shoe = 2 0			
			0 11 0
3. Saving if wood rainwater gutters be substituted for cast iron. Length required = 48 lin. ft.	48 lin. ft.	3d.	0 12 0
PAINTER			
1. Saving effected if stop, size and oncoat stain and varnish be substituted for knot, stop, prime and paint two coats on all internal joinery, as suggested on page 617, Ap. 26, 1934 Approximate area in one house = 95 super yards			
(*a*) K.S.P. and paint two oils, 95 super yds. at 2s. 9d. = £13 1 3			
(*b*) S.S.S. and once varnish, 95 super yds. at 1s. 6d. = 7 2 6			
Difference	=		5 18 9
2. Saving effected by mixing colour with plaster in place of clearcolle and distemper on completion, as suggested on page 617, Ap. 26, 1934 Area of wall plastering = 295 super yds.			
(*a*) Clearcolle and distemper on walls, 295 super yds. at 1s. 1d. = £15 19 7			
(*b*) Cost of colour added to plaster = 2 15 0			
Difference	=		13 4 7
Total saving effected per house			£81 18 6

XII. CONCLUSION

The prices applied in arriving at the above amount are those appearing in most weekly journals, and are more particularly applicable to the London area and for better class work. In the case of small dwellings erected in the provinces, they will be found to be too high ; consequently, it would be reasonable to allow about one-third, and to take the balance (about £55 per house) as being the total amount saved. This, if borrowed from a building society at the usual rate of interest and period of loan for such properties, would result in a saving of repayments and interest equal to 8s. 3d. per calendar month, and could be applied to the reduction of rent chargeable.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILE RADIUS)

ACTON. *Flats, etc.* Messrs. J. Stanley Beard and Clare are to develop a site at the corner of Gunnersbury Lane and Bollo Lane, by the erection of six shops with maisonettes, a group of 14 garages, and a block of flats on the Bollo Lane frontage, three storeys high on each flank and four storeys high on the east side, facing tennis courts and a bathing pool in the centre. The scheme provides for 68 flats. Messrs. E. H. Wale, Ltd., on behalf of Messrs. Equities, Ltd., have prepared plans for the development of a further section of the St. Catherine's estate, Bedford Park, where 60 flats in two-storey buildings of the Tudor type are to be erected.

COULSDON AND PURLEY. *Estate development.* The U.D.C. has passed the following development plans: Westfield estate, Sanderstead, 310 houses, for Messrs. J. Gerrard and Sons, Ltd.; Coulsdon Heights estate, 120 houses, for Firmus Constructions, Ltd.; and land off Famet Avenue, Purley, 37 houses, for Messrs. E. T. Brown and Son.

EALING. *Houses, Shops, etc.* Plans passed by the Corporation: Seven houses, Beaufort Close, for Messrs. Haymills, Ltd.; two shops, Pitshanger Lane, for Messrs. Hall-Jones and Partners; 81 houses, Northolt Park estate, for Messrs. Swannell and Sly; factory for Associated Agricultural Processes, Ltd., Coronation Road, for Sir A. Gibb and Partners; showrooms and flats, Uxbridge Road, for Mr. E. Schaufelberg; four houses, North Circular Road, for Messrs. R. Lancaster and Sons; 10 houses, Southdown Avenue, for Mr. R. S. Rimmington; 16 shops and cinema, Sudbury Heights Avenue, for Mr. A. P. Starkey, on behalf of North West London Estate Co., Ltd.; 12 houses, Rydal Crescent, for Mr. A. E. Murdock; 10 houses, Thirlmere Avenue, for Mr. A. J. Marshall.

SOUTHALL-NORWOOD. *Swimming Bath.* The U.D.C. has selected a 10-acre site for the provision of an open-air swimming bath.

SOUTHALL-NORWOOD. *Houses.* Plans passed by the U.D.C.: 10 houses, Delamere Road, for Hayes Bridge Estate, Ltd.; five houses, Sherborne Avenue, for Messrs. Warren and Wood; four flats, Hambrough Road, for Messrs. E. P. Plaistowe and Sons, Ltd.; 16 houses, Allenby Road, for Mr. H. M. Guy; 33 houses, Park View Road, for Mr. F. S. Honey.

SOUTHERN COUNTIES

BRIGHTON. *Rebuilding.* The Corporation has approved plans submitted by Messrs. Thomas Garrett and Son, for the rebuilding of 202-212 Western Road, and 1-9 Imperial Arcade, at an estimated cost of £37,000.

BRIGHTON. *Houses.* Plans passed by the Corporation: Four houses, Ridgeside Avenue, for Mr. F. Walker; two houses, Chichester Drive, for Mr. E. J. Hoadley; three bungalows, Warren Rise, Rottingdean, for Mr. R. C. Spenslove; 12 houses, Mackie Avenue, for Ladies Mile Estate, Ltd.; 12 houses, Carden Avenue estate, Patcham, for Messrs. Braybons, Ltd.: six houses, Old Farm Road, Patcham, for Mr. E. G. Cornish; two houses, Rosebery Avenue, for Mr. W. Rason; 10 houses, Overhill Drive, Patcham, for Mr. Y. C. Smith; two houses, Hamilton Road, for Mr. C. Tyler; 12 flats, Hanover Street, for Mr. C. Ayling; 32 houses, Varndean estate, Patcham, for Mr. F. J. Wellman.

BRIGHTON. *Rehousing.* The Corporation has approved plans for the provision of rehousing accommodation on the Manor Farm estate, at a cost of £61,506.

GRAVESEND. *Houses.* The Corporation is to prepare amended plans for the erection of 200 houses on the West Court Farm estate.

ROTTINGDEAN. *Bathing Pool.* The Ministry of Health has sanctioned the proposal of the Brighton Corporation for the construction of a bathing pool.

ROTTINGDEAN. *Bungalows.* Coastal Estates (Eastbourne) Ltd., has prepared plans for the erection of 60 bungalows at Farm Hill, Wick estate.

WEST HOWE. *Houses and Shops.* Mr. R. Binnie has prepared plans for the development of a site by the erection of 198 houses and shops.

MIDLAND COUNTIES

BIRMINGHAM. *Cinema.* The Corporation has granted a lease of a site at the junction of King's Road and Kettlehouse Road, on the Kettlehouse Farm estate, for the erection of a cinema, on condition that within a period of 12 months a picture house is erected at a cost of not less than £20,000.

KETTERING. *Houses.* The U.D.C. has approved the lay-out of a site in Brook Street, for the erection of 52 houses for tenants to be displaced by slum clearances.

NORTHAMPTON. *Houses.* Messrs. T. Wilson and Son, Ltd., propose to erect 12 houses in St. Andrew's Road, and 48 in Balfour Road.

WOLVERHAMPTON. *Houses.* Plans passed by the Corporation: Three houses, Belmont Road, for Mr. Isaac Mann; two shops, Lower Villiers Street, for Mr. A. J. Jesson; four houses, Finchlield Lane, for Mr. W. Highes; three houses, Leighton Road, for Messrs. Pidgeon Bros.; 16 houses, Oxley Moor Road, for Mr. C. H. Whitehouse; four houses, Wells Road, for Messrs. E. Leach & Co.; eight houses, Hanbury Crescent, for Mr. P. Blundell; three houses, All Saints Road, for Messrs. Herbert & Co., Ltd.; two houses, Pendeferd Lane, for Mr. H. Taylor; 18 houses, Finchfield estate, for Mr. F. D. Marston; two houses, Penn Court estate, for Mr. R. Knowles; five houses, York Gardens, for Mr. J. V. Powell; estate development, Grosvenor Street, for Mr. E. A. Ward; five houses, Cannock Road, for Messrs. J. V. Boswell & Co.; 14 houses, Grosvenor Street, for Mr. E. Eggington; 54 houses and six shops, New Penn estate, for Messrs. A. M. Griffiths and Son, Ltd.; two houses, Willenhall Road, for Mr. A. Green; two houses, Penn Court estate, for Messrs. Shutt Bros.; licensed premises, Bushbery Lane, for Messrs. E. Jeffries and Shipley; two houses, Woodland Road, for Mr. J. R. Wooddissee; two houses, Lonsdale Road, for Messrs. Russell and Roberts; eight houses, Marsh Lane, for B. and E. Estates; six houses, Stafford Road, for Mr. H. Birtles; two houses, Manor Road, for Messrs. Batho and Pritchard; six houses, Deans Road, for Mr. J. V. Senior; 20 houses, Fallings Park estate, for Mr. M. A. Boswell; 10 houses, Caledonia Place, for Messrs. Blackburn and Crossland; 18 houses, Finchfield Lane, for Messrs. Bidulph and Thrift.

NORTHERN COUNTIES

BARROW-IN-FURNESS. *Houses.* The Corporation is to prepare plans for the erection of 200 houses on the Risedale site, and 118 on the Roosegate estate.

BLACKPOOL. *Houses.* Plans submitted to the Corporation: 26 houses, St. Luke's Road and St. Martin's Road, for Arnold Estates, Ltd.; 22 houses, England Avenue and Sandhurst Avenue, for Messrs. R. Fielding and Son; and 14 houses, Park Road, for Mr. R. Gregson.

BLACKPOOL. *Houses.* Plans passed by the Corporation: Four houses, Devonshire Road, for Mr. J. W. Lee; house and shops, Fleetwood Road and Derwent Place, for Blackpool Co-operative Society, Ltd.; nine houses, Powell Avenue, for Mr. R. Hollis; 11 houses, St. Luke's Road, for Mr. Birtwistle; five houses, St. Luke's Road, for Mr. T. Hilton; three houses, Daggers Hall Lane, for Mr. H. G. Mason; four houses, St. Martin's Road, for Mr. T. Lane; four houses, Blenheim Avenue, for Messrs. Render Wood, Ltd.; two houses, Kempton Avenue, for Mr. J. Reid; three houses, Queen's Drive, for Messrs. J. Sutcliffe and Sons, Ltd.; two shops, Highfield Road, for Mr. H. Hacking; seven houses, Arnott Road, for Mr. T. E. Mercer; 10 houses, Warbreck Drive, for Messrs. Bryning and Done; two houses, Park Drive, for Mr. J. W. Wilkinson.

BLACKPOOL. *Swimming Baths and Café.* The Lido Swimming Pool, Ltd., has prepared a scheme for the erection of swimming baths and café at Lythem Road and Rawcliffe Street.

PONTEFRACT. *Houses.* The Corporation is to provide a gas supply at a cost of £765, to a housing estate at Ladybalk, where Messrs. W. Horner and Son (Contractors) Ltd., are to erect 103 houses.

SCARBOROUGH. *Houses.* The Corporation has approved a proposal for the erection of about 30 further houses for aged people, on the Northstead estate. The Corporation has selected a site between Whitby Lane and Scalby Road for the erection of 400 houses, in connection with the slum clearance scheme.

SCARBOROUGH. *Houses and Hospital.* Plans passed by the Corporation: six houses, Whin Bank, for Messrs. J. Petch and Son; 2 houses, Peasholm Crescent, for Mr. W. H. Mansfield; hospital, Woodlands estate, for Mr. W. Marchment, on behalf of governors of Scarborough Hospital.

SOUTH SHIELDS. *Houses.* Plans passed by the Corporation: 49 houses, Windsor Gardens, for Mr. George Thornton; two bungalows, Lisle Road, for Mr. J. H. Woolgar; 28 houses, Westoe Village, for Mr. Milton Swales; 76 houses, Marsden Road, for Mr. R. M. Chapman; two shops, Talbot Road, for Mr. Howard Hill.

SCOTLAND

GLASGOW. *Drainage.* The Corporation is considering a scheme for the drainage of the city extension districts, at a cost of £1,500,000.

GLASGOW. *Houses.* The Corporation is to erect 698 houses at South Balornock.

GLASGOW. *Schools.* The Education Committee has arranged the following programme for the erection of new school buildings: to acquire a site at Bodystone Road, Carnwadric, for a permanent school for R.C. children; to proceed with the erection of a gymnasium at Eastbank secondary school; to erect a gymnasium at North Kelvinside school; to provide a permanent annexe to Our Lady and St. Margaret's R.C. school; to extend the St. Mark's R.C. school; prepare plans for extensions at St. Mungo's (Boys) R.C. school; proceed with the erection of a training school for the blind; prepare plans for extensions at Whitehill secondary school; and erect a drill hall and provide spray baths at Wellpark school.

GLASGOW. *Wash-houses.* The Corporation is to include in estimates schemes for the erection of public wash-houses at Govan-Ibrox, at a cost of £25,000, and the North Kelvin district, at a cost of £32,000. The Corporation is considering a scheme for the improvement of the Hutchesontown wash-houses, at a cost of £4,750.

WALES

CARDIFF. *School.* The Education Committee is seeking sanction to borrow £17,298 for the reconstruction of the Howard Gardens high school.

SWANSEA. *Houses.* Plans passed by the Corporation: two houses, Glanmor Road, for Model Builders, Ltd.; four houses, Lon Ger-y-Coed, for Mr. A. E. Wright; 14 houses, Dunraven Road, and six houses, Pontardulais Road, for Messrs. T. and G. Spragg; two houses, Lon Gwynfryn, for Mr. W. Trick; two houses, Derwenfawr Road, for Mr. Geo. Symons; three houses, Carnglas Road, for Mr. Kenkin Williams; five houses, Owls Lodge Lane, for Mr. A. J. Bevan; 14 houses, Dunraven Road, for Messrs. Griffiths Davies & Co.; three shops, Sketty Cross, for Mr. John Oliver; two houses, Townhill Road, for Mr. J. Willis; two houses, Llangyfelach Road, for Mr. D. A. Rosser; two houses, Llangyfelach Road, for Messrs. Davies and Carro; four houses, Bryngelli Road, for Mr. A. J. Bevan; four houses, Bath Road, for Messrs. Walters and Johns; eight houses, Heol Fach, Treboeth, for Messrs. Hughes and Richards.

SWANSEA. *Streets.* Messrs. Richards and McLean are to construct 11 new streets on the Penlan Parc estate, Treboeth.

SWANSEA. *Swimming Bath.* The Corporation has instructed Messrs. Mouchel and Partners to prepare detailed plans and estimates for the construction of an open-air swimming bath on the foreshore.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I s. d.	II s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A_1	Abergavenny ..	S Wales & M.	1 5	1 0½
A_2	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1½
A_2	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1½
A	Airdrie ..	Scotland	*1 5½	1 1½
C	Aldeburgh ..	E. Counties	1 1½	10½
A	Altrincham ..	N.W. Counties	1 5½	1 1½
B_2	Appleby ..	N.W. Counties	1 2	10½
A	Ashton-under-Lyne	N.W. Counties	1 5½	1 1½
A_2	Atherstone ..	Mid. Counties	1 4	1 0
B_2	Aylesbury ..	S. Counties	1 2½	11
B_1	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_2	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1½
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow ..	N.W. Counties	1 5½	1 1½
A	Barry ..	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke ..	S.W. Counties	1 3	11½
A_2	Bath ..	S.W. Counties	1 4½	1 0½
A	Batley ..	Yorkshire	1 5½	1 1½
A_2	Bedford ..	E. Counties	1 4½	1 0½
A_2	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_2	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	*1 7	1 2½
A	Birmingham	Mid. Counties	1 5½	1 1½
A_1	Bishop Auckland	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1½
A	Blackpool ..	N.W. Counties	1 5½	1 1½
A	Blyth ..	N.E. Coast	1 5½	1 1½
B_1	Bognor ..	S. Counties	1 3	11½
A	Bolton ..	N.W. Counties	1 5½	1 1½
A_2	Boston ..	Mid. Counties	1 4	1 0
A_2	Bournemouth ..	S. Counties	1 4	1 0
B_2	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1½
A_1	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M.	1 5½	1 1½
B_1	Bridgwater ..	S.W. Counties	1 3	11½
A_1	Bridlington ..	Yorkshire	1 5	1 0½
A	Brighouse ..	Yorkshire	1 5½	1 1½
A_2	Brighton ..	S. Counties	1 4	1 0
A	Bristol ..	S.W. Counties	1 5½	1 1½
B_2	Brixham ..	S.W. Counties	1 2½	11
A_2	Bromsgrove ..	Mid. Counties	1 4½	1 0½
B_2	Bromyard ..	Mid. Counties	1 2	10½
A	Burnley ..	N.W. Counties	1 5½	1 1½
A	Burslem ..	Mid. Counties	1 5½	1 1½
A	Burton-on-Trent	Mid. Counties	1 5½	1 1½
A	Bury ..	N.W. Counties	1 5½	1 1½
A_1	Buxton ..	N.W. Counties	1 5	1 0½
A_1	CAMBRIDGE	E. Counties	1 5	1 0½
B_1	Canterbury ..	S. Counties	1 3	11½
A	Cardiff ..	S. Wales & M.	1 5½	1 1½
A	Carlisle ..	N.W. Counties	1 5½	1 1½
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Carnforth ..	N.W. Counties	1 5½	1 1½
A	Castleford ..	Yorkshire	1 5½	1 1½
B	Chatham ..	S. Counties	1 3½	11½
A_2	Chelmsford ..	E. Counties	1 4	1 0
A_2	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester ..	N.W. Counties	1 5½	1 1½
A	Chesterfield ..	Mid. Counties	1 5½	1 1½
B_1	Chichester ..	S. Counties	1 3	11½
A	Chorley ..	N.W. Counties	1 5½	1 1½
B_1	Cirencester ..	S. Counties	1 3	11½
A	Clitheroe ..	N.W. Counties	1 5½	1 1½
A	Clydebank ..	Scotland	1 5½	1 1½
A	Coalville ..	Mid. Counties	1 5½	1 1½
A_2	Colchester ..	E. Counties	1 4	1 0
A	Colne ..	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_1	Consett ..	N.E. Coast	1 5	1 0½
A_2	Conway ..	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1½
A_2	Crewe ..	N.W. Counties	1 4½	1 0½
A	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1½
A	Darwen ..	N.W. Counties	1 5½	1 1½
B_1	Deal	S. Counties	1 3	11½
A_2	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby ..	Mid. Counties	1 5½	1 1½
A	Dewsbury ..	Yorkshire	1 5½	1 1½
B	Didcot ..	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1½
B_2	Dorchester ..	S.W. Counties	1 2½	11
A	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley ..	Mid. Counties	1 5½	1 1½
A	Dundee ..	Scotland	1 5½	1 1½
A	Durham ..	N.E. Coast	1 5½	1 1½
A_2	EASTBOURNE	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1½
A_1	E. Glamorganshire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter ..	S.W. Counties	*1 4½	1 0½
B	Exmouth ..	S.W. Counties	1 3½	11½
A_2	FELIXSTOWE	E. Counties	1 4	1 0
A_2	Filey	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1½
B_1	Folkestone ..	S. Counties	1 3	11½
A	Frodsham ..	N.W. Counties	1 5½	1 1½
B_2	Frome	S.W. Counties	1 2½	11
A	GATESHEAD	N.E. Coast	1 5½	1 1½
B	Gillingham ..	S. Counties	1 3½	11½
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole	Yorkshire	1 4½	1 0½
A_2	Gosport	S. Counties	1 4½	1 0½
A_3	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0½
A	Greenock ..	Scotland	*1 5½	1 1½
A	Grimsby ..	Yorkshire	1 5½	1 1½
B	Guildford ..	S. Counties	1 3½	11½
A	HALIFAX ..	Yorkshire	1 5½	1 1½
A	Hanley ..	Mid. Counties	1 5½	1 1½
A	Harrogate ..	Yorkshire	1 5½	1 1½
A	Hartlepools ..	N.E. Coast	1 5½	1 1½
B	Harwich ..	E. Counties	1 3½	11½
B_1	Hastings ..	S. Counties	1 3	11½
A_2	Hatfield ..	S. Counties	1 4½	1 0½
B	Hereford ..	S.W. Counties	1 3½	11½
A_2	Hertford ..	E. Counties	1 4½	1 0½
A	Heysham ..	N.W. Counties	1 5½	1 1½
A	Howden ..	N.E. Coast	1 5½	1 1½
A	Huddersfield ..	Yorkshire	1 5½	1 1½
A	Hull	Yorkshire	1 5½	1 1½
A	ILKLEY ..	Yorkshire	1 5½	1 1½
A	Immingham ..	Mid. Counties	1 5½	1 1½
A_2	Ipswich ..	E. Counties	1 4½	1 0½
B_2	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1½
A	KEIGHLEY ..	Yorkshire	1 5½	1 1½
B	Kendal ..	N.W. Counties	1 3½	11½
B	Keswick ..	N.W. Counties	1 3½	11½
A_2	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster	Mid. Counties	1 4½	1 0½
B_1	King's Lynn ..	E. Counties	1 3	11½
A	LANCASTER ..	N.W. Counties	1 5½	1 1½
A_1	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester ..	Mid. Counties	1 5½	1 1½
A	Leigh	N.W. Counties	1 5½	1 1½
B_2	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln	Mid. Counties	1 5½	1 1½
	Liverpool ..	N.W. Counties	*1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12-15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1½
A	Loughborough	Mid. Counties	1 5½	1 1½
A_2	Luton	E. Counties	1 4	1 0
A	Lytham	N.W. Counties	1 5½	1 1½
A_1	MACCLESFIELD	N.W. Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11½
A_2	Malvern ..	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1½
A	Mansfield ..	Mid. Counties	1 5½	1 1½
B_1	Margate ..	S. Counties	1 3	11½
A	Matlock ..	Mid. Counties	1 4	1 0
A_1	Merthyr ..	S. Wales & M.	1 5	1 0½
A	Middesbrough	N.E. Coast	1 5½	1 1½
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1 2½	11
A	Morecambe ..	N.W. Counties	1 5½	1 1½
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson ..	N.W. Counties	1 5½	1 1½
A	Newcastle ..	N.E. Coast	1 5½	1 1½
A	Newport ..	S. Wales & M.	1 5½	1 1½
A	Normanton ..	Yorkshire	1 5½	1 1½
A	Northampton .	Mid. Counties	1 5½	1 1½
A	North Staffs ..	Mid. Counties	1 5½	1 1½
A	North Shields ..	N.E. Coast	1 5½	1 1½
A_1	Norwich ..	E. Counties	1 5	1 0½
A	Nottingham ..	Mid. Counties	1 5½	1 1½
A	Nuneaton ..	Mid. Counties	1 5½	1 1½
A_2	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham ..	N.W. Counties	1 5½	1 1½
A_2	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford ..	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	*1 5½	1 1½
B_2	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth	Scotland	*1 5½	1 1½
A_2	Peterborough ..	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	*1 5½	1 1½
A	Pontefract ..	Yorkshire	1 5½	1 1½
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_2	Portsmouth ..	S. Counties	1 4½	1 0½
A	Preston	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate ..	S. Counties	1 3½	11½
A_2	Retford ..	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A_2	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1½
B	Rochester ..	S. Counties	1 3½	11½
A_1	Ruabon ..	N.W. Counties	1 5	1 0½
A	Rugby	Mid. Counties	1 5½	1 1½
A_2	Rugeley ..	Mid. Counties	1 4½	1 0½
A	Runcorn ..	N.W. Counties	1 5½	1 1½
A_1	ST. ALBANS ..	E. Counties	1 5	1 0½
A	St. Helens ..	N.W. Counties	1 5½	1 1½
B_2	Salisbury ..	S.W. Counties	1 2½	11
A_1	Scarborough ..	Yorkshire	1 5	1 0½
A	Scunthorpe ..	Mid. Counties	1 5½	1 1½
A	Sheffield ..	Yorkshire	1 5½	1 1½
A	Shipley	Yorkshire	1 5½	1 1½
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton	Yorkshire	1 4½	1 0½
A_2	Slough	S. Counties	1 4½	1 0½
A_1	Solihull	Mid. Counties	1 5	1 0½
A_2	Southampton ..	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport ..	N.W. Counties	1 5½	1 1½
A	S. Shields ..	N.E. Coast	1 5½	1 1½
A_1	Stafford ..	Mid. Counties	1 5	1 0½
A	Stockport ..	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud	S.W. Counties	1 3½	11½
A	Sunderland ..	N.E. Coast	1 5½	1 1½
A	Swadlincote ..	Mid. Counties	1 5½	1 1½
A	Swansea ..	S. Wales & M.	1 5½	1 1½
A_2	Swindon ..	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton ..	S.W. Counties	1 3½	11½
A	Teesside Dist...	N.E. Counties	1 5½	1 1½
A_2	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1½
A_1	Torquay	S.W. Counties	1 5	1 0½
B_2	Truro	S.W. Counties	1 2½	11
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall ..	Mid. Counties	1 5½	1 1½
A	Tyne District ..	N.E. Coast	1 5½	1 1½
A	WAKEFIELD	Yorkshire	1 5½	1 1½
A	Walsall	Mid. Counties	1 5½	1 1½
A	Warrington ..	N.W. Counties	1 5½	1 1½
A_1	Warwick	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid. Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby	Yorkshire	1 4½	1 0½
A	Widnes	N.W. Counties	1 5½	1 1½
A	Wigan	N.W. Counties	1 5½	1 1½
B	Winchester ..	S. Counties	1 3½	11½
A_2	Windsor	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_2	Worksop	Yorkshire	1 4	1 0
A_1	Wrexham ..	N.W. Counties	1 5	1 0½
A_2	Wycombe ..	S. Counties	1 4	1 0
B_1	YARMOUTH ..	E. Counties	1 3	11½
B_1	Yeovil	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	1 1½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	£ s. d.
Bricklayer . . . . . per hour	1 7
Carpenter . . . . . ,,	1 7
Joiner . . . . . ,,	1 7
Machinist . . . . . ,,	1 8
Mason (Banker) . . . . . ,,	1 7
,, (Fixer) . . . . . ,,	1 8
Plumber . . . . . ,,	1 7
Painter . . . . . ,,	1 6
Paperhanger . . . . . ,,	1 6
Glazier . . . . . ,,	1 7
Slater . . . . . ,,	1 7
Scaffolder . . . . . ,,	1 3
Timberman . . . . . ,,	1 3
Navvy . . . . . ,,	1 2¼
General Labourer . . . . . ,,	1 2¼
Lorryman . . . . . ,,	1 5
Crane Driver . . . . . ,,	1 6
Watchman . . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£ s. d.
Grey Stone Lime . . . . . per ton	2 2 0
Blue Lias Lime . . . . . ,,	1 16 6
Hydrated Lime . . . . . ,,	3 0 9
Portland Cement . . . . . ,,	2 6 0
Rapid Hardening Cement . . . . . ,,	2 13 6
White Portland Cement . . . . . ,,	8 15 0
Thames Ballast . . . . . per Y.C.	6 3
¾" Crushed Ballast . . . . . ,,	6 9
Building Sand . . . . . ,,	7 3
Washed Sand . . . . . ,,	8 3
2" Broken Brick . . . . . ,,	8 0
¾" ,, ,, ... ,,	10 3
Pan Breeze . . . . . ,,	6 6
Coke Breeze . . . . . ,,	8 9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

	4" s. d.	6" s. d.
Straight Pipes . . per F.R	0 9	1 1
Bends . . . each	1 9	2 6
Taper Bends . . ,,	3 6	5 3
Rest Bends . . ,,	4 3	6 3
Single junctions . . ,,	3 6	5 3
Double . . ,,	4 9	6 6
Straight channels . per F.R.	1 6	2 6
¾" Channel bends . each	2 9	4 0
Channel junctions . ,,	4 6	6 6
Channel tapers . ,,	2 9	4 0
Yard gullies . ,,	6 9	8 9
Interceptors . ,,	16 0	19 6

IRON DRAINS:

Iron drain pipe . . per F.R.	1 6	2 6
Bends . . . each	5 0	10 6
Inspection bends . . ,,	9 0	15 0
Single junctions . . ,,	8 9	18 0
Double junctions . . ,,	13 6	30 0
Lead wool . . . lb.	6	—
Gaskin . . . ,,	5	—

BRICKLAYER

	£ s. d.
Flettons . . . . . per M.	2 18 0
Grooved do. . . . . ,,	3 0 0
Phorpres bricks . . . . . ,,	2 17 3
Phorpres Cellular bricks . . . . . ,,	2 17 3
Stocks, 1st quality . . . . . ,,	4 11 0
,, 2nd ,, ... ,,	4 2 6
Blue Bricks, Pressed . . . . . ,,	8 17 6
,, Wirecuts . . . . . ,,	7 17 6
,, Brindles . . . . . ,,	7 0 0
,, Bullnose . . . . . ,,	9 0 0
Red Sand-faced Facings . . . . . ,,	6 18 6
Red Rubbers for Arches . . . . . ,,	12 0 0
Multicoloured Facings . . . . . ,,	7 10 0
Luton Facings . . . . . ,,	7 10 0
Phorpres White Facings . . . . . ,,	3 17 3
Phorpres Rustic Facings . . . . . ,,	3 12 3
Midhurst White Facings . . . . . ,,	5 0 0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:	
Stretchers . . . . . ,,	21 0 0
Headers . . . . . ,,	20 10 0
Bullnose . . . . . ,,	27 10 0
Double Stretchers . . . . . ,,	29 10 0
Double Headers . . . . . ,,	26 10 0
Glazed Second Quality, *Less* . . . ,,	1 0 0
,, Buffs and Creams, *Add* . . ,,	2 0 0
,, Other Colours . . . ,,	5 10 0
2" Breeze Partition Blocks . . per Y.S.	1 7
2½" ,, ,, ,, . . . ,,	1 10
3" ,, ,, ,, . . .	2 1
4" ,, ,, ,, . . . ,,	2 6

MASON

	s. d.
The following d/d F.O.R. at Nine Elms:	
Portland stone, Whitbed . . F.C.	4 4½
,, ,, Basebed . . ,,	4 9
Bath stone . . . . . ,,	2 11
York stone . . . . . ,,	6 6
,, ,, Sawn templates . . ,,	7 6
,, ,, Paving, 2" . . . F.S.	1 8
,, ,, ,, 3" . . . ,,	2 6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£ s. d.
24" × 12" Duchesses . . per M.	28 17 6
22" × 12" Marchionesses . . ,,	24 10 0
20" × 10" Countesses . . ,,	19 5 0
18" × 10" Viscountesses . . ,,	15 10 0
18" × 9" Ladies . . . ,,	13 17 6
Westmorland green (random sizes) . per ton	8 10 0
Old Delabole slates d/d in full truck loads to Nine Elms Station:	
20" × 10" medium grey per 1,000 (actual)	21 11 6
,, green ,, ,,	24 7 4
Best machine roofing tiles . . ,,	4 10 0
Best hand-made do. . . . ,,	5 0 0
Hips and valleys . . . each	9½
,, hand-made . . . ,,	10
Nails, compo . . . . lb.	1 4
,, copper . . . . ,,	1 6

CARPENTER AND JOINER

	s. d.
Good carcassing timber . . F.C.	2 2
Birch . . . . as 1" F.S.	9
Deal, Joiner's . . . ,, ,,	5
,, ,, 2nds . . ,, ,,	4
Mahogany, Honduras . . ,, ,,	1 3
,, African . . ,, ,,	1 1
,, Cuban . . ,, ,,	2 6
Oak, plain American . . ,, ,,	1 0
,, Figured ,, . . ,, ,,	1 3
,, Plain Japanese . . ,, ,,	1 2
,, Figured ,, . . ,, ,,	1 5
,, Austrian wainscot . . ,, ,,	1 6
,, English . . . ,, ,,	1 11
Pine, Yellow . . . ,, ,,	1 0
,, Oregon . . . ,, ,,	4
,, British Columbian . . ,, ,,	4
Teak, Moulmein . . . ,, ,,	1 3
,, Burma . . . ,, ,,	1 2
Walnut, American . . . ,, ,,	2 3
,, French . . . ,, ,,	2 3
Whitewood, American . . ,, ,,	1 1
Deal floorings, ¾" . . . Sq.	18 6
,, 1" . . . ,,	1 1 6
,, 1¼" . . . ,,	1 2 0
,, 1½" . . . ,,	1 5 0
,, 1¾" . . . ,,	1 10 0
Deal matchings ¾" . . ,,	14 0
,, ¾" . . . ,,	15 6
,, 1" . . . ,,	1 4 0
Rough boarding ¾" . . ,,	16 0
,, 1" . . . ,,	18 0
,, 1¼" . . . ,,	1 6 0

Plywood, per ft. sup.

Thickness	¼"	⅜"	½"	¾"	1"
Qualities	AA. A. B.	AA. A. B.	AA. A. B.	AA. A. B.	AA. A. B.
	d. d. d.	d. d. d.	d. d. d.	d. d. d.	d. d. d.
Birch	4 3 2	5 4 3	7½ 6 4½	8½ 7 6	
Alder	3½ 3 2	5 4 3	6½ 5½ 4½	8 7 6	
Gaboon Mahogany	4 3 3	6½ 5½ 4½	9½ 7½ –	1/0½ 10 –	
Figured Oak 1 side	8½ 7 –	10 8 –	11½ – –	1/6 – –	
Plain Oak 1 side	6½ 6 –	7½ 7 –	9½ – –	1/– – –	
Oregon Pine	5 4 –	5½ 5 –	6 – –	– – –	

	d.
Scotch glue . . . . . lb.	8

SMITH AND FOUNDER

Tubes and Fittings:

(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	½"	¾"	1"	1½"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9
,, 3"-11½" long ,,	7	9	1/3	1/8	3/–
Long screws, 12"-23½" long ,,	11	1/3	2/2	2/10	5/3
,, ,, 3"M-½" long ,,	8	10	1/5	1/11	3/6
Bends . . . . ,,	8	11	1/7½	2/7½	5/2
Springs not socketed . ,,	5	7	1/1½	1/11½	3/11
Socket unions . . ,,	2/–	3/–	5/6	6/9	10/–
Elbows, square . . ,,	10	1/1	1/6	2/2	4/3
Tees . . . . ,,	1/–	1/3	1/10	2/6	5/1
Crosses . . . ,,	2/2	2/9	4/1	5/6	10/6
Plain Sockets and nipples ,,	3	4	6	8	1/3
Diminished sockets . ,,	4	6	9	1/–	2/–
Flanges . . . ,,	9	1/–	1/4	1/9	2/9
Caps . . . . ,,	3½	5	8	1/–	2/–
Backnuts . . . ,,	2	3	5	6	1/1
Iron main cocks . . ,,	1/6	2/3	4/2	5/4	11/6
,, ,, with brass plugs ,,	—	4/–	7/6	10/–	21/–

Discounts:

TUBES.

Per cent.		Per cent.
Gas . . . 65	Galvanized gas .	52½
Water . . . 61½	,, water	47½
Steam . . . 57½	,, steam	42½

FITTINGS.

Gas . . . 57½	Galvanized gas . 47½
Water . . . 52½	,, water 42½
Steam . . . 47½	,, steam 37½

SMITH AND FOUNDER—*continued*

	s. d.
Rolled steel joists cut to length . . cwt.	10 9
Mild steel reinforcing rods, ½" . . ,,	8 6
,, ,, ⅝" . . ,,	8 3
,, ,, ¾" . . ,,	8 0
,, ,, ⅞" . . ,,	7 6
,, ,, 1" . . ,,	7 6
,, ,, 1¼" . . ,,	7 6
,, ,, 1½" . . ,,	7 6
,, ,, 1¾" . . ,,	7 6
,, ,, 2" . . ,,	7 6
,, ,, 3" . . ,,	4"
Cast-iron rain-water pipes of ordinary thickness metal . . F.R	8
Shoes . . . . each	2 0
Anti-splash shoes . . ,,	4 6
Boots . . . . ,,	3 0
Bends . . . . ,,	2 7
,, with access door . . ,,	—
Heads . . . . ,,	4 0
Swan-necks up to 9" offsets . ,,	3 9
Plinth bends, 4½" to 6" . ,,	3 9
Half-round rain-water gutters of ordinary thickness metal . . F.R.	5
Stop ends . . . . each	6
Angles . . . . ,,	1 7
Obtuse angles . . . ,,	2 0
Outlets . . . . ,,	1 9

	4" s. d.	6" s. d.
Cast-iron rain-water pipes of ordinary thickness metal . . F.R	8	10
Shoes . . . . each	2 0	3 0
Anti-splash shoes . . ,,	4 6	8 0
Boots . . . . ,,	3 0	4 0
Bends . . . . ,,	2 7	3 9
,, with access door . . ,,	—	6 3
Heads . . . . ,,	4 0	5 0
Swan-necks up to 9" offsets . ,,	3 9	6 0
Plinth bends, 4½" to 6" . ,,	3 9	5 3
Half-round rain-water gutters of ordinary thickness metal . . F.R.	5	6
Stop ends . . . . each	6	6
Angles . . . . ,,	1 7	1 11
Obtuse angles . . . ,,	2 0	2 6
Outlets . . . . ,,	1 9	2 3

PLUMBER

	£ s. d.
Lead, milled sheets . . . cwt.	18 6
,, drawn pipes . . . ,,	17 0
,, soil pipe . . . ,,	18 6
,, scrap . . . ,,	10 6
Solder, plumbers' . . . lb.	9½
,, fine do. . . . ,,	1 0
Copper, sheet . . . ,,	8½
,, tubes . . . ,,	11

L.C.C soil and waste pipes:	3"	4"	6"
Plain cast . . F.R.	1 0	1 2	2 6
Coated . . ,,	1 1	1 3	2 8
Galvanized . . ,,	2 0	2 6	4 6
Holderbats . . each	3 10	4 0	4 9
Bends . . . ,,	3 9	5 3	10 3
Shoes . . . ,,	2 10	4 4	9 6
Heads . . . ,,	4 8	8 5	12 9

PLASTERER

	£ s. d.
Lime, chalk . . . per ton	2 5 0
Plaster, coarse . . . ,,	2 10 0
,, fine . . . ,,	4 15 0
Hydrated lime . . . ,,	3 0 9
Sirapite . . . ,,	3 6 0
Keene's cement . . . ,,	5 0 0
Sand, washed . . . Y.C.	11 6
Hair . . . . lb.	6
Laths, sawn . . . bundle	2 4
,, rent . . . ,,	3 9
Lath nails . . . lb.	3½

GLAZIER

	s. d.	s. d.
Sheet glass, 21 oz., squares n/e 2 ft.	s. F.S.	2½
,, ,, 26 oz. ,, ,, ,,		3½
Flemish, Arctic, Figured (white)* ,,		7
Blazoned glasses . . . ,,		2 6
Reeded; Cross Reeded ,,		11
Cathedrals: eleven varieties (white)* ,,		6½
Crown sheet glass (n/e 12 in. x 10 in) ,,		2 0
Flashed opals (white and coloured) ,,	1 0 and 2	0
¾" rough cast; rolled plate . . ,,		7
¾" wired cast; wired rolled . . ,,		10
¾" Georgian wired cast . . ,,		11
¾" Polished plate, n/e 1 ft. . . ,,	†10 to ‡1	1
,, ,, 2 . . ,,	†1 2 ,, ‡1	4
,, ,, 4 . . ,,	†2 3 ,, ‡2	6
,, ,, 8 . . ,,	†2 9 ,, ‡3	2
,, ,, 20 . . ,,	†3 7 ,, ‡4	2
,, ,, 45 . . ,,	†3 11 ,, ‡4	7
,, ,, 100 . . ,,	†5 0 ,, ‡5	7
Vita glass, sheet, n/e 2 ft. . . ,,		1 3
,, ,, ,, over 2 . . ,,		1 9
,, ,, plate, n/e 2 ft. . . ,,		3 0
,, ,, ,, 7 . . ,,		5 0
,, ,, ,, 15 . . ,,		6 0
,, ,, ,, over 15 . . ,,		7 6
"Calorex" sheet 21 oz., and 32 oz. ,,	2 6 and 3	6
,, rough cast ¾" and 1" ,,	8½ ,, 1	0
Putty, linseed oil . . . lb.		3

*Colours 1d. F.S. extra.

†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

	£ s. d.
White lead in 1 cwt. casks . . cwt.	2 6 0
Linseed oil . . . . . gall.	2 2½
Boiled oil . . . . . ,,	2 4½
Turpentine . . . . . ,,	4 1½
Patent knotting . . . . . ,,	14 0
Distemper, washable . . . . cwt.	2 6 0
,, ordinary . . . . ,,	2 0 0
Whitening . . . . . ,,	4 0
Size, double . . . . firkin	3 0
Copal varnish . . . . gall.	13 0
Flat varnish . . . . ,,	14 0
Outside varnish . . . ,,	16 0
White enamel . . . . ,,	1 15 0
Ready-mixed paint . . . ,,	13 6
Brunswick black . . . ,,	7 6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR

		£	s.	d.
Digging over surface n/e 12″ deep and cart away	Y.S.		2	9
,, to reduce levels n/e 5′ 0″ deep and cart away	Y.C.		8	6
,, to form basement n/e 5′ 0″ deep and cart away	,,		9	0
,, ,, 10′ 0″ deep and cart away	,,		9	6
,, ,, 15′ 0″ deep and cart away	,,		10	0
If in stiff clay	add ,,		2	6
If in underpinning	,, ,,		4	0
Planking and strutting to sides of excavation	F.S.		1	0
,, ,, to pier holes	,,			5
,, ,, to trenches	,,			5
,, ,, extra, only if left in	,,			3
Hardcore, filled in and rammed	Y.C.		10	0
Portland cement concrete in foundations (6-1)	,,	1	6	0
,, ,, (4-2-1)	,,	1	12	6
,, ,, underpinning	,,	1	16	0
,, ,, grooved	,,			
Finishing surface of concrete, spade face	Y.S.			7

DRAINLAYER

		4″ s.	4″ d.	6″ s.	6″ d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1	6	2	3
Extra, only for bends	Each	2	8	3	9
,, ,, junctions		3	9	4	6
,, Gullies and gratings	,,	16	6	18	0
Cast iron drains, and laying and jointing	F.R.	4	9	6	9
Extra, only for bends	Each	10	6	15	6

BRICKLAYER

		£	s.	d.
Brickwork, Flettons in lime mortar	Per Rod	27	10	0
,, ,, in cement	,,	28	15	0
,, Stocks in cement	,,	35	0	0
,, Blues in cement	,,	52	0	0
Extra only for circular on plan	,,	2	0	0
,, backing to masonry	,,	1	10	0
,, raising on old walls	,,	2	0	0
,, underpinning	,,	5	10	0
Fair Face and pointing internally	F.S.			1½
Extra over fletton brickwork for picked stock facings and pointing	,,			8½
,, ,, ,, red brick facings and pointing	,,			11
,, ,, ,, blue brick facings and pointing	,,		1	4
,, ,, ,, glazed brick facings and pointing	,,		3	6
Tuck pointing	,,			7
Weather pointing in cement	,,			3½
Slate dampcourse	,,			10
Vertical dampcourse	,,		1	1

ASPHALTER

		s.	d.
½″ Horizontal dampcourse	Y.S.	4	6
½″ Vertical dampcourse	,,	6	9
½″ paving or flat	,,	4	0
1″ paving or flat	,,	5	6
1″ × 6″ skirting	F.R.	1	0
Angle fillet	,,		2
Rounded angle	,,		2
Cesspools	Each	5	0

MASON

	s.	d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C.	17	9
Bath stone and do., all as last	,,	13	6
Artificial stone and do.	,,	13	0
York stone templates, fixed complete	,,	10	6
,, thresholds	,,	13	6
,, sills	,,	1 0	6

SLATER AND TILER

		£	s.	d.
Slating, Bangor or equal, laid to a 3″ lap, and fixing with compo nails, 20″ × 10″	Sqr.	3	10	0
Do., 18″ × 9″	,,	3	7	0
Do., 24″ × 12″	,,	3	17	0
Westmorland slating, laid with diminished courses	,,	6	0	0
Tiling, best hand-made sand-faced, laid to a 4″ gauge, nailed every fourth course	,,	3	0	0
Do., all as last, but of machine-made tiles	,,	2	16	0
20″ × 10″ medium Old Delabole slating, laid to a 3″ lap (grey)	,,	4	6	0
,, ,, ,, ,, ,, (green)	,,	4	15	0

CARPENTER AND JOINER

		£	s.	d.
Flat boarded centering to concrete floors, including all strutting	Sqr.	2	5	0
Shuttering to sides and soffits of beams	F.S.			8
,, to stanchions	,,			8
,, to staircases	,,		1	8
Fir and fixing in wall plates, lintols, etc.	F.C.		3	9
Fir framed in floors	,,		4	6
,, ,, roofs	,,		6	6
,, ,, trusses	,,		7	6
,, ,, partitions	,,		8	6
⅞″ deal sawn boarding and fixing to joists	Sqr.	1	14	6
1″ ,, ,, ,, ,,	,,	1	17	6
1½″ ,, ,, ,, ,,	,,	2	3	0
1½″ × 2″ fir battening for Countess slating	,,		9	6
Do. for 4″ gauge tiling	,,		12	0
Stout feather-edged tilting fillet	F.R.			4½
Patent inodorous felt, 1 ply	Y.S.		2	3
,, ,, ,, 2 ,,	,,		2	9
,, ,, ,, 3 ,,	,,		3	3
Stout herringbone strutting to 9″ joists	F.R.			10½
1″ deal gutter boards and bearers	F.S.		1	2
1½″ ,, ,, ,,	,,		1	6
2″ deal wrought rounded roll	F.R.			8
1″ deal grooved and tongued flooring, laid complete, including cleaning off	Sqr.	2	1	0
1½″ do.	,,	2	10	0
1¾″ do.	,,	2	17	0
1″ deal moulded skirting, fixed on, and including grounds plugged to wall	F.S.		1	6
1¼″ do.	,,		1	9

CARPENTER AND JOINER—*continued*

		s.	d.
1¼″ deal moulded sashes of average size	F.S.	1	9½
2″ ,, ,, ,, ,,	,,	1	11½
1¼″ deal cased frames double hung, of 6″ × 3″ oak sills, 1¼″ pulley stiles, 1¼″ beads, 1″ inside and outside linings, ⅞″ parting beads, and with brass faced axle pulleys, etc., fixed complete	,,	3	7
2″ ,, ,, ,, ,,	,,	3	10
Extra only for moulded horns	Each			6
1¼″ deal four-panel square, both sides, door	F.S.	2	0
2″ ,, ,, ,, ,,	,,	2	8
1¼″ ,, but moulded both sides	,,	2	4
2″ ,, ,, ,, ,,	,,	3	0
4″ × 3″ deal, rebated and moulded frames	F.R.	1	0
4½″ × 3½″ ,, ,, ,, ,,	,,	1	4
1½″ deal tongued and moulded window board, on and including deal bearers	F.S.	1	9
1¼″ deal treads, 1″ risers in staircases, and tongued and grooved together on and including strong fir carriages	,,	2	6
1¼″ deal moulded wall strings	,,	2	1
1¼″ ,, outer strings	,,	2	4
Ends of treads and risers housed to string	Each	1	9
3″ × 2″ deal moulded handrail	F.R.	1	3
1″ × 1″ deal balusters and housing each end	Each	2	0
1½″ × 1½″ ,, ,, ,,	,,	2	9
3″ × 3″ deal wrought framed newels	F.R.	1	3
Extra only for newel caps	Each	6	0
Do., pendants	,,	6	0

SMITH AND FOUNDER

		£	s.	d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt.		15	6
Riveted plate or compound girders, and hoisting and fixing in position	,,		19	6
Do. stanchions with riveted caps and bases and do.	,,		19	0
Mild steel bar reinforcement, ½″ and up, bent and fixed complete	,,		17	6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S.			11
Wrot-iron caulked and cambered chimney bars	Per cwt.	1	10	0

PLUMBER

		£	s.	d.
Milled lead and labour in flats	cwt.	1	12	0
Do. in flashings	,,	1	15	6
Do. in covering to turrets	,,	2	3	0
Do. in soakers	,,	1	7	6
Labour to welted edge	F.R.			3½
Open copper nailing	,,			3
Close ,, ,,	,,			4

		½″ s.	½″ d.	¾″ s.	¾″ d.	1″ s.	1″ d.	1¼″ s.	1¼″ d.	2″ s.	2″ d.	4″ s.	4″ d.
Lead service pipe and fixing with pipe hooks	F.R.	10		1	0	1	3	2	0	2	10		—
Do. soil pipe and fixing with cast lead tacks	,,	—		—		—		—		—		5	6
Extra, only to bends	Each	—		—		—		—		2	0	6	9
Do. to stop ends	,,	6½		8		9		11		1	0	—	
Boiler screws and unions	,,	3	3	3	9	5	0	8	0	—		—	
Lead traps	,,	—		—		—		6	3	8	9	—	
Screw down bib valves	,,	6	9	9	6	11	0	—		—		—	
Do. stop cocks	,,	7	0	9	6	12	6	—		—		—	
4″ cast-iron ¼-rd. gutter and fixing	F.R.											1	0
Extra, only stop ends	Each											1	0
Do. angles	,,											1	6
Do. outlets	,,											2	9
4″ dia. cast-iron rain-water pipe and fixing with ears cast on	F.R.											1	2
Extra, only for shoes	Each											1	3
Do. for plain heads	,,											5	6

PLASTERER AND TILING

		s.	d.
Expanded metal lathing, small mesh	Y.S.	2	0
Do. in n/w to beams, stanchions, etc.	,,	2	9
Lathing with sawn laths to ceilings	,,	1	3
½″ screeding in Portland cement and sand for tiling, wood block floor, etc.	,,	1	5
Do. vertical	,,	1	7
Rough render on walls	,,	1	2½
Render, float and set in lime and hair	,,	1	9
Render and set in Sirapite	,,	1	11
Render, backing in cement and sand, and set in Keene's cement	,,	2	9
Extra, only if on lathing	,,		4
Keene's cement, angle and arris	F.R.		6
Arris	,,		1½
Rounded angle, small	,,		3
Plain cornices in plaster, including dubbing out, per 1″ girth	,,		1½
1″ granolithic pavings	Y.S.	3	6
1½″ ,, ,, ,,	,,	4	6
6″ × 6″ white glazed wall tiling and fixing on prepared screed	,,	17	6
9″ × 3″ ,, ,, ,, ,,	,,	1	2	6
Extra, only for small quadrant angle	F.R.			8

GLAZIER

		s.	d
21 oz. sheet glass and glazing with putty	F.S.		7½
26 oz. do. and do.	,,		8½
Flemish, Arctic, Figured (white) and glazing with putty	,,	1	1
Cathedral glass and do.	,,	1	2
Glazing only, British polished plate	,,		7
Extra, only if in beads	,,		2
Washleather	F.R.		4

PAINTER

		s.	d.
Clearcolle and whiten ceilings	Y.S.		6½
Do. and distemper walls	,,		9
Do. with washable distemper	,,	1	1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	,,	3	3
Do. on woodwork	,,	3	6
Do. on steelwork	,,	3	0
Do. and brush grain and twice varnish	,,	5	6
Stain and twice varnish woodwork	,,	1	11
Stain and wax-polish woodwork	,,	4	6
French polishing	F.S.	1	2
Stripping off old paper	Piece	2	0
Hanging ordinary paper	from ,,	2	9

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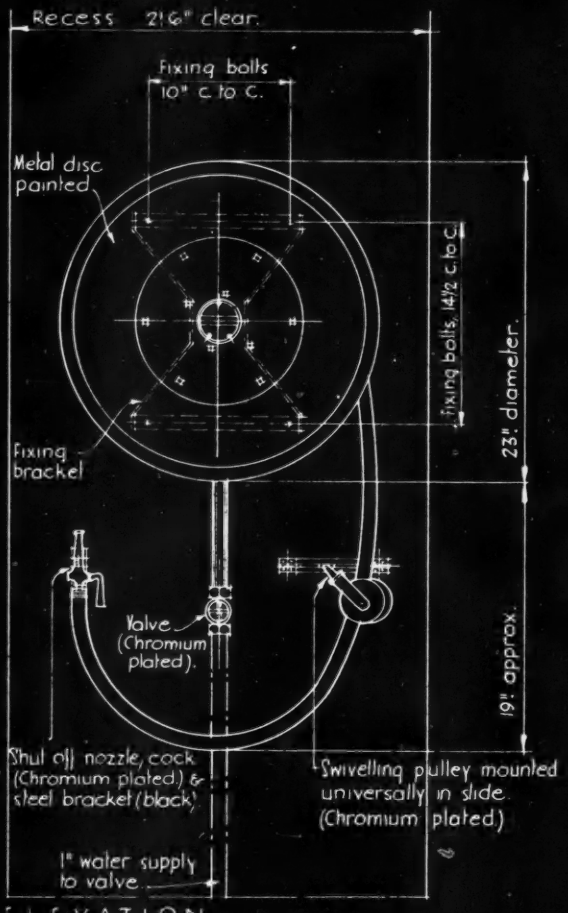
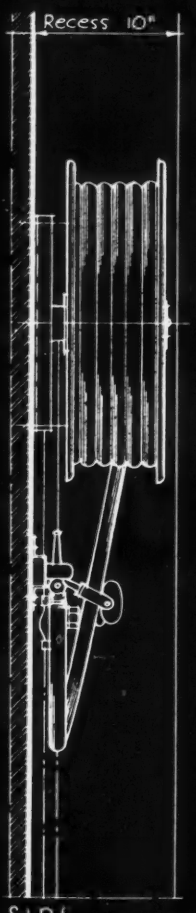


ELEVATION
PYRENE EVERYWAY HOSE REEL.



SIDE
ELEVATION.

PYRENE EVERYWAY HOSE REEL

USES,
for Theatres, Cinemas, Municipal Blgs, Industrial Blgs, Schools, etc.

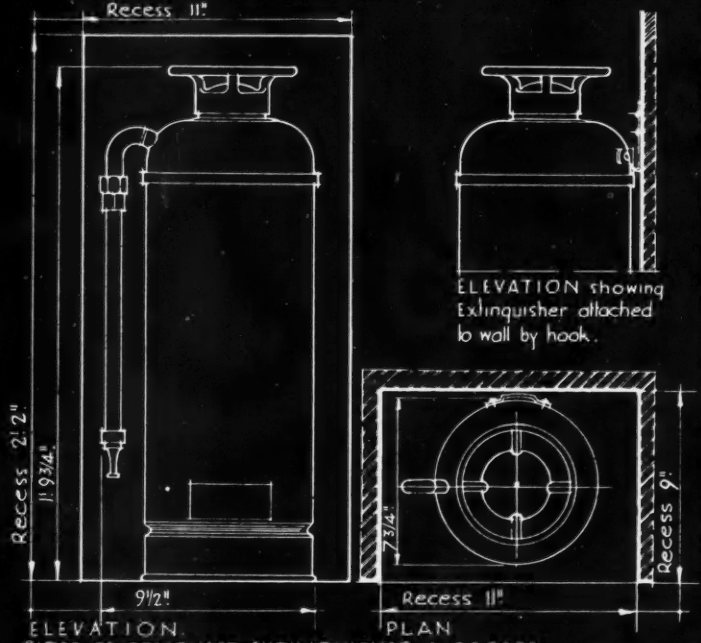
ADVANTAGES,
1. Hose can be run out in any direction
2. Minimises obstruction (overhang 9")
3. Distribution of weight & direction of pull gives minimum leverage on the wall.
4. All steel parts parkerized to resist corrosion.

WEIGHT,
with 60 feet of ¾" hose, 70 lbs ±.

FINISH,
Colour, with Chromium plated nuts, centre & fittings, or primed one coat for finishing by the General Contractor

MATERIALS,
1. Side discs, pressed steel parkerized to resist corrosion.
2. Brackets, mild steel, parkerized.
3. All water fittings, gunmetal
4. Bolts, mild steel, parkerized.
5. Piping, between valve & reel, steel.
6. Swivelling pulley, gun-metal casting in colour & Chromium plate
7. Slide & pulley housing, brass chromium plated.
8. Hose, 2 braid, non-kinkable, red, in lengths of 60'0" to 100'0" & ¾" or 1" bore.

CONQUEST SODA-ACID FIRE EXTINGUISHER



ELEVATION showing Extinguisher attached to wall by hook.

ELEVATION. PLAN
SIZES OF CONQUEST EXTINGUISHER & RECESS.

REQUIREMENTS of the Fire Offices Committee.
PORTABLE FIRE EXTINGUISHERS:
Portable Chemical fire Extinguishers having an aggregate water capacity of 2 Imperial gallons for each 250 sq.yds. or part thereof, but not less than 4 imperial gallons, (e.g. two 2-gall. capacity extinguishers) on each floor; the water capacity of an extinguisher to be not less than 1 imperial gall. & not more than 3 imperial galls.

NOTE A. "Chemical Fire Extinguisher" includes both the Soda-Acid type (e.g. Conquest) & the foam type (e.g. Phomene) The Soda-Acid Extinguisher is advised for all ordinary fire risks, & the foam type where oil & spirits are involved.

NOTE B. "Special-Liquid Extinguishers" (e.g. Pyrene fire Extinguishers) are approved by the Committee as an alternative to ordinary Portable Liquid Chemical Extrs on the basis of one Special Liquid Extinguisher in lieu of one 2-gall. ordinary Chemical Extinguisher, provided at least 50% of the Extrs on each floor are of the latter type.

ELECTRICAL RISKS,
for Dynamo houses, & rooms in which celluloid or spirit is stored or used Special Liquid Type Extinguishers (e.g.) Pyrene Extinguishers) are specially approved when installed at the rate of 3 Extinguishers to each 250 sq. yards or part there of, but not not less than 6 Extinguishers to each floor.

Information from The Pyrene Company Ltd.

INFORMATION SHEET: FIRE PROTECTION: HOSE REEL & EXTINGUISHERS
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.1

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INFORMATION SHEET
• 105 •
FIRE PROTECTION

Name of Product : " Pyrene "

Types Illustrated : " Everyway " Hose Reel.
" Conquest " Soda-Acid
Fire Extinguisher,
2 gallons capacity

Description :

" Everyway " Hose Reel of patent design, which enables hose to be run out easily in any direction but eliminates complication and extra cost of swinging or swivel joints. To operate, open valve with one hand, lift nozzle with the other, proceed as far as necessary towards the fire, open nozzle and direct jet at base of flames. Shut off nozzle to save unnecessary water damage when fire has been extinguished.

This Reel, with plain steel end plates, is a simple and straightforward design and may readily be incorporated in the scheme of decoration.

" Conquest " Fire Extinguisher :

The C.1 model shown is brought into action immediately upon being turned upside down. The jet can be directed at any required angle. When fire has been extinguished jet may be stopped by again turning Extinguisher right side up. With this design there is no possibility of creeping, i.e., the gradual oozing out of the solution. Made in lead-coated steel and in copper of 18 and 16 s.w.g. Also made in 10-pints capacity.

Several other types of " Conquest " Soda-Acid Fire Extinguishers are also available, including three break-bottle types, viz., the No. 3 cylindrical, plunger operated, No. 4 conical, plunger operated, C.15 operated by a knocker on the side of the Extinguisher.

There is also another turnover operated type " Conquest " Extinguisher, the C.5 model. This uses a non-corrosive acid charge.

All " Conquest " Fire Extinguishers are approved by the Fire Offices' Committee and tested to 350 lbs. pressure per square inch.

Name of Manufacturers :
The Pyrene Company, Ltd.

Addresses : Head Office and Works
Brentford : Great West Road

Telephone Ealing 6012

Glasgow : 136 Broomielaw

Telephone Central 668

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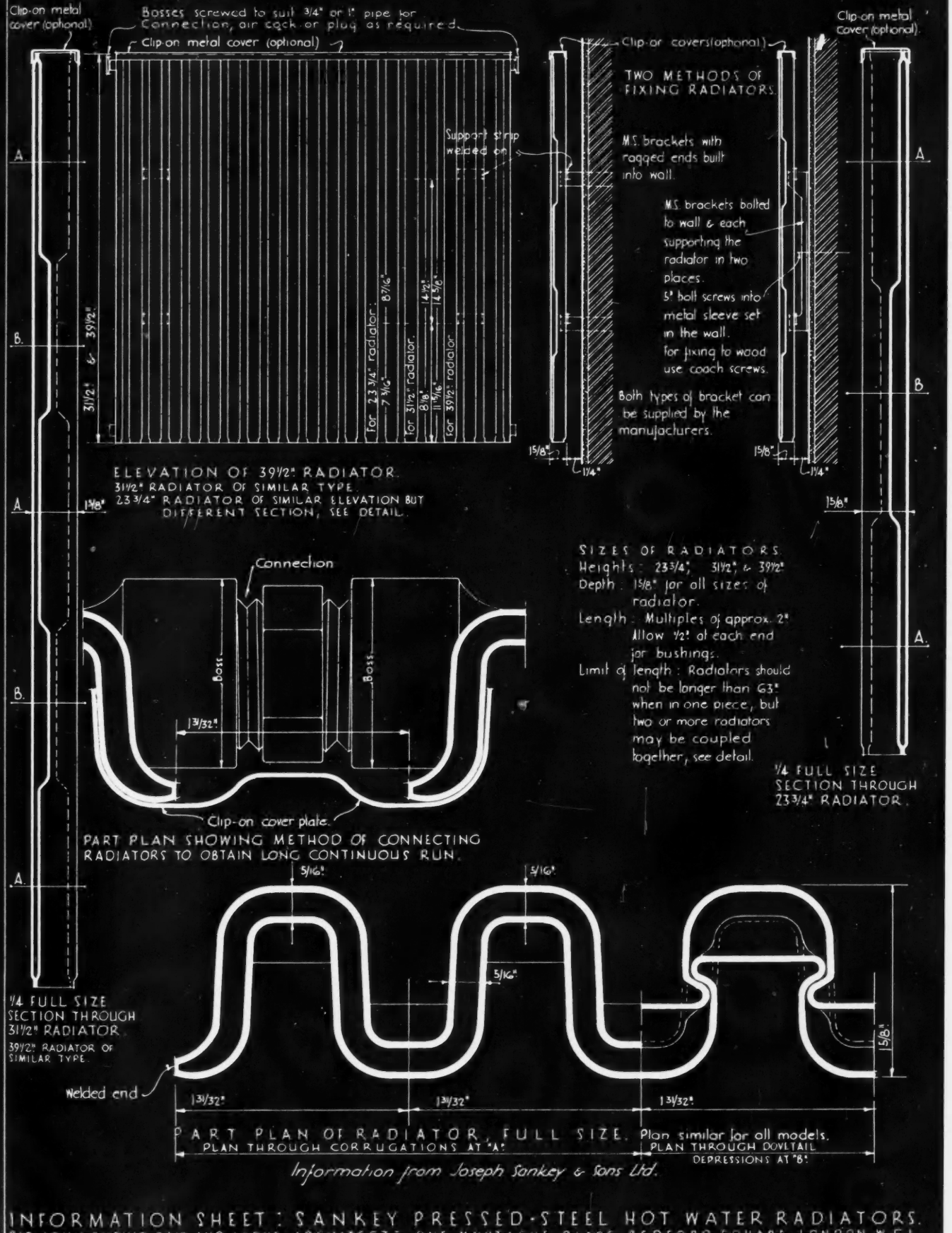

Information from Joseph Sankey & Sons Ltd.

INFORMATION SHEET: SANKEY PRESSED-STEEL HOT WATER RADIATORS.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.1.

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

• 106 •

HOT WATER RADIATORS (PRESSED STEEL)

Name of Product : Sankey Radiator

Description :

GENERAL

Water entering the Sankey radiator through one of the top inlets, at first flows horizontally across it. To reach the bottom outlet, the water is induced, by the locked dovetail depressions, to descend vertically down the corrugations. Near the bottom of the radiator, the descending columns of cooled water are diverted and again flow horizontally towards the outlet.

The radiant heat transmitted by Sankey radiators is approximately 40 per cent. of the total heat output.

All Radiators are tested with an internal air pressure of 75 lb. per square inch.

CONSTRUCTIONAL

The radiator is constructed of two corrugated steel sheets, welded together on all four sides. The two sheets are also locked together at the centre by suitably formed dovetail depressions. The space for water between the two sheets is $\frac{3}{16}$ in. Suitably screwed bosses are welded into each corner for connection to pipes and valves. A cover strip in the form of an inverted channel is fitted to the top, if required.

All radiators are supplied finished one grey coat priming paint.

Valves and all connections are the usual standard fittings.

SIZES

The radiators are made in three standard heights :—23¾ in., 31½ in., 39½ in. Single radiators are made in lengths in multiples of 2 in. up to 63 in. For greater lengths two or more radiators are coupled together as shown in the detail.

General Data. *See table below.*

Name of Manufacturers : Joseph Sankey & Sons, Ltd.

Address : Hadley Castle Works, Wellington, Shropshire

Telephone : Wellington 66

London Office : 168, Regent Street, W.1

Telephone : Regent 2748

GENERAL DATA.

The figures given below will be found correct for the Sankey Radiator when used under the following conditions :—

Temperature of Radiator Surface	160° F.
Temperature of Air in Room	60° F.
Temperature of Inside of Walls of Room	60° F.
Emissivity Factor	0·94
Convection Coefficient	0·30

Height Inches.	Width Inches.	Length Inches.	Floor Space Occupied Sq. Ft.	Volume External Cub. Ft.	Weight Empty Lbs.	Weight Full Lbs.	Heating Surface Sq. Ft.	Heat Transmission B.TH.U. per Hour.			Price per Square Foot (subject to discount)
								Radiant Heat.	C'vected Heat.	Total Heat.	
											s. d.
23¾	1⅜"	8	0·09	0·17	12·6	14·6	5·18	308	492	800	2 10
		15¾	0·17	0·34	25·0	29·0	10·33	616	984	1600	2 4
		23¾	0·26	0·51	37·5	43·5	15·50	924	1476	2400	2 4
		31½	0·34	0·68	49·7	57·7	20·66	1232	1968	3200	1 9
		39½	0·43	0·85	62·4	72·4	25·83	1540	2460	4000	1 9
		47¼	0·51	1·01	74·6	86·6	31·00	1848	2952	4800	1 6
		55¼	0·60	1·18	87·2	101	36·16	2156	3444	5600	1 6
		63	0·68	1·35	99·6	116	41·33	2464	3936	6400	1 6
31½	1⅜"	8	0·09	0·23	16·5	19·2	6·89	410	656	1066	2 6
		15¾	0·17	0·45	33·1	38·4	13·78	821	1311	2132	2 0
		23¾	0·26	0·68	49·6	57·58	20·66	1231	1967	3198	2 0
		31½	0·34	0·90	66·2	76·8	27·55	1642	2622	4264	1 7
		39½	0·43	1·12	82·7	96·0	34·44	2052	3278	5330	1 7
		47¼	0·51	1·35	99·2	115	41·33	2462	3934	6396	1 7
		55¼	0·60	1·57	116	135	48·22	2873	4589	7462	1 5
		63	0·68	1·80	132	153	55·10	3283	5245	8528	1 5
39½	1⅜"	8	0·09	0·29	21·0	24·3	8·61	514	820	1334	2 2
		15¾	0·17	0·56	41·4	48·1	17·22	1027	1641	2668	1 9
		23¾	0·26	0·85	62·4	72·4	25.83	1541	2461	4002	1 9
		31½	0·34	1·12	82·7	96·1	34·44	2054	3282	5336	1 6
		39½	0·43	1·41	104	121	43·05	2568	4102	6670	1 6
		47¼	0·51	1·69	124	144	51·66	3082	4922	8004	1 5
		55¼	0·60	1·97	145	168	60·27	3595	5743	9338	1 5
		63	0·68	2·25	165	192	68·88	4109	6563	10672	1 5

The following figures are correct for Sankey Radiators :

K Factor =	1·55
Heat Transmission per lb. of Radiator Material per hour =	64 B.TH.U.
Heat Transmission per cub. ft. of external volume per hour =	4,720 B.TH.U.
Heat Transmission per sq. ft. of floor space occupied =	
23¾ in. high	9,350 B.TH.U.
31½ in. high	12,500 B.TH.U.
39½ in. high	15,500 B.TH.U.

THE HOBBS GATEWAY

AT THE SURREY CRICKET GROUND

THIS gateway at the Kennington Oval, erected as a tribute to Jack Hobbs, the celebrated cricketer, and designed by Louis de Soissons, was officially opened on Saturday last, May 5, by Mr. H. D. G. Leveson-Gower

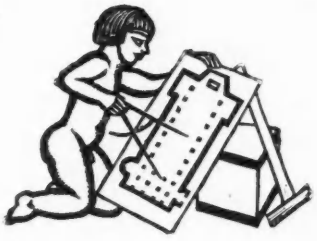
The gates are in wrought iron painted black and gold, the strip across the top being in chocolate and silver—the Surrey club colours. The craftsman responsible was Eric Munday.

ARCHITECTURE AT THE ACADEMY

The most prominent object in the Royal Academy Exhibition, which was opened to the public on Monday last, is the model of the Roman Catholic Cathedral of Christ the King, Liverpool, by Sir Edwin Lutyens, R.A. The model occupies the octagonal central hall, closing the vista up the main staircase. It was made by Mr. John B. Thorp to a scale of one inch to four feet, and is 13 ft. 6 ins. high, 17 ft. long and 11 ft. wide.

Above is a general view of the model from the north-east, with the north transept and campanile in the centre.

A review of the Exhibition is printed on pages 669-674 of this issue.



THE PANELS: A WARNING FROM MR. N. MARTIN-KAYE

A FORTNIGHT ago we published a letter from the Institute of Municipal and County Engineers, explaining their attitude to the question of the control of siting and elevations, and in a leading article we commented on their opinion that such control should remain in the hands of the technical officer attached to the local authority : that is to say, of the engineer. This week we print, on page 667, an article on the subject which has been sent to us by Mr. N. Martin-Kaye.

Mr. Martin-Kaye has a great deal to say in support of the criticisms made by the engineers' Institute of the Panel system of control. The Panel, he points out, is liable under reactionary influence to become an obstacle to progressive design instead of a check on uneducated design, and to be employed as a vehicle for the expression of personal prejudice. He also takes us to task for too diplomatic a reference to the occasions in the past when the Panel system has been abused in this way. We are, however, in entire agreement with Mr. Martin-Kaye on the seriousness with which this attitude on the part of the die-hard members of the profession should be treated by the profession in general. It is a matter for their most urgent consideration, and we would not wish to gloss over such facts just because to some architects they will appear unpalatable.

We made only a casual reference to this aspect of the Panel system, not with the intention of minimizing its seriousness, but because it is after all only a side issue (however important in itself) in the larger question of architectural work being done by engineers, which we were then discussing. The Panel system is merely one rather belated attempt to apply a superficial remedy to a trouble which is deeply rooted in our whole administrative method.

In a discussion of the general problem emphasis on the faults of the Panel system would only have been drawing a red herring across the trail. Now, however, as a result of recent happenings, this red herring has itself grown into a very pretty kettle of fish. Abuse of the Panel system shows every sign of becoming a menace to professional integrity as well as the cause of the Panels' failure to effect the improvement in design for which they were instituted, and we whole-heartedly support Mr. Martin-Kaye's declaration that the resultant position is " vicious and unthinkable."

In several recent cases objections have been made by members of local Panels, who are also responsible members of the Institute, to buildings designed by architects equally well qualified, *on purely personal grounds of likes and dislikes* ; and the local authority has been advised by them to reject the designs on those grounds. The personal views of the Panel members have been made the criterion of criticism instead of the maintenance of a general level of responsible well-considered building.

Cases such as these make the profession ridiculous ; in fact they represent a complete denial of all meaning in the term " profession." We would not have the profession a trades union, a member of which can do no wrong in the eyes of any other member ; but every qualified member of the profession must be assumed to be competent to carry out his own commissions ; and must be allowed to, without interference from fellow members who are no better qualified than he is but happen to hold different views.

The Institute stands for the solidarity and collective responsibility of the profession. When a member of the Institute is guilty of a complete abrogation of all responsibility to his fellow members, he is not only placing the profession in an undignified and humiliating position, but is lowering the respect in which it and everything it stands for is held, and making it more and more difficult for the more responsible members to establish their claim to essential membership of the community.

It is with great reluctance that we condemn the abuse of the Panel system in so outspoken a manner ; for we believe that, responsibly administered, it could play a useful part in bringing architects into closer touch with the building world in general. Respect for it gives all the more justification to the severest censure of any retrogressive tendency that threatens to defeat its purpose.

The Architects' Journal
9 Queen Anne's Gate
Westminster, S.W.1
Telephones: Victoria
9212-7
Telegrams:
Buildable
Par
London

NOTES & TOPICS

STREAMLINES AND AIR LINES

THE air travel exhibition of models and photographs in the booking hall of Charing Cross Underground Station can profitably take up a few minutes of anybody's time. When one thinks of the rickety box-kites of pre-war days, and compares them with the sleek and confident monsters of Imperial Airways, one realizes the wisdom of leaving engineers alone with a problem of design after it has passed its early experimental stage.

*

I saw the exhibition in company with an architect who said that he was "one of the old school," whatever that may mean nowadays. He admired the portrait gallery of gigantic aircraft, and remarked: "The contemplation of this form of beauty does a lot of harm to young architects."

*

"Oh yes it does," he insisted. "They attribute the beauty that arises from meeting the needs of high speed to the use of new materials, like steel and aluminium. Result: streamlining for static things like buildings; as if houses ever had to force their way at a hundred miles an hour through a high wind!"

*

He added: "Half the modernists" (and here he gave a little list, which need not be mentioned) "are as drunk with maudlin romanticism about machinery as the Gothic Revivalists were about mediævalism."

*

I think Sir Reginald's latest is being widely read.

ALDOUS HUXLEY ON THE MODERN MOVEMENT

In his new book, *Beyond the Mexique Bay*, Mr. Aldous Huxley writes a sort of funeral service for mahogany, which used to proclaim "the respectable man of substance." He reminds us that "those whose trade was in luxury could never be lavish enough with their mahogany. In Pullman cars, in liners—wherever, indeed, it was necessary to give clients the illusion that they were living like princes—mahogany fairly flowed like water."

*

And then, queerly, this earnestly modern writer disfigures the plausibility of his book by an astonishing misunderstanding of the modern movement in design.

*

He says: "For us, today, the highest luxury is a perfect asepsis. The new casino at Monte Carlo Beach could be transformed at a moment's notice into a hospital. . . . The Wagon-lit Company's latest coaches are simply very expensive steel nursing-homes on wheels."

*

Can't Mr. Huxley see more in modern design than *that*? Has he, by any mischance, been collaborating with Sir Reginald Blomfield?

*

No. I can hardly think so. Nobody with a profound (or even a slight) knowledge of architectural history would have permitted the statement that appears on page 124 to have got past the wastepaper basket. On that page, Mr. Huxley informs a world that, rightly, has some faith in his erudition that: "The Gothic Revival in England was a product of the Oxford Movement."

*

I commend to Mr. Huxley, as a bed book, Mr. Kenneth Clark's work, *The Gothic Revival*.

UNDER THE SHADOW OF ST. PAUL'S

The premises of "an old-established drapery firm in St. Paul's Churchyard" are, I note, not without *some* misgivings, to be "converted into flats." Although so far the matter is cut and dried, I also observe that "detailed plans for the conversion have not yet been prepared."

*

The immediate surroundings of St. Paul's Cathedral are not riotously appropriate to such a district, a good deal

On the occasion of the publication recently of the first two of our Housing Supplements we announced our intention of also publishing a special HOUSING *issue of the* JOURNAL. *This issue will appear next week, and will contain a fully illustrated article dealing with the progress that has been made in housing in London during recent years; and a number of special articles on various aspects of the subject, particularly with regard to planning for the future.*

A photograph taken in Liverpool, showing some of the newly erected lamp-standards, which have been the subject of protests by Liverpool architects. See paragraph on page 666.

of improvement can easily be visualized. And from such statements as I have seen, doubtfully desirable as they may be, I yet take heart.

*

I am no advocate of patchwork or piecemeal "improvements"; normally I should deplore any such "conversion" in the cathedral close—meagre though it be. And yet in this case I find myself very near to applauding conversion as opposed (I gather, and sincerely hope) to rebuilding.

*

We have as yet no London Plan; but, when we get one, I am cynic enough to suppose that no building under forty years old will be sacrificed to what will unquestionably be called "this juggernaut" by the "Homely" press.

*

So, by a process of inverse consistency of opinion, I applaud a "conversion" which will make easy a much needed demolition.

THE THEATRE AND ARCHITECTURAL DESIGN

The influence of the theatre upon architectural design (and *vice versa*) from the days of Inigo Jones's Court Masques, to the latest examples of Russian and American technique, is stimulatingly illustrated in a little American book, issued by the Museum of Modern Art, New York, and just published in London. It is called *Theatre Art*, and is edited by Lee Simonson.

*

The latter-day work demonstrates the debt the theatre owes to contemporary architecture. In some of the plates one sees a fleshless outline of the modern movement; a glittering, sketchy skeleton, as it were, notably in the designs of Nicolai Akimoff and Irakli Gamrekeli.

LONDON TOWN PLANNED?

The papers have been full, for some days, of the idea of some sort of order in the administration of the development of London.

*

Waterloo Bridge, of course, has begun it all—and high time. But now people of acknowledged intelligence and perception are writing letters to the "Dailies" about it; and (still better, perhaps) people who are not known to have either, are agreeing with what the others say.

*

The idea seems to be that we should decide what to do, in a big way, before we start muddling in a series of small ones.

*

I myself have been shouting this for years. Most trained minds have agreed on this most incontroversial point. Now that the lay public is taking it up I have every hope that another half century of devasting stupidity may be avoided.

*

Incidentally a booklet issued by the trustees of the Alexandra Palace, putting the case for its modernization, contains a very apt quotation from the Bible: "*Where there is no vision, the people perish.*"

ACCESSORY BEFORE THE FACT

What about an Incitements to Dissaffection Bill for architecture?

*

A great deal of trouble is being constantly caused by the spread of wildly revolutionary ideas by men who very often don't even belong to the Union, and in any case have no idea how to play a straight bat. And we sit down tamely wondering what to do—when the cornice will fall, as it were—while these active upstarts go about persuading people that they are right.

*

If this sort of thing goes on at the present rate, goodness knows where it will lead us, what will become of the true spirit of architecture.

*

Rather than see the civilization for which we stand swallowed up in a welter of steel and concrete, could we not get passed through the House, perhaps as a rider or codicil or whatever you call it, to the larger measure of restriction, a Bill making it an offence to be found in possession of literature likely to cause a breach in the fabric of established architecture, or even to be premeditating a design of a character likely to draw attention away from the right sort of honest-to-goodness straight-from-the-book English to the core you can't do wrong, for ever and ever architecture? Or wouldn't it?

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

All designs for street furniture in Liverpool, whether stationary or locomotive, should be submitted to the Co-ordination Committee..... 666

A letter from an Associate of the Institution of Municipal and County Engineers 675

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THE ARCHITECTS' DIARY

Thursday, May 10

ROYAL ACADEMY EXHIBITION. *At Burlington House, Piccadilly, W.1.*

SOCIETY OF ANTIQUARIES OF LONDON. *At Burlington House, Piccadilly, W.1. "The Excavations at Ur." By C. Leonard Woolley.* 8.30 *p.m.*

INSTITUTION OF ELECTRICAL ENGINEERS. *At the Institution of Electrical Engineers, Savoy Place, W.C.2. Annual General Meeting (Corporate Members and Associates only).* 5.30 *p.m.*

Friday, May 11

R.I.B.A. *At 9 Conduit Street, W.1. Exhibition of Architects' Working Drawings. Last day*

INSTITUTION OF STRUCTURAL ENGINEERS. *At 10 Upper Belgrave Street, S.W.1. Lecture on Welding. By A. Ramsay Moon.* 6.30 *p.m.*

Saturday, May 12

ARCHITECTURAL ASSOCIATION. *At 36 Bedford Square, W.C.1. Exhibition "Slums." Last day*

A.A.S.T.A. *At the Rembrandt Rooms, South Kensington, S.W. Annual dinner.*

HANTS AND ISLE OF WIGHT ARCHITECTURAL ASSOCIATION. *At Southampton. Annual General Meeting.*

Monday, May 14

INSTITUTION OF STRUCTURAL ENGINEERS (*South Wales and Monmouthshire Branch*). *At the South Wales Institute of Engineers, Cardiff. Annual General Meeting.* 7 *p.m.*

Tuesday, May 15

R.I.B.A. *At 9 Conduit 'Street, W.1. Exhibition of the Works of Professor Walter Gropius. Opening day. Open until May 18 and from May 23 to May 26 inclusive.*

THE GROPIUS EXHIBITION

The exhibition of the work of Professor Gropius, which is to take place at the Galleries of the R.I.B.A., 9 Conduit Street, W.1, from May 15-25, will be opened at 2.30 p.m. by Sir Raymond Unwin a Past-President of the Institute. On the following evening, May 16, Professor Gropius will address a joint meeting of the Design and Industries Association and the Mars Group, at 8.30 p.m., at the School of Hygiene and Tropical Medicine, Gower Street, W.C.1.

L.C.C. MEMBERS AND TOWN PLANNING

Changes are being made in the membership of the Advisory Committee set up by the Ministry of Health in connection with the Town and Country Planning Act of 1932. Owing to the Labour victory at the L.C.C., Alderman Ewart Culpin, F.R.I.B.A., who recently succeeded the Marquess of Aberdeen as Chairman of the Greater London Regional Planning Committee, and Major Harry Barnes, the Chairman of the Town Planning Committee, have been nominated as the new members.

SUKHAREV TOWER IN MOSCOW

The ancient Sukharev tower in Moscow, which was built by Peter the Great in 1692, is being demolished. Standing in the centre of two main arteries, the tower, though of considerable architectural and historical value, has of late become a great obstacle to the traffic of the city.

CONCRETE LAMP STANDARDS IN LIVERPOOL

The question of design in street furniture has been raised in Liverpool by Professor L. B. Budden's protest (reported last week in THE ARCHITECTS' JOURNAL) on the appearance of the concrete lamp standards which have been set up in the Old Haymarket about the new Mersey Tunnel entrance.

A spirited correspondence in *The Liverpool Daily Post*, to which Professor Budden himself made a valuable contribution, and which contained no word in defence of the standards, was followed by questions in the Liverpool City Council and the Birkenhead Town Council. Birkenhead appears to have chosen the better part, for Alderman Clarke, deputy-chairman of the Mersey Tunnel Joint Commitee, when asked by Mr. Harry Bullock whether there was any possibility of similar lamps being placed opposite the main Birkenhead entrance, was able to assure the Council that there was no intention to place similar lamps in Birkenhead. The lamps for the areas outside the Birkenhead entrance, he said, had been designed by Mr. H. J. Rowse, the tunnel architect, and would be in keeping with the style of the entrance.

At Liverpool there is no indication that anything is to be done about this "civic disaster," as Professor Budden called it. Mr. J. J. Cleary asked Alderman Muirhead, chairman of the Health Committee, whether that committee had been consulted over the design of the standards. Alderman Muirhead replied that the Lighting Committee had the power in its own hands. "Personally," he added, "I strongly disapprove of the standards, and think they are very ugly indeed, but I am afraid I can do nothing in the matter."

The newspaper correspondence, though most of it was anonymous, gave evidence of a demand for qualified supervision of the appearance of street furniture. Professor Budden urged the use in the present instance of the expert architectural assistance available in the service of the Corporation itself. "D," in *The Daily Post*, suggested that "all designs for street furniture, whether stationary or locomotive," should be submitted to the Co-ordination Committee, which, in considering them, should "commandeer the services of the only Corporation official whose work shows evidence of ability in design—the Housing Director (Mr. L. H. Keay)." And *The Daily Post*, in a leader, urged that for local affairs there should be a body of the kind of the Fine Arts Commission. "Our administration," it says, "is liable to be judged by the quality of its taste in public works."

CAMBRIDGE HOUSING ESTATE

An East Anglian architect, Mr. Craske, has prepared the lay-out of a unique housing estate on which work has recently started. On a site of ten acres lying to the south of Milton Row, and adjacent to Kendal Way (Cambridge), a public utility society is now building a hundred houses. These are designed for young married couples who are unable to obtain tenancies of municipal houses which are at present reserved for those with two or more children. The Hundred Houses Society is endeavouring to provide for tenants whose weekly wages are under £3 15s., who are in a position to pay regularly a moderate weekly rent. The Corporation is lending on mortgage at 4 per cent. nine-tenths of the initial capital.

R. I. B. A.

MAINTENANCE SCHOLARSHIPS

The Royal Institute of British Architects offer for award in July, 1934, the following Maintenance Scholarships in architecture, tenable from October 1, 1934 :—

A. An R.I.B.A. Maintenance Scholarship of a maximum value of £100 per annum.

B. The Artists' General Benevolent Institution Maintenance Scholarship of a maximum value of £100 per annum.

C. An R.I.B.A. Fourth and Fifth Year Maintenance Scholarship of a maximum value of £100 per annum.

The R.I.B.A. Maintenance Scholarship and the Artists' General Benevolent Institution Maintenance Scholarship are tenable in the first instance for one year and renewable for two further periods of one year each. They are intended to enable promising students to attend approved courses at the Schools of Architecture recognized for exemption from the R.I.B.A. examinations. Students who are already taking such a course are also eligible to apply for a scholarship. These two scholarships are available for students residing in England and Wales. The Artists' General Benevolent Institution Maintenance Scholarship is open only to orphans or sons or daughters of an architect or artist.

The R.I.B.A. Fourth and Fifth Year Maintenance Scholarship is tenable for two years in the fourth and fifth year courses at a school of architecture recognized for exemption from the R.I.B.A. final examination by a student who has already completed satisfactorily a three years' course in a recognized school. Applicants must be nominated by the headmasters of the

recognized schools, and must not make application direct to the Board of Architectural education.

Particulars and forms of application may be obtained, free, on application to the Secretary to the Board of Architectural Education, R.I.B.A., 9 Conduit Street, London, W.1. The closing date for the receipt of applications, duly completed, is June 15.

FINAL AND SPECIAL FINAL EXAMINATIONS

The following are the dates on which the forthcoming examinations will be held: *Final Examination*: July 4 to 10 and 12, 1934 (last day for applications, June 4, 1934). *Special Final Examination*: July 4 to 10, 1934 (last day for applications, June 4, 1934).

COMPETITION NEWS

COMPETITION RESULT

Mr. C. E. Bunch, F.R.I.B.A., the assessor in the limited competition for an elementary school on the Hen Lane Estate, Coventry, for the Coventry Education Committee, has made his award as follows:

Design Placed First (£100): Mr. R. Hellberg, A.R.I.B.A. Design Placed Second (£50): Mr. A. H. Gardner, A.R.I.B.A. Design Placed: Mr. C. Redgrave, L.R.I.B.A.

PROPOSED SCHOOL FOR LUTON

Mr. J. A. Gotch, P-P.R.I.B.A., has been appointed assessor in a limited Competition for a school in Hart Lane, Luton, for the Luton T.C.

Competitions Open

June 26.—Sending-in Day. Proposed Council Offices, Slough, for the Slough U.D.C. Assessor: H. S. Goodhart-Rendel, V-P.R.I.B.A. Premiums: £250, £150 and £100 for designs placed first, second and third, respectively. Conditions, etc., may be obtained from F. R. Duxbury, Clerk to the Council, Council Offices, Slough. (Deposit £1 1s.). Last day for submission of designs: June 26.

July 16.—Sending-in Day. Proposed Council School, Dudley. The competition is limited to architects having an office within 15 miles radius of Dudley. Assessor, H. T. Buckland, F.R.I.B.A. Premiums: £150, £100 and £50. The last day for application for conditions was April 23. Designs should be submitted to the Director of Education, Education Offices, St. James' Road, Dudley.

July 31.—Sending-in Day. Proposed Municipal Sanatorium and Children's Hospital Belfast. Competition limited to architects who have resided in Northern Ireland since March 1, 1933. Assessor: R. S. Wilshere, F.R.I.B.A. Premiums: 500, 200 and 100 guineas. Last day for questions: April 28. Designs should be submitted to the Town Clerk, City Hall, Belfast.

No Date.—Proposed Town Hall for the Swinton and Pendlebury U.D.C. Assessor: J. R. Adamson, F.R.I.B.A. Premiums: £150, £100 and £75.

THE CONTROL OF ELEVATIONS

ENGINEERS, ARCHITECTS AND THE PANELS

[*By N. Martin-Kaye, F.R.I.B.A.*]

The following article has been sent to us by Mr. Martin-Kaye as his own contribution to the subject of control of the amenities, which was raised in a letter from the Institution of Municipal and County Engineers that appeared in our issue for April 26, and was discussed by us at the same time. Reference to Mr. Martin-Kaye's contribution will be found in this week's leading article on page 663.

THE letter sent by the Institution of Municipal and County Engineers to the local authorities published in the issue for April 26, would obviously provide unpalatable reading for the architectural profession. Would it be any more so than if, for example, a letter had been sent by the R.I.B.A. to the local authorities stating that the architect only is capable of deciding what is desirable, and what is not so? Both letters being decidedly partisan, would rightly fail—in the first case, because there is a distinct refusal to admit limitations through lack of education in æsthetic matters of design and the second case, apart from a woeful exhibition of colossal conceit, relegation of arbitration on æsthetic matters to any one section of professional men, is always open, not only to abuse but to considerable suspicion. The amenities, with which the question of Elevation and Siting of Buildings is involved, are neither the exclusive property of the Municipal and County Engineer, nor the Architect. They are the common property of the people. The people (and let us not forget it, both architects and engineers come under this term) have entrusted the preservation and custody of these national assets to Parliament, and through Parliament to the Ministry of Health down to the local authority. There is no need to enlarge on the execution of this trust, or why architects and their claims have been thrust into a backwater. All we know and what is now being universally realized, is that æsthetic considerations have been somewhat seriously ignored, and the engineer has had a pretty good run for his money for many years. Now that there is some attempt being made to rectify matters, the engineer lamely endeavours to safeguard control for the local authority through their "technical officer." There is as little justification for this plea as for the architect in the advocacy of the panel, although this last may be considerably less reprehensible. Where the first is obnoxious, the second is equally impossible, since it represents a very undignified attempt on the part of the architect to regain a lost position—a sort of bleating at the back door. Any advantages which the panel system has, are considerably outbalanced by many objectionable disadvantages.

First of all, it is not to be expected that any panel of architects would be unanimous on any point of design unless, of course, it was flagrantly bad and thoroughly obvious. The rejection of the thoroughly bad only goes a small way to preserve the amenities. Then to imagine for a moment that any local panel of architects could possibly be free from a certain amount of personal bias, is to admit hopeless ignorance of human nature. One has only to hand an architect a drawing and watch the direction of his roving eye, first a general survey, and then down to the bottom right-hand corner of the sheet. Then comes the criticism. This may be unkind, but why bilk the facts. Should the proposal ever come to anything and, frankly, it is to be hoped that the plea on this score to the local authority by the engineer will succeed, since it must be obvious that should panels of architects be duly constituted for every municipality or county area, the word "private" may just as well be eliminated from the term "Private Practice," since every activity undertaken by any one local practitioner would be common knowledge to his colleagues; to say nothing of a host of internal embarrassments over clientele. What is more important and vital still, whereas a private owner may be disposed to embrace and encourage the efforts of any pioneer designer as being a distinct contribution to design progress, such efforts may be damned by a panel constituted of die-hards against which eventuality there is no apparent safeguard, and any healthy evolutionary spirit in design would be unnecessarily checked—a vicious and unthinkable position. The work of the pioneer in architectural design is always up-hill, but there is no need to make it more so. One wonders what the verdict of a local panel of architects would have been, say, over Bexhill?

For the writer of the leading article to say "The architectural profession, it is true, has had to plead guilty on one

or two occasions in the past to using the panel system for the expression of personal prejudice," is indulging in ghastly diplomacy, and providing very generous gloss, and to say, " but that is a failing to be remedied within the profession " is stating an impossibility so long as human nature exists—and later to say, "a recognized qualification would itself be security against work that was a danger to the amenities," is giving vent to a most extraordinary statement, so much so that one wonders if he means us to take him seriously. What is the recognized qualification to be, and does it exist? The present ones that we know of would need considerable amplification to provide for the onerous responsibility of adjudication, wide and unbiased. At present it does not follow that even a Fellow of the R.I.B.A. is incapable of violating the amenities, or providing an abortion in design. Just because he has pleased an examiner, it does not follow that he can design correctly; or, what would be nearer the mark, has developed that essential critical faculty necessary to a member of a Panel; that faculty, which would enable him to give sound and searching criticism of a set of designs to an atelier —by no means an easy task, as any teacher will verify.

All the above goes to show that there is some justification for the criticism contained in the letter against the Panel system, to say nothing of delays in passing decisions. The suggested machinery is obviously cumbersome and aggravated by irreconcilable views on design generally. The leading article is headed " Strange Opinions." Are they so very strange, and again are they any stranger than ours? Is it for either party to decide? A third person simply sees a pitiful wrangle between two sections. One says, I want to control and advise; I have the major right to do so. The other says, I do not agree; I see no reason why things should not be left as they are. I have had control through the municipal authority, and I mean to keep it. There is the rub; the engineer has had the control, and means to keep it, and we architects shall get no forrader by indulging in undignified squealing or by trying to get a Ministry, which knows no preference officially, to create a preponderating bias through dovetailing a panel system through municipal strongholds. No wonder objections are forthcoming. And if architects would be less self-opinionated they would be the first to recognize the validity of the objection, or at least marshal their system of attack out of self-defence in a shrewder manner. Even if their contention is correct, and of this there is much to be said in their favour, no ends will be gained by undiplomatic and blatant manœuvring. What would be a far saner proposal possibly, and the word possibly is here interposed, because no method is infallible, would be an approach by the architectural profession to the Ministry with a request that in each centre there should be appointed a fully qualified architect (as at present understood) whose duties would be solely to examine plans and elevations in conjunction with the local " technical officer," who for his part would concern himself presumably with compliance with the bye-laws, and the former with suitability of design and siting with due regard for the particular problem presented in the locality. The appointed architect should not be a local man, should be attached to no local Society, and should be thoroughly independent and selected by the local authority after confirmation by the Ministry and the Statutory Board of Architectural Education, and appointed at a salary commensurate with his qualification and enormous responsibility. He could be called, let us say, the " Amenity Officer " for the district and hold the same dignity of office as is bestowed on the Medical Officer of Health. On the other hand, it would be incumbent upon the profession through the Statutory Board of Architectural Education to ensure that such appointments were made from a body of picked men, and their abilities to fill such posts examined with as much care as is bestowed on the examination for London District Surveyors under the London Building Act; due regard being made, not so much on ability to design personally as to bring a wide and sane critical faculty to bear on any design problem, and presentation from all angles. This would involve on the part of the Board a special examination, with greater attention paid to the pure theory of design as formulated, say, by Guadet. Objection would be raised on the score that such individual appointments would give rise to prejudices. This is a risk which must be taken—it is taken now over the approval of plans and interpretation of bye-laws through compulsion—some technical officers bring imagination and vision to bear over these, others do not; so much so, that they will insist on the regulation air space in siting when there are permanent open spaces all round the building. On the other hand, if the examination is sound and the appointed architect or Amenity Officer ever realizes that the architect's priceless possession—the illimitable fields of design—know obedience only to certain canonical principles which are so ruthlessly ignored by present despoilers of the amenities, architects need have no fear of foibles, delays, or crankism. Should these develop, there is always the tribunal of appeal or the Ministry, and here *en passant* why should not the local Panel of Architects constitute the Tribunal of Appeal recognized by the Ministry? This constitution and term of reference for the Panel would check any possible waywardness on the part of the Amenity Officer and render the ground more tolerable for the local practitioner.

There would be less objection by the Municipal and County Engineer to this solution since it is a less dictatorial compromise, possibly more efficient, and the architect and engineer could walk more congenially hand in hand, preserving what is not only their common possession, but that of the vast majority whom they serve.

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SOUTH-EASTERN SOCIETY OF ARCHITECTS TUNBRIDGE WELLS CHAPTER

The Tunbridge Wells Chapter held its sixth annual general meeting on Thursday last, May 3, at the Tudor Café, Tunbridge Wells. The chair was taken by Major W. H. Robinson, F.R.I.B.A., and the following were elected as officers for the coming year: Chairman, Mr. Stanley Philpot, F.R.I.B.A.; Hon. Treasurer, Mr. C. H. Strange, F.R.I.B.A.; Hon. Secretary, Mr. G. Gregor Grant, A.R.I.B.A. A vote of thanks was passed to the retiring chairman and officers for their services during the past year.

The meeting was followed by an informal supper at which the President of the Society, Mr. John W. Little, F.R.I.B.A., was present. The guest of the evening was Mr. F. R. Yerbury, HON.A.R.I.B.A., the General Secretary of the Architectural Association, who gave an exceptionally interesting talk describing the effect on architects and architecture of the present European political systems, especially in Germany, Italy and Russia. The President, in proposing a vote of thanks to the speaker, said that he thought that the changes that had been described in the status of the architect on the Continent must affect the profession in this country, probably within quite a few years.

ESSEX, CAMBRIDGE AND HERTFORDSHIRE SOCIETY OF ARCHITECTS

The annual meeting of the above Society was held at Chelmsford on Thursday, May 3, when the retiring President, Mr. Percival C. Blow, invested the President for the year 1934–35, Mr. Cockrill, of Southend, with the badge of office.

Mr. Cockrill gave an address to the members dealing with the new Architects' Registration Act and Advisory Panels, which local authorities are empowered to set up under the Town Planning Act. At the close of his address he presented the Past President with the Past President's jewel, and expressed the thanks of the members to Mr. Blow for his services during the past year.

University of London : view from Montague Place. By Charles Holden (1377).

THIS YEAR'S ACADEMY

A REVIEW OF THE ARCHITECTURAL ROOM

[*By HAROLD TOMLINSON*]

THE works exhibited in the Architectural Room of the Royal Academy this year are a disappointing lot. This is a great pity, because the presence in the Central Hall of Sir Edwin Lutyens's model for the Metropolitan Cathedral at Liverpool, will probably prompt many people who do not usually look at the architectural exhibits, to make an excursion to the Architectural Room in order to see if there is anything else equally exciting.

The model of the Liverpool Cathedral design is so huge that it fills almost completely the room which houses it, and even after speculation about how it ever got there, the mind can hardly digest the fact of its existence. Wren's model in St. Paul's must be nearly as large ; but it is not trapped out with figures and colour, and so its scale is not apprehended, except in photographs. So far as one can remember, the model on view does not depart radically from the most recently published drawings, but it does make evident a wealth of richness in modelling which was not apparent in the drawings, while the massing which appeared so sturdily simple on paper would appear now to be in danger of being too much broken up. For a covering to the dome copper appears to be favoured at present, and those early rumours of stainless steel seem to have died a natural death.

The other models in the Exhibition are not of particular interest—at least, when judged as models—or perhaps the Cathedral model has set too high a standard. At any rate, one feels sorry that the design for the Jockey Club at Newmarket (1474) by Richardson and Gill has not been more adequately represented. The building will obviously be a fine one ; but it is to be doubted that this will be obvious to any but architects from the unattractive model.

Possibly the most interesting set of drawings in the Architectural Room is to be seen in the elevations and perspective of the University of London, by Charles Holden (1341, 1376, 1377). It is interesting to note in the perspective how much more happy than in elevation is the central buttress which flanks the tower, while the elevation which shows the building related to the surrounding property gives a fascinating idea of its vast proportions. These drawings are all that they should be, and they might well serve as a pattern

New Town Hall, Wallington, Surrey. By Robert Atkinson (1382).

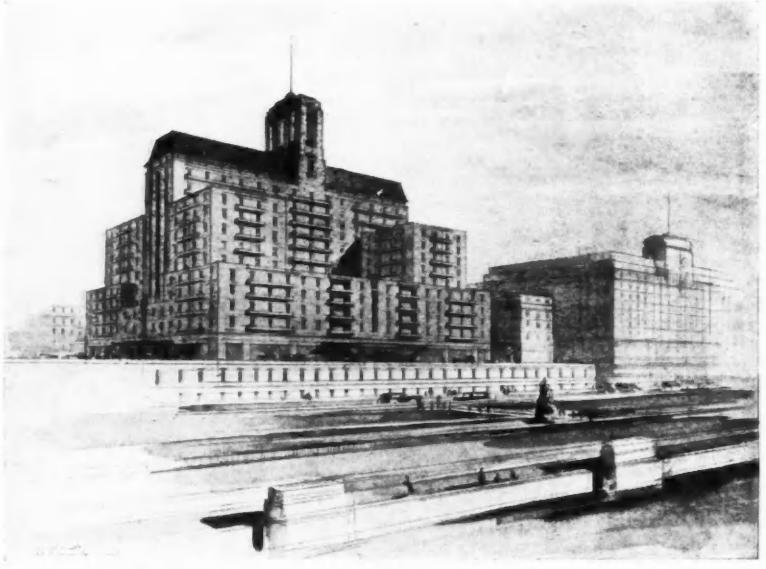
for future exhibitors. The statement of fact is straightforward, and the draughtsman has not sought to give any false emphasis either in drawing or in rendering. Indeed, it is only on the closest scrutiny that one appreciates how beautifully drawn is the perspective.

Among other drawings of large buildings are schemes by two different architects for the Adelphi site. Mr. Joass's design (1333) shows stepped back façades to which strong horizonal emphasis is given by projecting balconies. Mr. Davis, on the other hand, has essayed a vertical treatment by means of bay windows running through several storeys (1404). Each of these designers must have felt that he had in prospect a formidable neighbour in the shape of the Shell-Mex building, and it is interesting to note how each has dealt with the problem. Mr. Joass's drawing pays scant attention to Shell-Mex. Not only is the façade stepped, but the roof is crowned with a tower whose long axis is at right angles to that familiar clock tower next door, a treatment which seems to cry for another similar building to flank the other side of Shell-Mex. Mr. Davis's building, apart from the comparatively small projection of the bays, is roughly rectangular, though there are small setbacks at various levels. Each building has good qualities of its own ; but for the present site I prefer that designed by Mr. Joass, and solely on account of his bold stepping back, a treatment which might well be widely adopted on all future buildings on the Embankment.

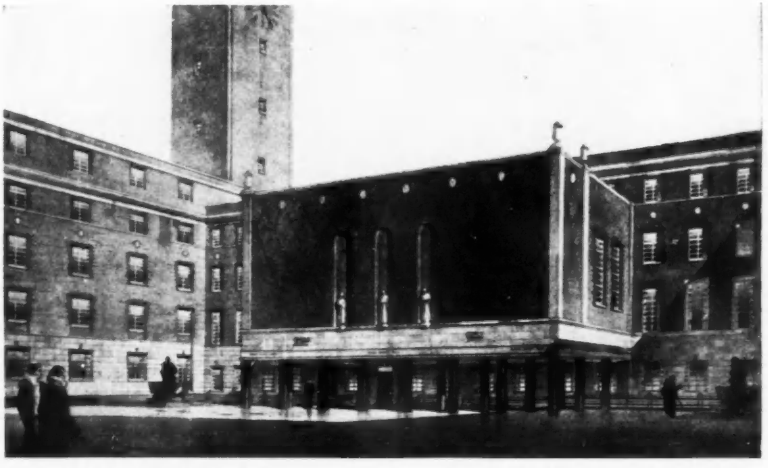
Civic architecture is unusually well represented this year, and in this group one of the most attractive drawings is a perspective (1381) of the internal court of the Norwich Municipal Building, by C. H. James and S. R. Pierce. The competition, which these two architects won, laid down very difficult conditions for the planning of a congested site, lighting particularly in the court being a major problem ; hence, no doubt, the necessity for raising part of the building on columns, a restriction which has produced the happiest result. Mr. Robert Atkinson has produced an original and charming design in his New Town Hall, Wallington, Surrey (1382) ; but one does not feel equally happy about Mr. Cowles-Voysey's perspective of the Guildhall, Cambridge (1335). Cambridge Market Place has a charm that is individual, and although the town is rapidly being rebuilt on a vaster scale, it is with reluctance that one foresees the disappearance even of the present Guildhall in favour of a building so alien in character.

The architecture of amusement is not greatly in evidence in the present exhibition ; but mention must be made of Mr. Adshead's work at Colwyn Bay, the Assembly Rooms (1375) being

Proposed scheme for the Adelphi. By Arthur J. Davis, A.R.A. (1404).

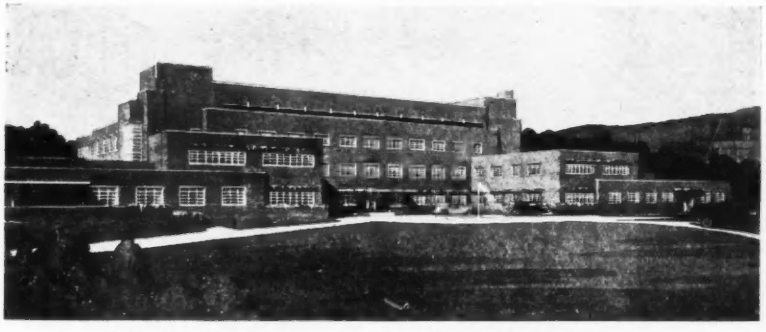


Design for New Building on Adelphi Site. By John J. Joass (1333).

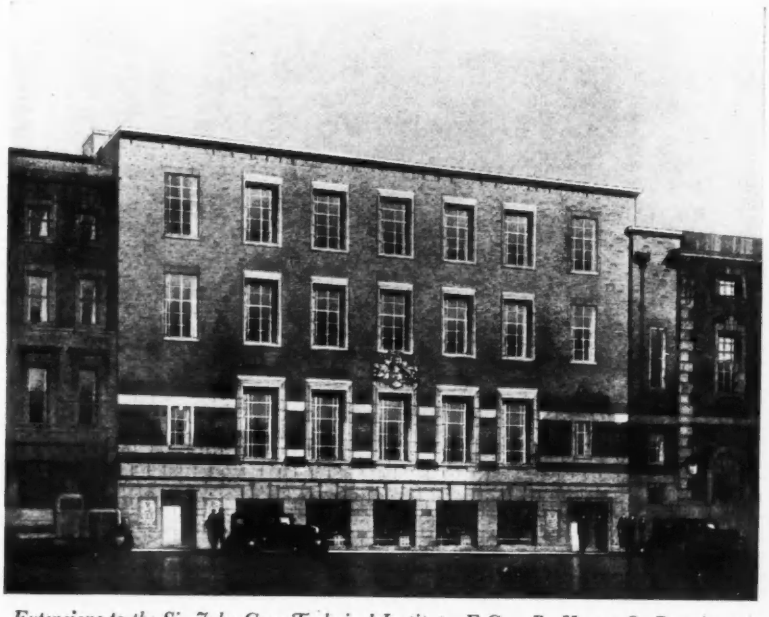


Norwich Municipal Buildings : the courtyard. By C. H. James and S. R. Pierce (1381).

Ministry of Labour Building and Aston Cross Telephone Exchange, Birmingham. By Peter K. Hanton, H.M.O.W. (1338).



New Hospital, Scarborough. By Wallace Marchment (1328).



Extensions to the Sir John Cass Technical Institute, E.C. By Verner O. Rees (1402).

a particularly happy design, very beautifully drawn, and in passing it is only just to say that Mr. Harvey's perspectives strike one as being among the best in the room.

The perspective of Mr. Maufe's Hostel for Students of London Hospital (1326) something has gone wrong with the rendering, and it is obvious, that for once in a while, we shall find the finished product far more attractive than ever it appeared on paper. In the extensions to the Sir John Cass Institute (1402), Mr. Verner Rees has achieved an orderly façade which may be found on analysis to be a skilful blending of traditional motifs appropriate to the surroundings with a certain amount of modern influence. This excellent building is an indication of present-day tendencies, and it is interesting to note that even architects whose names have long been linked with tradition are beginning to employ, some at least, of the newer forms.

There are very few drawings of the truly "moderne"; and one hesitates to say that in that class is the New Hospital at Scarborough by Wallace Marchant (1328). Yet this is one of the best of the smaller works in the Academy, and that it belongs to today is undoubtedly true; at the same time, there is nothing about it which need be labelled "foreign produce," and Mr. Marchant seems to have designed with uncommon freedom in the new manner.

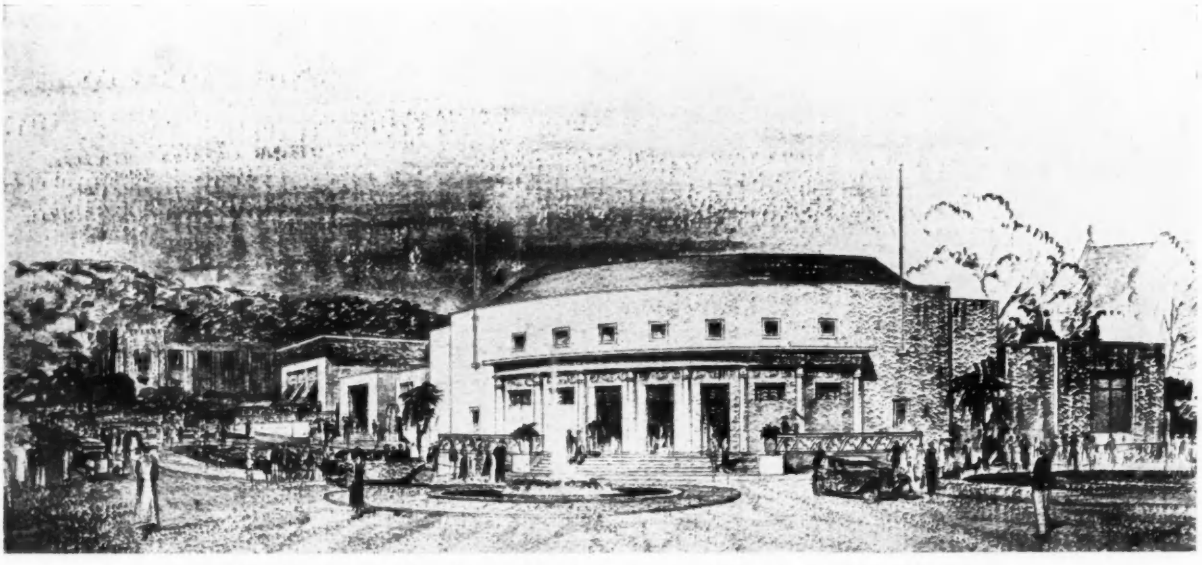
"Official" architecture in the shape of exhibits by members of the Office of Works is well represented, and, as usual, the drawings though strictly traditional in design are of great excellence. The Ministry of Labour Building at Birmingham (1338), by Peter K. Hanton, has a dignity which at first sight would appear to be dependent on a rather conventional employment of stock forms; but there is a great deal more in it than that, and the whole composition merits careful study. An architect in private practice who praises the Office of Works is in danger of being ostracised by his fellow practitioners; but I must confess that, personally, I have a great respect for that department, which seems to be able to turn out buildings of great variety, and though its devotion to the style which has loosely been labelled "Georgian" may seem a little pathetic to some, it cannot be denied that most of its products suit very well the surroundings in which they find themselves. Nobody who knows St. Albans will wish to quarrel with (1455) the Post Office, which has been designed for that city by Frederick A. Llewellyn, nor will he deny that H. E. Seccombe has succeeded in the far more difficult task of achieving a Post Office which will be at home in Banbury (1471). Mr. Hanton has also achieved a masterpiece of reticent opulence in the Mayfair Telephone

Exchange (1401), and, incidentally, the perspective of it which, shown in the Academy, is a first-rate piece of work.

Domestic architecture is not greatly in evidence this year, though as one would expect, the newer modes are beginning to creep in. One believes that it was in the University Library at Cambridge that Sir Giles Gilbert Scott first employed the horizontal pane, and now in the New School Houses for Ampleforth College, Yorkshire (1353) we find him using it again in a very fine and freely conceived composition of great originality. Here, too, the perspective must be commended. Leslie K. Watson, who executed it, is gradually developing a style of his own, though there are still traces of the Farey wand in his work. At the other end of the pole, in presentation, is a drawing of a house at Shamley Green, Surrey (1359), by Hugh Eades. This straightforward, unrendered drawing of a skilfully planned small house shows with what great effect a diagrammatic representation can be used in an exhibition, and to judge from remarks overheard at the Private View one gathers that the layman is not insensitive of the merits of drawings of this kind. Among the other drawings of domestic work mention must be made of The Boarding House, Merchant Taylors' School, by William G. Newton (1344), and bracketed with this for the sake of convenience we shall place (1345) The New Science Block at Marlborough College, by the same architect. The Science Block has been too widely illustrated already to call for anything but passing comment here ; but it is refreshing to find that one architect is capable, at the same time, of designing with such skilful simplicity in his domestic work, and with such complete freedom when the circumstances would appear to warrant it.

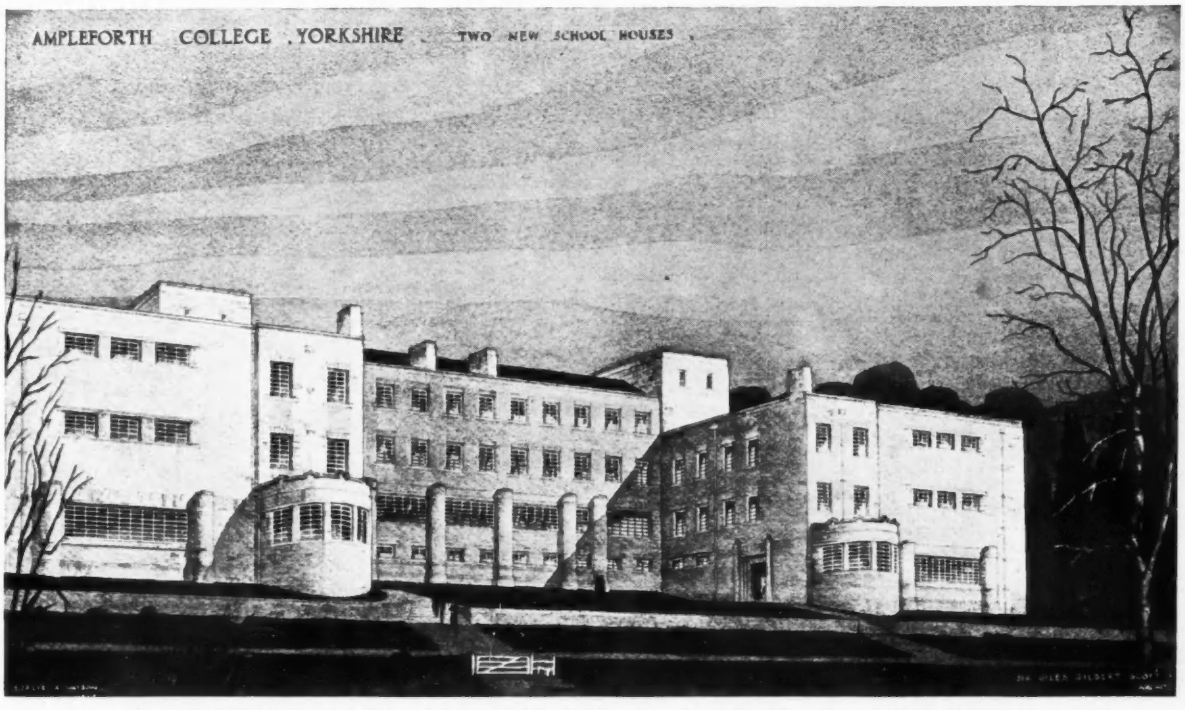
Church of St. Thomas, Hanwell. By Edward Maufe (1451)

Most of the church designs are disappointing, exceptions being seen in the drawings of Edward Maufe, and Milner and Crase. Mr. Maufe's Church of St. Thomas, at Hanwell (1451), is typical of the work of that architect, and by that it is not meant that it bears any specific resemblance to his other churches ; but rather that it possesses those indefinable qualities which are rapidly placing him in the front rank of our designers of ecclesiastical buildings. The proposed Church at Withernsea, Yorkshire, is in a different category, as the design owes



Assembly Rooms, Colwyn Bay : the main entrance. By Stanley D. Adshead (1375)

The Guildhall, Cambridge. By C. Cowles-Voysey (1335).

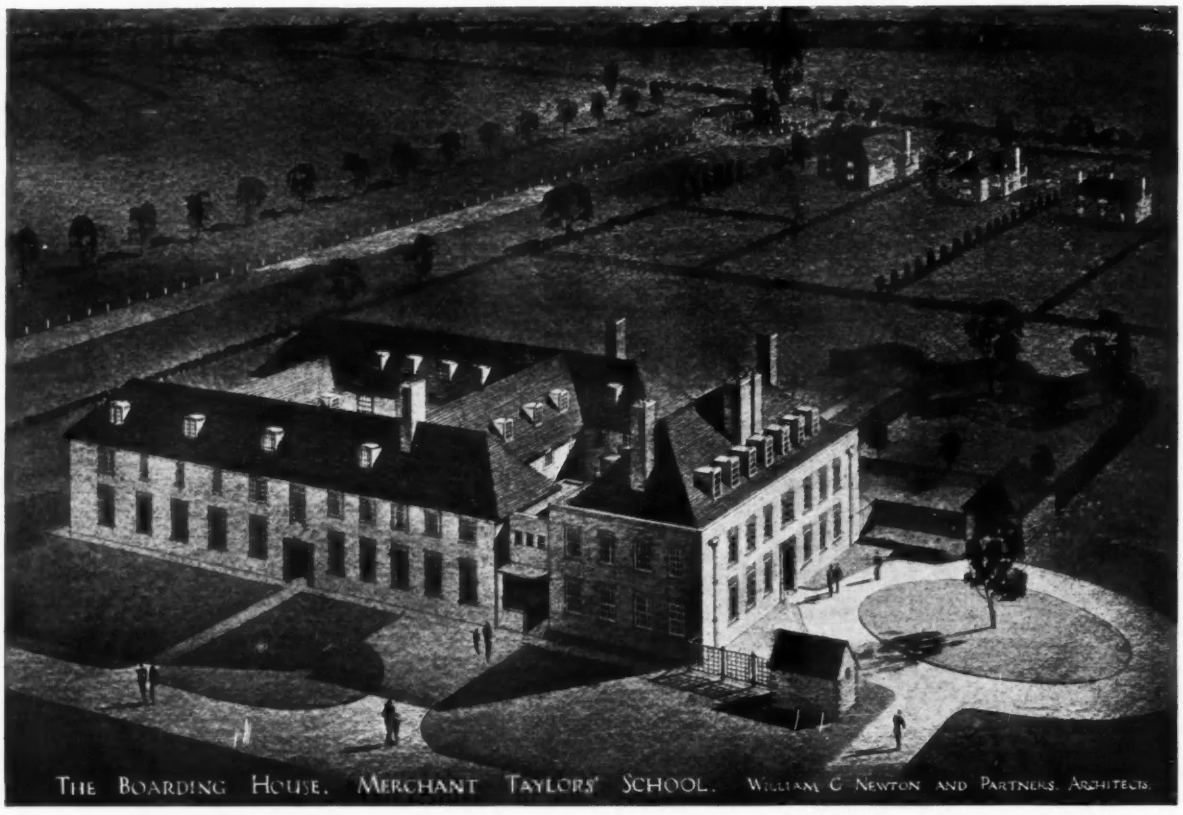


Ampleforth College, Yorkshire: two new School Houses. By Sir Giles Gilbert Scott, R.A. (1353).

very much more to tradition. However, due respect has been paid to the material employed, and the tower shows a very skilful recognition of the properties of brick walling.

In view of the present-day interest in slum-clearance, one is sorry to find that there are but few exhibits of tenement flats. Those by Philip D. Hepworth (1405), in Bestwood Street, S.E., are the most attractive of their kind, and indeed most of the other flats are designed to house far wealthier tenants.

Mr. Hepworth's flats are very attractive, and the setting back of the central portion has given just the right emphasis to what must have been a very economical building. The balconies, too, are arranged with unusual care so that they do not



Merchant Taylors' School : the Boarding House. By William G. Newton and Partners (1344).

greatly interfere with the lighting of the rooms below.

Among other flats may be mentioned those on the Duchy of Cornwall Estate (1350), designed by Louis de Soissons, which are well considered in mass, and in detail ; those by Richardson and Gill, in Upper Woburn Place (1384), a very satisfactory variation of simple units simply repeated ; and those by Stanley Hall, Easton and Robertson, in Avenue Road, N.W. (1389). The last mentioned have a façade which is unsymmetrical, and greatly diversified by balconies and bays, and yet withal manages to hang together completely satisfactorily—a design which improves on closer acquaintance, this. On a still larger scale are the Cranmer Court, Chelsea, by S. Gordon Jeeves (1470), and Latymer Court, Hammersmith (1430), by the same architect, and from the examples chosen it will be seen that we can look forward to the future with confidence that we have architects who can be entrusted with a kind of dwelling which has been built in large numbers but recently in this country.

In conclusion, and despite the good qualities of the works which have been mentioned, we end as we began with a feeling of depression. It is to be remarked that the newspaper press in its notices of the exhibition, will as a rule give little or no attention to the architectural exhibits. This might be held to be an indication of indifference on the part of its critics to both architectural practice and principle, and since the critics are primarily concerned with the æsthetical, this indifference might be condoned on the grounds that architecture embraces many problems outside the æsthetical. But that this is not the whole answer is evident when it is remembered that this particular exhibition is concerned almost exclusively with the æsthetical side of the most comprehensive of the arts. Presumably, therefore, their reluctance to treat of this section of the exhibition is to be attributed to something other than indifference. Painting and sculpture are essentially synthetical, while architectural drawings are but symbols of a synthesis, and the operation of attempting to translate the drawings into terms of reality may well be one from which even the boldest must shrink. The drawings are not so greatly unrelated to reality as they were once, nor the renderings, perhaps, so gaudy ; but the fact remains that in so diverse a collection of different presentations the mind soon finds itself at sea. Perhaps in the future we may find more drawings resembling those which Mr. Holden has shown this year, and is it too much to demand that all models should be to the same scale ? If the precedent of the Liverpool Cathedral model is followed, there will be room for only a very few exhibits, and these by architects who can afford to make models which cost more than do most buildings. Small models are difficult to make, and the representation of detail is a trying business ; but if all models were to the same scale they would at least afford some means whereby they could be compared one with another, and such comparison would make the task of the critic more palatable, and his findings more readily appreciated by the lay public.

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LEEDS HOTEL TO BE RECONSTRUCTED

The Leeds Licensing Justices have approved plans for the reconstruction, at a cost of £500,000, of the Queen's Hotel. Work is expected to begin in the next month or two.

FLATS FOR LIVERPOOL

Liverpool's first block of other than municipally owned flats—all her other flats up to now have been in converted houses—is expected to be ready for occupation in August. The architect is Mr. F. O. Lawrence, F.R.I.B.A.

CHANGE OF ADDRESS

Mr. Wystan Widdows, A.I.A.A., has transferred his practice from Allestree to The College, All Saints, Derby. Tel. : Derby 99.

LETTERS FROM READERS

S. L. P. (Associate of the Institution of Municipal and County Engineers)

C. BIRDWOOD WILLCOCKS, F.R.I.B.A., A.M.T.P.I.

SYLVANUS URBAN, Jnr.

CHARLES McLACHLAN, A.R.I.B.A.

V. LESLIE NASH, A.R.I.B.A.

Engineers and the Control of Elevations

SIR,—It is a pity that "A Panel Member" did not think more before making his sweeping statements.

The time of the municipal engineer is not occupied in the administration of bye-laws nor in making "final and unalterable" statements (routine work is carried out by minor officials), but in designing and supervising a works programme far greater in size and variety than that of the architect, in controlling hundreds of workmen and in guiding councils and their committees. Broadmindedness, adaptability and tact are the first essentials of a municipal engineer, who has to satisfy not a handful of clients, but perhaps 50,000 watchful ratepayers.

Now, sir, I submit that all municipal engineers and, in fact, most laymen, can distinguish between the pretentious and vulgar and the simple and tasteful. Architects do themselves a great disservice by pretending that good building is appreciated only by themselves.

Mr. Scott-Giles has pointed out that the fundamental weakness of the panel system is the fact that the panel is composed of practising architects of whom the unkind will say that the more they condemn, the more commissions are they likely to get. Architects with rejected designs will burn with bitter hate at the "jealousy" of their brothers on the panel, and I am afraid to forecast the reaction of some builders to the findings of a panel of gentlemen whom they will probably designate as "impracticable idealists."

The best solution to the difficulty is the "official architect," and this is already possible in most towns where there are already architectural staffs working under the direction of borough architects or engineers.

In the smaller places the engineer might be guided by "Recommendations for the control of Elevations," which could be drawn up and published jointly by the architectural institutions, and I feel certain that his control will be far more popular and effective than that of the panel.

The letter of Mr. Manning Robertson, with his quaint idea that only architects dislike pink asbestos-cement, is of no value to the present discussion. I notice with amusement that he and hundreds of municipal engineers are all registered together as architects in the recently published Register.

S. L. P.

(ASSOCIATE OF THE INSTITUTION OF MUNICIPAL AND COUNTY ENGINEERS)

SIR,—I was very interested in your leader and Mr. Tomlinson's letter in the JOURNAL for April 26. The letter referred to has apparently been circulated as a result of very incomplete information with regard to Advisory Architectural Panels, and I cannot help thinking that if the Council of the Institution of Municipal and County Engineers had obtained more information from those of their members who act as surveyors to Local Authorities who have adopted the Panel scheme, that a very different letter would have been circulated.

Possibly the writer of the letter is not aware of the large number of Advisory Panels which are now functioning with satisfactory results.

For instance, in the area covered by the Berks., Bucks. and Oxon Architectural Association all the Local Authorities in Oxfordshire have Advisory Panels, except Oxford City, where other methods of dealing with elevations of new buildings are in operation.

In Berkshire ten out of the nineteen Local Authorities have Panels at work, including the Boroughs of Newbury, Windsor, and Wallingford, whilst in Buckinghamshire about half of the Local Authorities have adopted the system.

It is, I believe, generally agreed that the Advisory Panel scheme is the only practical method yet evolved to prevent the erection of unsightly buildings. The majority of Local Authorities' surveyors are fortunately apparently in sympathy with the movement, and those who have had some experience of the working of the Panels are, as a rule, very satisfied with the results obtained. The majority of surveyors also, I believe, realize that criticism of architectural designs is not in their province, and they are glad to be relieved by the Panels of the responsibility of advising their Councils with regard to such matters.

The inadvisability of entrusting the criticism of elevations to others than architects is fairly obvious. Recently a Local Authority I was advising did not submit half-a-dozen plans. On enquiring the reason I was told that the surveyor has looked at them and they were all satisfactory. On examining the plans I found this was far from being the case with three of them.

The Municipal and County Engineers apparently think that architects will be in an embarrassing position if called upon to pass judgment on the work of one another. Surely architects can be left to deal with such matters professionally. Actually in practice very little difficulty is experienced on this account. Naturally architects do not all agree on questions of design, but I believe that surveyors have also been known to disagree on matters within their special province.

With regard to the suggestion that Advisory Panels cause delay and expense to building owners. If all plans for new buildings are submitted in duplicate a week or so before the meeting at which they are to be considered by the Council, as is usually the case, to give the surveyor time to see if the plans comply with the bye-laws, etc., if the duplicate copy is forwarded to the Advisory Panel there is, as a rule, no delay except with reference to designs of buildings, the erection of which most Local Authorities would desire to delay indefinitely.

Concerning the matter of cost. It has been found that generally the suggestions of the Advisory Panels reduce the cost of criticized buildings. If occasionally suggestions are made to increase the cost of a building it is practically always owing to the building proposed being of too inferior a character for the neighbourhood.

The Secretary of the Institution of Municipal and County Engineers appears to have overlooked the fact that Advisory Panels give advice only, and that the Local Authorities themselves decide whether, or not, they will ask the building owner to accept the advice.

The constitution of most Local Authorities' Councils is surely such that no unreasonable hardships to individuals are likely to be occasioned on this account.

It is sincerely to be hoped that the Council of the Institution of Municipal and County Engineers will very carefully reconsider this matter and obtain the fullest possible information from their own members, architects and others who have had actual experience in the working of the Advisory Panels. If they do so I am confident that they will realize the great advantage the Panels are to the country and will give all possible help to hasten their widespread formation.

C. BIRDWOOD WILLCOCKS

SIR,—The problem of control of elevations bristles with difficulties which can only be solved by tact and

careful handling—whoever has the final control of it.

One thing is clear. The work must be done by architects. But how? It means that time will have to be given by busy men who can ill spare it—especially the younger ones who have a practice to take care of. They must be architects who are so keen about their work that they are willing to help the face of the world as it is made by other people's hands. Can they and will they? Perhaps they will have to be paid, but who will undertake that?

In the actual organization of approving elevations time would be likely to be wasted if finished plans were sent to the authorities and alterations had to be made to suit their recommendations. An *esquisse* principle might be adopted whereby architects would send in sketch drawings to the elevations committee for approval before proceeding with their final drawings.

There are very few engineers whose opinion I value sufficiently for me to feel either satisfied or dissatisfied if my elevations were to be "vetted" by them—because I could probably get away with almost anything; I do not think engineers would prevent good design—but they would do little to prevent bad design, so they would be useless—even if they had become "Registered Architects" as well as being engineers.

Discussing the question recently with a Swedish friend, I was told that in most Swedish towns the elevations are duly considered by special representatives, and in Stockholm there is what is called a "Beauty Committee," who consider all designs for buildings, statues, and other matters which are likely to affect the amenities of their capital. Could we not find out how they arrange matters there? Or must we admit that they have a far higher standard of taste than we have—even to the man in the street!

Our architects must work together in as much harmony as they can manage to create—and they must work soon and quickly. Architects are rather cold blooded fish when it comes to co-operation, and unless they can forget themselves in a big idea—then all is lost and will soundly deserve to be.

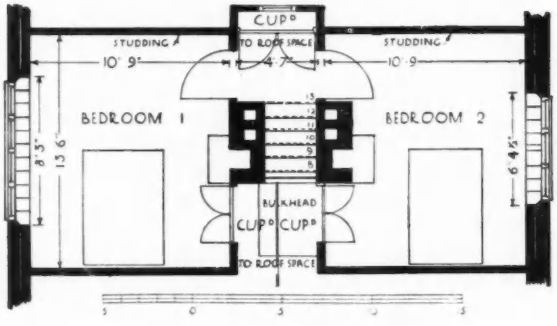
SYLVANUS URBAN, JUNR.

R.I.B.A. and A.A.S.T.A.

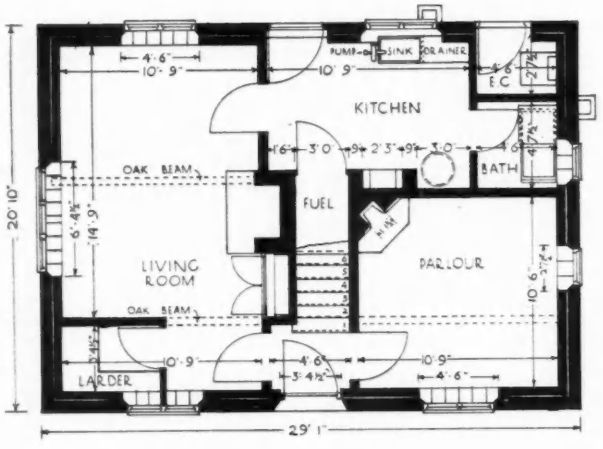
SIR,—As one who has been as much as anyone in the minimum salaries fight, may I say a word in reply to Mr. Webb's latter in your issue for April 19? I have every respect for Mr. Webb's largeness of heart and for his many

COTTAGE AT WISBOROUGH GREEN

This cottage at Wisborough Green, near Horsham, Sussex, contains a living room, parlour, kitchen and two bedrooms; and was built of multi-coloured bricks with a thatched roof.



FIRST FLOOR PLAN



GROUND FLOOR PLAN

DESIGNED BY EWART ASTON

talents, but I feel that in this matter his reasoning has gone astray.

Mr. Webb first assumes, though he does not state it, that employers, or at any rate that employing architects, are better and wiser guardians of their employees' interests than the employees are. If this is so, vice versa, employees may be better and wiser guardians of their employers' interests. Will he agree to this?

Secondly, he states, in effect, that minimum salaries must become fixed and maximum salaries, and that, therefore, present salaries will be reduced if a scale of minimum salaries is introduced. May I therefore suggest that the R.I.B.A. Scale of Charges be abolished so that architects may receive more? Also, has Mr. Webb forgotten than in very recent years bricklayers, plasterers and other tradesmen have received more than the agreed trade union rate of wages?

For my part, I am convinced that the recommending of a scale of minimum salaries by the R.I.B.A., which is all that the A.A.S.T.A. has asked, will make no assistant the poorer, but it will make the vast majority richer. If the result is to be the other way round, as Mr. Webb predicts, why then the bitter hostility of so many practising architects, especially in the provinces, to a proposal which will leave them richer?

As to the other point of the A.A.S.T.A. protest, I see Mr. Webb is silent. Is he in agreement with us? I feel that he is probably more in agreement with Mr. Lambourn that overcrowding is due to the pupilage system. My own bias is in favour of the schools' system of training, and I believe the same may be said of most of my A.A.S.T.A. colleagues, but the majority of practical men do not seem to agree with me. For good or ill, we still have the pupilage system, and for many reasons, geographical and economic, it will remain for many years yet. Even the large towns still produce many pupils, and almost every smaller town is producing a few a year. The effect of the setting up of the architectural schools has been largely to advertise the profession as a profession, and to duplicate the number of entrants. The result is that today, large numbers of admitted A.R.I.B.A.s. are being paid less than dustmen and labourers, and I cannot see a very rosy prospect for many of them.

Talking of pupilage, does, Sir, the professional public realize that it owes to the A.A.S.T.A. the periodic notice by the R.I.B.A. calling attention to a proper syllabus of training for pupils in offices?

Mr. Reeves has denounced the R.I.B.A. as an employers' organization, and many of your correspondents support the allegation. There is, even to me, a delightful humour in the situation. It is an employers' organization very largely maintained, owing to the necessity of maintaining their diplomas, by the subscriptions of those against whom it operates. But let the R.I.B.A. be warned, that in these days of registration it may not thus be able to hold its Licentiates.

CHARLES MCLACHLAN

SIR,—In the correspondence columns of your issue for April 19 some surprising views are expressed by Mr. Maurice Webb, who appears to hold that anything in the form of rules or regulations for the larger section of the profession — which consists of employees—is a mistake. We all, including Mr. Webb, know that the R.I.B.A. has already established regulations in the form of a Scale of Charges, a Code of Practice, and a system of conditions governing competitions. All of these are for the benefit or protection of architects who are employers, and they also afford protection to clients who employ architects.

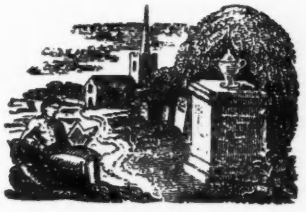
It would appear that Mr. Webb argues that any similar measures affecting employees, not only for their protection, but for the protection of the whole profession, must be wrong in principle. This is unbelievable, unless Mr. Webb immediately proposes to take whole-hearted action to rid the profession of the rules and regulations already provided by the R.I.B.A. One need hardly point out, either, that Mr. Webb must certainly have some rules in his own office, or that his assistants are not a law unto themselves.

When the Council of the R.I.B.A. agreed to recommend a scale of salaries for employees in departmental offices (i.e., offices other than those of private practitioners) they merely extended outside the profession the "protection" principle which had long since been recognized, and consistently applied, for the benefit of private practitioners within the profession. Mr. Webb asserts that this action must have caused a reduction in the salaries paid in such offices. We know well that it has not done so, and if there is still work to be done to get that scale—and any other scale—more widely recognized, we see clearly, from recent events, that such work will be done only by the A.A.S.T.A.

But this is the issue: either law and order and a guidance as to proper conduct is right in principle or it is wrong. If, in Mr. Webb's belief, it is wrong, then he should surely at once advocate a radical change and declare that all architects should compete in terms of remuneration and underbid one another in order to obtain commissions.

The fact is that employers in the profession have availed themselves of what is really a form of organized trade protection, and I fear that Mr. Webb is merely objecting to a similar protection for employees. He surely does not thus wish to have it both ways.

V. LESLIE NASH



Registration

The approval of H.M. Privy Council has now been received to the amended Regulations passed by the Architects' Registration Council of the United Kingdom.

A person is eligible to apply for registration under the Act if he shall have passed one of the following recognized examinations: The R.I.B.A.—Final Examination, Special Final Examination; School of Architecture, Robert Gordon's Colleges, Aberdeen—Diploma Final Examination; Birmingham School of Architecture, Central School of Arts and Crafts, Birmingham—Diploma Final Examination; Welsh School of Architecture, The Technical College, Cardiff—Diploma Examination; School of Architecture, Edinburgh College of Art—Diploma Final Examination; Glasgow School of Architecture—Diploma Final Examination, University of Glasgow Degree of Bachelor of Science in Architecture Final Examination; School of Architecture, Leeds College of Art—Diploma Examination; Liverpool School of Architecture, University of Liverpool—Final Examination for the Degree of Bachelor of Architecture, Final Examination for the Diploma in Architecture; School of Architecture, the Architectural Association, London—Diploma Final Examination; Bartlett School of Architecture, University of London—Final Examination for the Degree of Bachelor of Arts in Architecture, Final Examination for the Diploma in Architecture; School of Architecture, University of Manchester—Bachelor of Arts degree with Honours in Architecture, Final Examination, Certificate Final Examination.

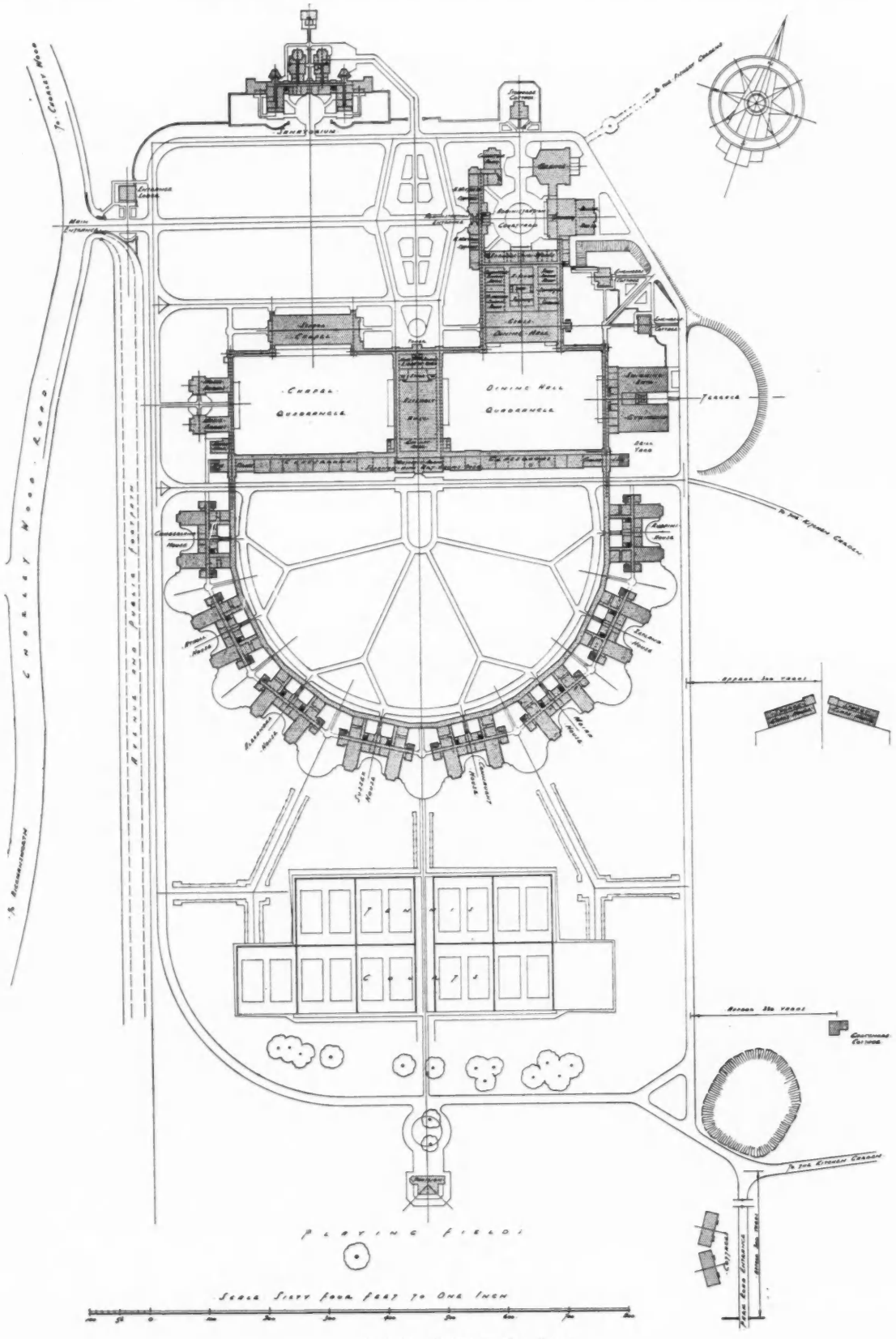
Artists in Commerce

The Council of the Association of Artists in Commerce have decided to inaugurate a provincial membership at specially low fees. Branches are now in course of formation in Birmingham, Bradford, Hull, Cheltenham, Belfast and Glasgow.

Those eligible for membership of the Association include: commercial artists, industrial designers, advertisement designers, commercial photographers, etc.

Full particulars are obtainable from Mr. Philip Samuel, Honorary Secretary, 20 High Holborn, W.C.1.

ROYAL MASONIC INSTITUTION FOR



LAY-OUT PLAN

GIRLS: SCHOOL AT RICKMANSWORTH

[Everard

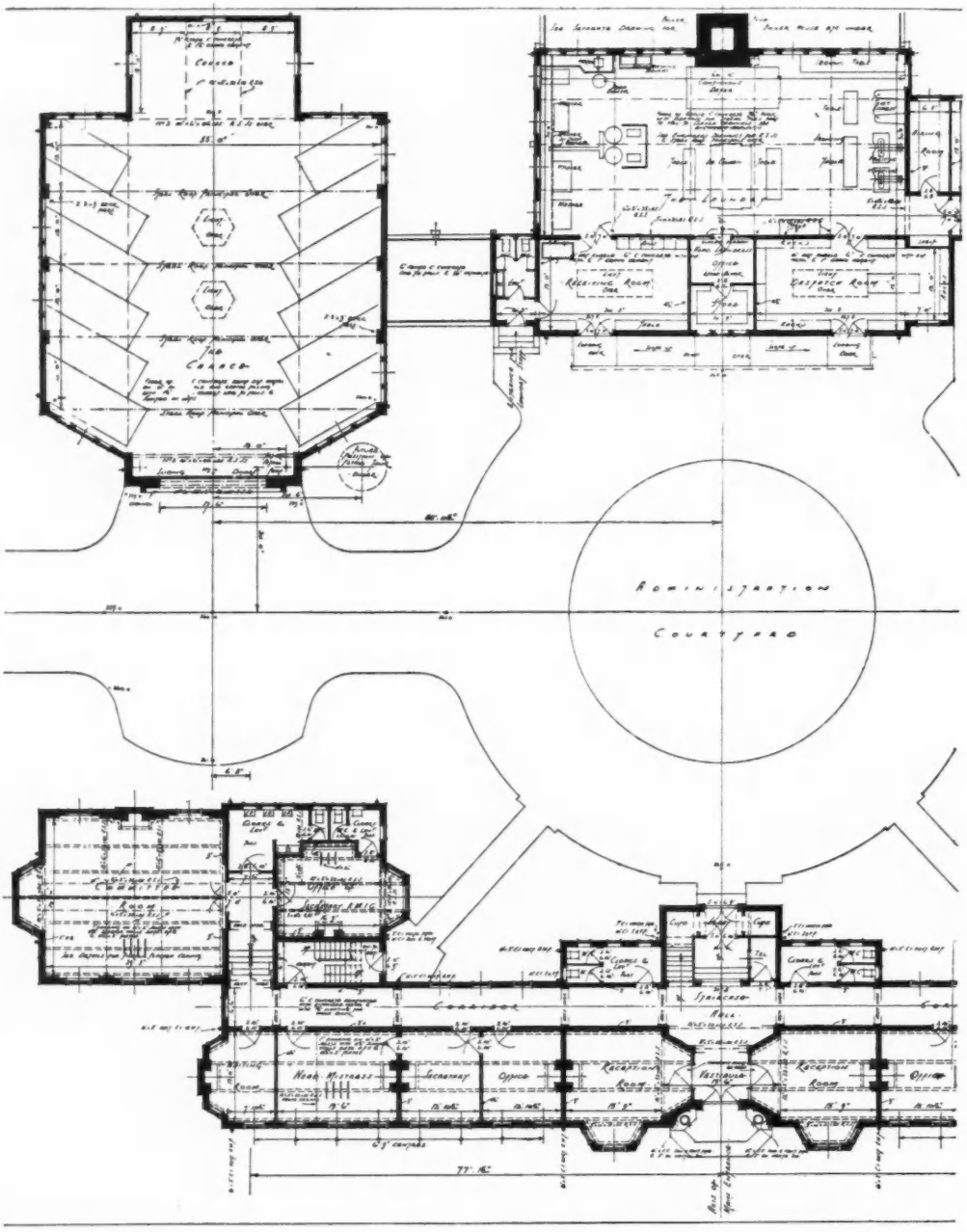
The design for this school was the subject of a competition in 1928, and work was started about a year later. The whole scheme has just been completed and the first school term in the new buildings began last week.

The buildings provide accommodation for about 400 girls and a staff of approximately 100. The grouping of the buildings is shown on the lay-out plan on the facing page, and on the following pages the administrative building and the school boarding house, which is repeated eight times round a semi-circular open space, are illustrated in detail. In a subsequent issue of the JOURNAL *we intend to illustrate the other separate buildings, namely: the chapel, the school and classroom group, the swimming bath and gymnasium, the music rooms and the sanatorium.*

The photographs on this page show a general view and the central portion of the administrative building.

DESIGNED BY DENMAN AND SON

R. M. I. G. SCHOOL AT RICKMANSWORTH:

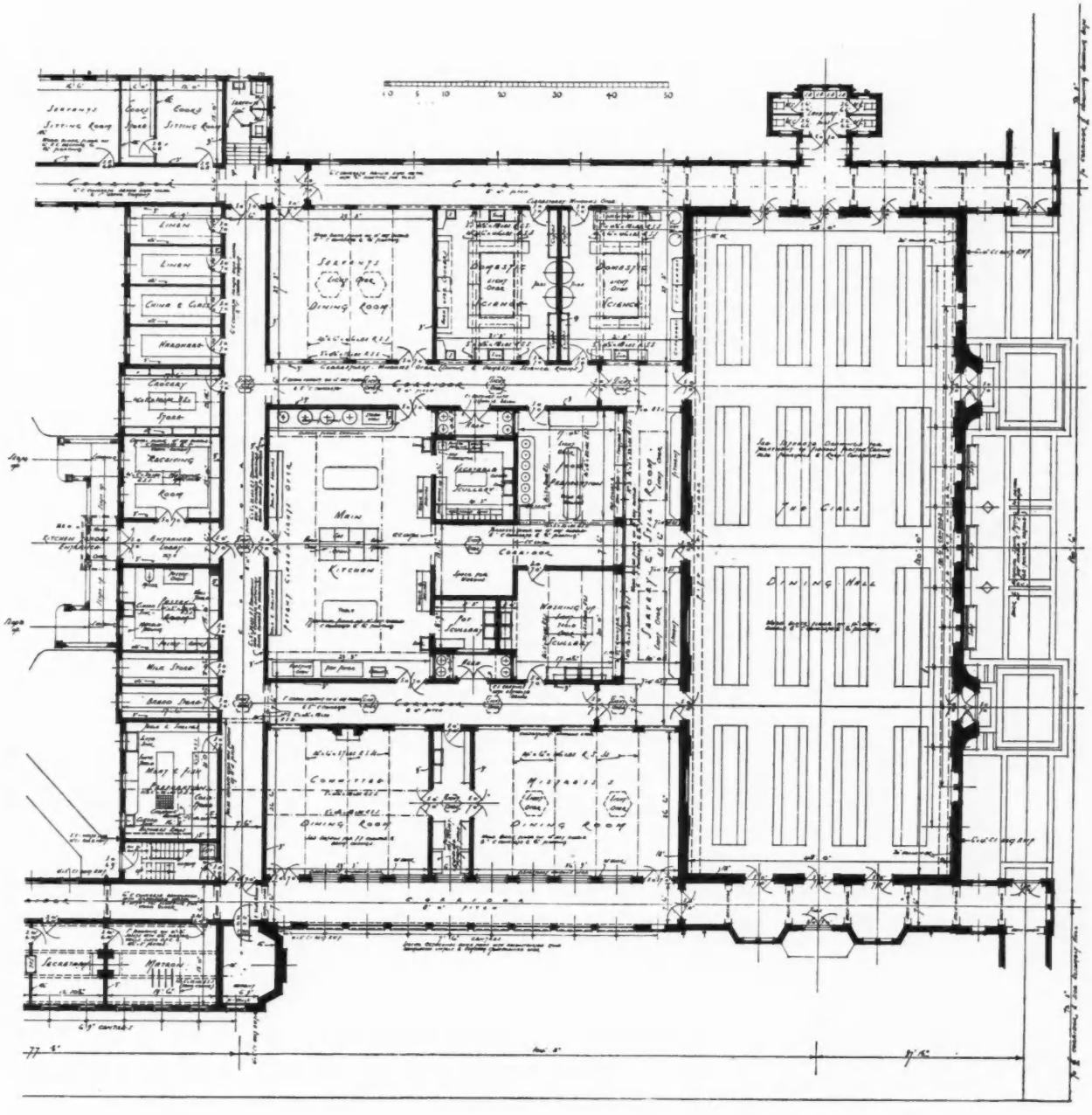


DESIGNED BY DENMAN AND SON

On this and the facing page is the plan of the administrative building. The main administrative entrance is approached by a direct drive from the main entrance gates in Chorley Wood Road, and has a forecourt of formal gardens and lawns before it. It comprises the office accommodation and sitting rooms and bedrooms for the head mistress, head matron and staff with a committee room, also committee and mistresses' dining-rooms adjoining the main kitchen. The kitchens and offices are planned in a central position to serve the dining rooms and the girls' dining hall and adjoin the domestic science classrooms, one for cooking and one for laundry.

At the rear of the main administrative block is a large service

THE ADMINISTRATIVE BUILDING

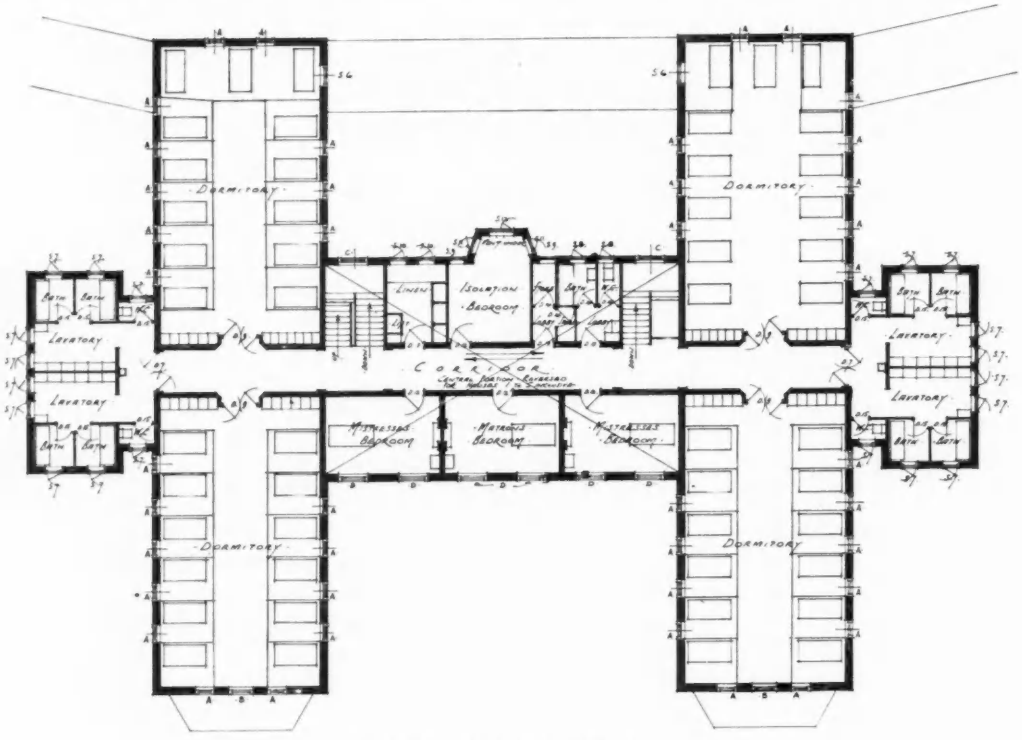


courtyard giving access to the kitchen departments as well as to the laundry and to a garage on the east side. The boiler house, plant and workshops are accommodated below the laundry and are accessible from the rear where the lower levels of the site enabled direct approach to be made.

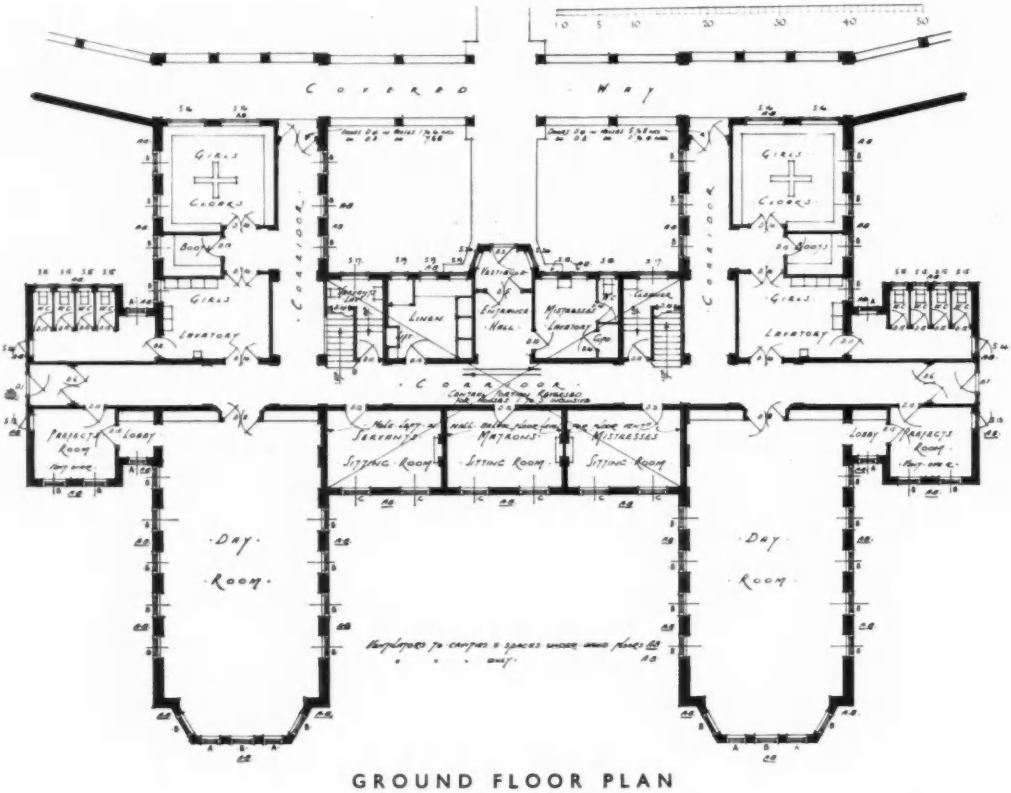
The girls' dining hall at the south end of the administrative block occupies the major portion of the north side of a large quadrangle to the east of the assembly hall. It provides accommodation for 400 girls and is lighted by windows on all four sides, being 120 ft. long and 48 ft. wide. It has a segmental fibrous plaster ceiling and a panelled dado in Australian silky oak, the piers on the walls having painted panels incorporated in them depicting the products of the earth. The sixteen oak refectory dining tables for the girls are set out so as to provide easy service from the servery adjoining the kitchen block on the north side.

The external treatment of the buildings generally is in multi-coloured facing bricks with cream joints relieved with Clipsham stone bands, copings and panels; cream-painted windows and pantile or lombardic tile roofings are used throughout the various groups of buildings.

R.M.I.G. SCHOOL AT RICKMANSWORTH:



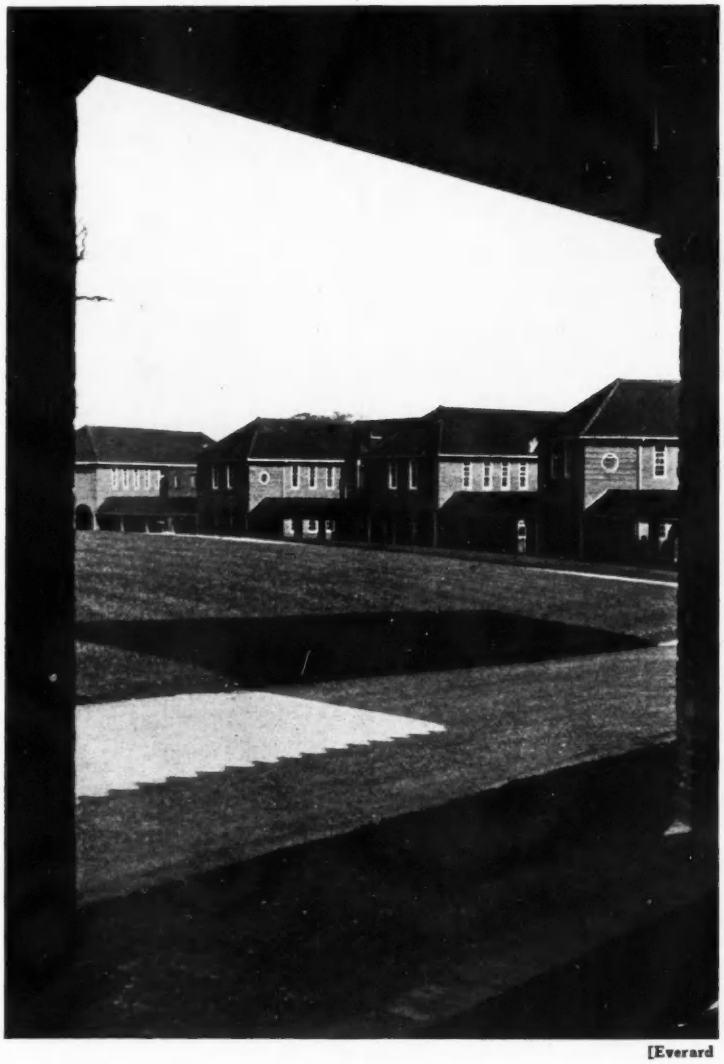
FIRST FLOOR PLAN



GROUND FLOOR PLAN

DESIGNED BY DENMAN AND SON

SCHOOL HOUSES



[Everard

On the facing page are plans of the school boarding houses, of which there are eight arranged round a central garth. The houses with their connecting covered-ways are seen in the above photograph. Each school house provides accommodation for fifty girls, having two day-rooms on the ground floor, with cloakroom and lavatory accommodation, sitting room for mistresses' house, matron and maids, and two staircases giving access to the first floor. Four dormitories occupy the wings at first floor level, with bathrooms and sanitary annexes projecting at each side, the centre portion again occupied by the house matron's and mistresses' bedrooms, linen rooms, stores, etc. On the second floor accommodation for maids, box rooms and stores are provided. A domestic character is given to the school houses by the line-hung sash windows and projecting eaves.

IN PARLIAMENT

[BY OUR SPECIAL REPRESENTATIVE]

IN the House of Lords last week the Marquess of Zetland moved the second reading of the South Downs Preservation Bill.

He said that he had behind him the authority of the National Trust, which for some years had been striving with only partial success to safeguard the Sussex Downs for the nation. They had been able to acquire some 400 acres of farm and downland, but so far they had failed to secure the preservation of the greater part of the downland, and they greeted with great satisfaction the action of the East Sussex County Council in promoting this Bill, which was designed to preserve in its present state some 40,000 acres of downland running in an arc with an average depth of some 2½ miles for 30 miles westward from Beachy Head.

The first danger against which the Bill sought protection was building—particularly unplanned and unsightly building. When in his capacity as chairman of the National Trust he paid a visit of inspection to the downs and the sight of Peacehaven fell upon his view he was staggered by what he saw. Here there was no order, no planning, no properly planned streets. It was mere hotch-potch of buildings of every shape and size dumped down in utter confusion in a commanding and beautiful tract of the South Downs. The re-duplication of Peacehaven was one of the things against which the Bill sought protection.

Quite recently a danger of another kind had presented itself. A short time ago an application was made to the Portslade U.D.C. by the Brighton Corporation and the Brighton Motor Racing Track Syndicate for an interim development order, under the Town Planning Acts, permitting them to develop the land as a racing track. The view of the National Trust was that it would be a desecration of this tract of typically beautiful English country if its quiet and solitude were to be invaded by an enterprise of that kind.

The Earl of Kinnoull moved the rejection and said that Brighton Corporation had spent considerable sums of money on purchasing land not only in the area defined in the Bill as the South Downs but also outside that area. The Bill would prevent their developing, for building or any other purpose, any part of their land in the South Downs. It was felt by many that the real purpose of the Bill was to prevent the construction and use of a motor-racing track in the Portslade area. The Corporation denied that the track would injuriously affect the amenities of the South Downs. Brighton had always been keen on its amenities. No case could be shown for special legislation such as was now proposed.

Lord Hampton put the case for the campers. He hoped that the countryside would be protected from the camp hogs, but he also hoped that the Select Committee which would later consider the Bill, would avoid, so far as possible, doing anything which would upset and in any way interfere with this new urge of our young people to take their holidays out of doors. The East Sussex County Council were to be congratulated on bringing this valuable Bill forward. He appealed to the Council to schedule special sites where camps would be held, and thus make the South Downs more easily get-at-able for those who could not afford motor-cars.

Lord Ponsonby said that Sussex was suffering from its beauty and popularity. The attack had begun from the South, and from Chichester to a good way beyond Brighton the coast had been desecrated by lines and rows and groups and masses of ill-built, ill-designed, shabby buildings, which were spreading like a malignant growth over the countryside. The matter was really rather pressing from the Sussex point of view that the county should be protected. The downs were undoubtedly one of the great beauties of England, and should be preserved at all costs.

The motion for the rejection was negatived and the Bill was read a second time.

Royal Society of British Sculptors

At the annual general meeting of the above society, Messrs. Geo. Alexander, P. G. Bentham, Herman Cawthra and F. Brook Hitch were re-elected to the Council and Mr. William Bloye was elected an Associate.

Announcement

Mr. G. A. Jellicoe, A.R.I.B.A., A.I.L.A., has removed his offices to 38 John Street, Bedford Row, W.C.1. Telephone No.: Holborn 8350.

ARCHITECTURE: A PROFESSION OR AN INDUSTRY?

[BY A. SEYMOUR REEVES]
Secretary, A.A.S.T.A.

Following the recent correspondence on the subject of the relations between the R.I.B.A. and the Association of Architects, Surveyors and Technical Assistants we have been sent this contribution by the secretary of the A.A.S.T.A. setting out his views on the position of salaried members of the profession.

We have submitted a proof of it to the R.I.B.A. in order to afford them the opportunity of presenting their point of view and we hope shortly to publish a reply from them.

THE correspondence columns of this JOURNAL, together with the many letters I have received, indicate that the policy of the Association of Architects, Surveyors and Technical Assistants is arousing wide interest, and a more detailed statement on the position would appear to be justified.

OVERCROWDING

It did not need the severe crisis, through which we have been passing, to bring to the knowledge of the A.A.S.T.A. the overcrowded state of the profession. This has been evident for some years as, even in normal times, quite a number of men leave the profession every year when they are approaching 35 or more, because they can see no future. The outlook seems to offer merely casual employment as temporary assistants and these men realize that as they get older they will be wanted less and less. Frequently these men have had good training and experience and they are quite equal to responsible duties. But there is not enough for them to do and they decide to seek another occupation before it is too late. The better the man, the less willing he is to remain in a profession in which the conditions are such that by the end of each year he finds his income is of an amount that a bricklayer would despise. The younger men are told that they are getting such useful experience that they should be content with a modest remuneration and think of the opportunities which are ahead. But when they have had the experience, many of them wonder if they are wanted at all.

THE FALLACY OF COMPETITIONS

So many fanciful pictures have been put before the aspirant to architectural success that wholesale misconceptions have resulted and it is time some of the illusions were dispelled. The competition system is often spoken of as one which offers splendid opportunities for the unknown man of ability. But even a slight examination of the facts will show that there is little foundation for this idea. In the past decade, the majority of competitions which have been worth while have been won by experienced architects, while the number of winners who have been unknown is negligible. Even if every premiated competitor in every competition had been an unknown man that would only account for an insignificant proportion of the thousands who entered the profession during that period. Many young men who try to work for competitions find they have to give it up because they must first of all earn their living. This means that they can only work in their evenings, and after a time they find the strain of continuous work is too much. They realize that it is not fair to an employer to be drowsy in the office owing to strenuous work at midnight on some competition, and they leave it alone. The architectural profession *can* be a glorious one—for those who do not need to make a living by it.

EMPLOYERS AND EMPLOYEES

Recent events have shown that the profession has now no alternative but to recognize a simple fact that most other occupations recognized long ago. It is that the interests of employees can only receive proper attention through the medium of an employees' organization. To expect a body which consists of both employers and employees to give impartial attention to the interests of employees is expecting the impossible. It has always been found that such composite bodies are controlled by employers and that the interests of employees are very subordinate. Teachers, journalists, actors, and many other professionals have found that only by forming employees' organizations can they protect their interests. In several of the instances mentioned, those concerned, have by organized action effected marked improvements and have removed the unsatisfactory and precarious conditions from which they previously suffered. But it must be admitted that such activities come within the category of trade protection, or more accurately, trade union activities, for trade protection is concerned with employers' interests.

The R.I.B.A. is a society for the advancement of architecture, under royal charter, and cannot undertake any activities which are in any way within the category of trade union functions without first making a radical change in its constitution. Such a change it is not likely even to contemplate.

Every year the profession loses a large sum because there is no accepted standard for the remuneration of the majority. The present scale of fees applies only to the minority who are private practitioners, and this minority gets smaller every year. The existing arrangement provides a large gap in the defences of the profession and through this gap the raiders pass at will. One result is that property owners, small commercial firms, and many others who need architectural services, do not go to a practising architect but engage an "architectural assistant" for a few months and dispense with his services as soon as possible, with the result that his remuneration is about 15 per cent. of the value of the services rendered. Fortunately, there are many architects who, as employers, realize that the aim of the A.A.S.T.A. is for the good of the profession as a whole. They wish to give a proper remuneration to their assistants and they do not wish to be driven out of the field by competitors who will accept reduced fees and then pay assistants a low salary.

PROFESSION OR INDUSTRY?

Today, we find that more than half the architectural work of the country is outside the field of private practice. Municipal bodies, railway companies, co-operative societies, breweries and commercial and industrial firms have permanent architectural departments which deal with a large volume of work. The profession is becoming "industrialized" and a good many commercial employers appear to regard an architectural department as a kind of plan factory. Among such employers there is a common desire to break down all professional ideas, and if their aims were fulfilled the profession would be reduced to the level of a fourth-rate industry. A frontal attack on the position offers no hope whatever, but we can seek to exert effective influence on the method of operation and secure a proper status and remuneration for architects who are employees. Such recognition must benefit employers as well as employees, for the results will be better because the architect will give of his best.

In conclusion, I may be pardoned for remarking that while letters of approval and exhortation are appreciated they are less effective than material support. With organized unity almost anything can be accomplished, but a lack of unity means slower progress towards our objectives.

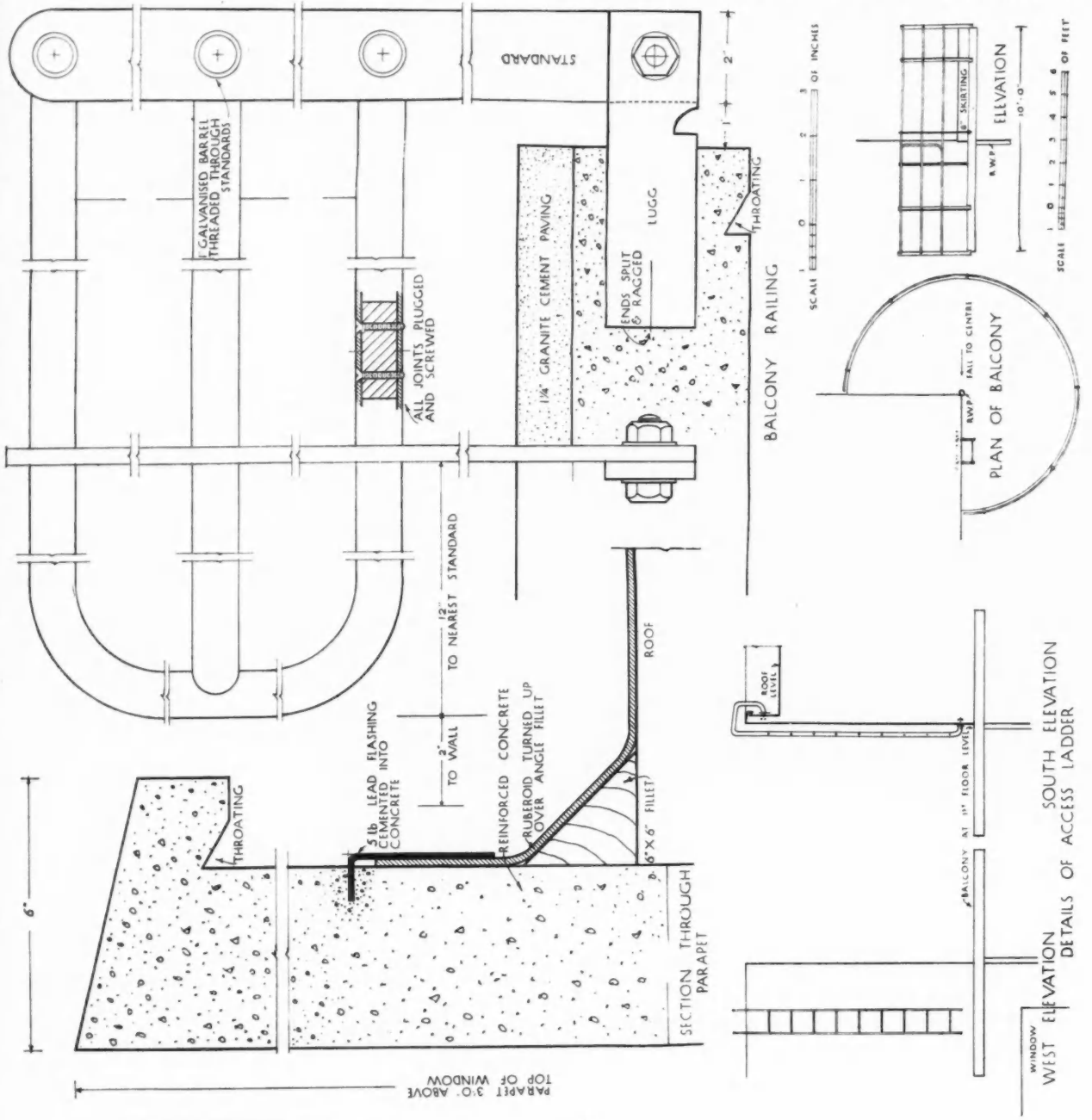
WORKING DETAILS : 49

BALCONY, PARAPET AND LADDER • HOUSE AT RUGBY • SERGE CHERMAYEFF

This three-bedroomed house in reinforced concrete has a circular cantilevered balcony off the principal bedroom at first floor level, responding to the circular termination of the ground floor terrace. Details of the balcony and railings, the parapet to the flat roof and the iron ladder providing access to it, are given overleaf.

WORKING DETAILS : 50

BALCONY, PARAPET AND LADDER • HOUSE AT RUGBY • SERGE CHERMAYEFF

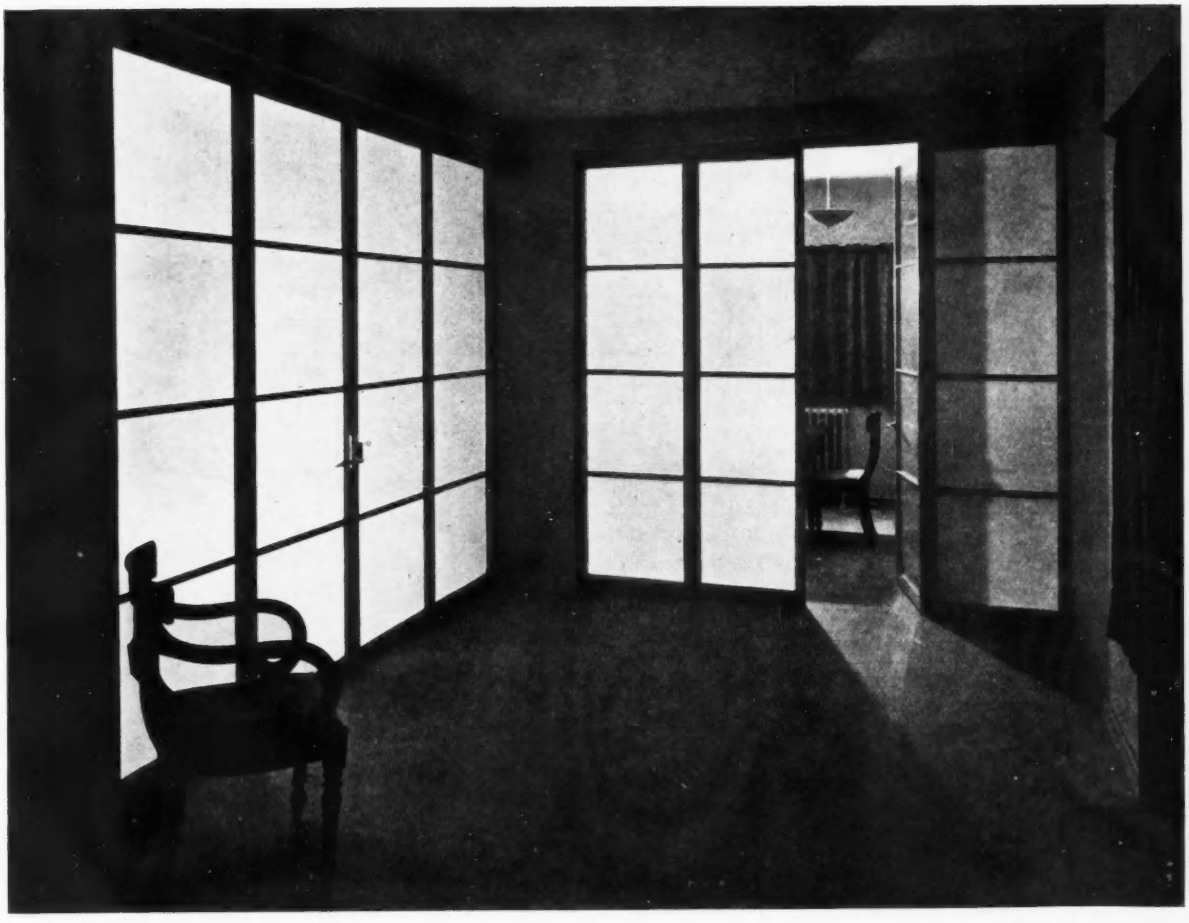


Details of parapet, balcony, railing and access ladder in a three-roomed reinforced concrete house.

FILING REFERENCE:

WORKING DETAILS : 51

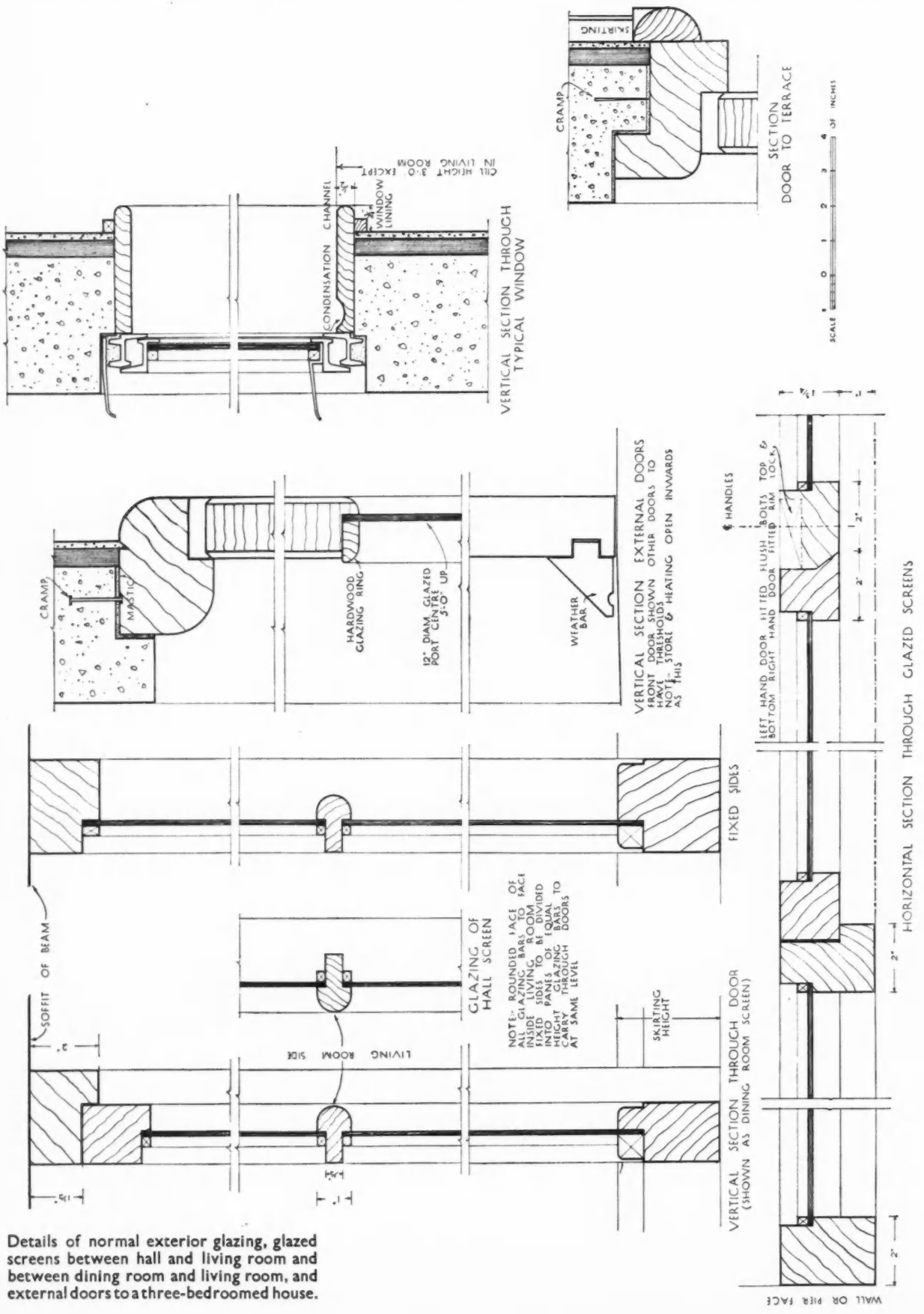
GLAZING • HOUSE AT RUGBY • SERGE CHERMAYEFF



In this three-bedroomed house at Rugby, constructed in reinforced concrete, the living room is separated from hall and dining room by glazed screens set in wood frames, detailed drawings of which are given overleaf. The photograph is taken looking into the dining room from the living room.

WORKING DETAILS : 52

GLAZING • HOUSE AT RUGBY • SERGE CHERMAYEFF



Details of normal exterior glazing, glazed screens between hall and living room and between dining room and living room, and external doors to a three-bedroomed house.

PERIODICALS

APRIL ANTHOLOGY

AMERICA

Architectural Forum
(Monthly, $1)

APRIL. Costs of six traditional small houses analysed, and several articles on the financing of building schemes. Complaints about a lack of money for new building under President Roosevelt's "New Deal."

Architectural Record
(Monthly, 50 cents)

April. "Leisure as a factor in Architecture," an elaborate survey of the spare time activities of the general public. Questionnaires reveal that reading and listening to the wireless are the most popular. Notes on current jobs and an article on Air Pollution.

Pencil Points
(Monthly, 35 cents)

April. A monograph on early New England brickwork. A leading article wondering whether working for the Government is worth while anyway. (See *Architectural Forum* note.)

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BELGIUM

Architecture et Urbanisme
(Monthly, 10 f.)

No. 1, 1934. Review of the small houses at the Milan Exhibition, with a few plans. Notes on recent excavations at Pompeii. Articles on the conduct of open competitions and on anti-vibration foundations for steam-hammers.

No. 2, 1934. Traditional country house at Zoute by Mario Knauer: plans and photographs.

La Cité
(Monthly, 5 f.)

No. 2, 1934. Competition for a Broadcasting headquarters at Brussels: an analysis of the design placed second, by van Nueten and Keym.

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FINLAND

Arkitekten
(Monthly, 15 marks)

February. A particularly well-planned bakery at Helsingfors, by Arnold Eriksson, and a report of the Tammerfors station competition. An article deploring the fact that architects are responsible for such a small percentage of buildings, and suggesting lower fees in country districts.

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FRANCE

L'Architecte
(Monthly, 12 f.)

January, 1934. Swimming baths and an Aero-club in Madrid, by L. Gutierrez Soto.

L'Architecture
(Monthly, 6 f.)

March. Two new buildings at the Cité Universitaire, Paris—the Cuban pavilion by Laprade, the Armenian by Nafilyan.

April. Traditional seaside architecture by L. Quételard. Blocks of flats at Colombes by Tréant-Mathé and Champy.

La Technique des Travaux
(Monthly, 10 f.)

April, 1934. Constructional details of the Mussolini Stadium at Turin. A concrete sanatorium for children at Liancourt, by Favier, Thiers and Bardin. Technical article on the welding of reinforcing rods, welding being recommended when there is adequate supervision.

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GERMANY

Bauwelt
(Weekly)

No. 13, 1934. Two new churches in Munich, with plans, photographs and details.

No. 14. Constructional notes on two large exhibition halls spanned by deep lattice girders. Temporary wooden housing for labourers.

No. 15. The lay-out of the garden and its relation to the plan of the house.

Baumeister
(Monthly, 3 m.)

April. Country hotels in the Bavarian Alps, with numerous plates of plans and constructional details.

Baugilde
(Weekly)

No. 7, 1934. Traditional country and suburban houses by various architects, with plans.

No. 8. Scheme by Ludwig Troost for the National Socialist Workers' building in Munich: plans and sections.

Deutsche Bauzeitung
(Weekly)

No. 14, 1934. Church in Berlin, by Clemens Holzmeister, illustrations, plans, and details of furniture.

No. 15. Ludwig Troost's scheme for the Workers' Headquarters in Munich.

Form
(Monthly, 1.25 m.)

February-March, 1934. Lengthy illustrated article on the processes of bookbinding, with many recent examples of finished books and wrappers. Illustrations of recent sculpture.

Moderne Bauformen
(Monthly, 3 m.)

April, 1934. Illustrated article on the new concrete railway station and harbour offices at Genoa, and a review of the decorations of the "Conte di Savoia," the newest of the Italian liners. Petrol stations in Germany and America.

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HOLLAND

Bouwkundig Weekblad Architectura
(Weekly)

No. 15, 1934. Notes on traditional domestic planning.

No. 16. A traditional open-air school by Died Visser. Photographs of Pierre Chareau's glass house in Paris.

No. 17. Photographs and plans of traditional country houses in the Aalsmeer district, by J. F. Bergehoef.

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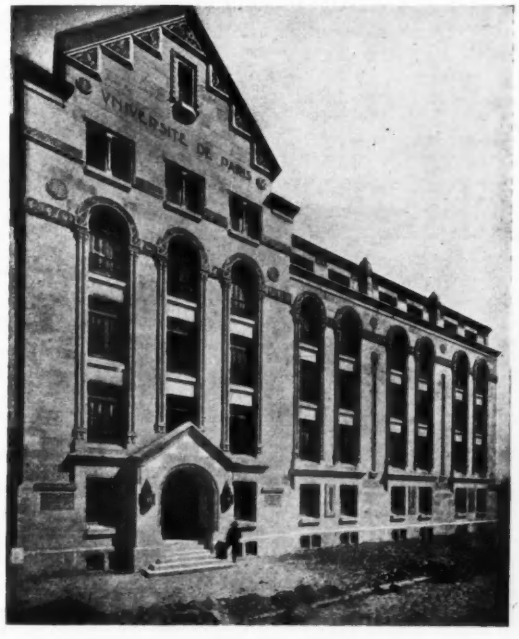
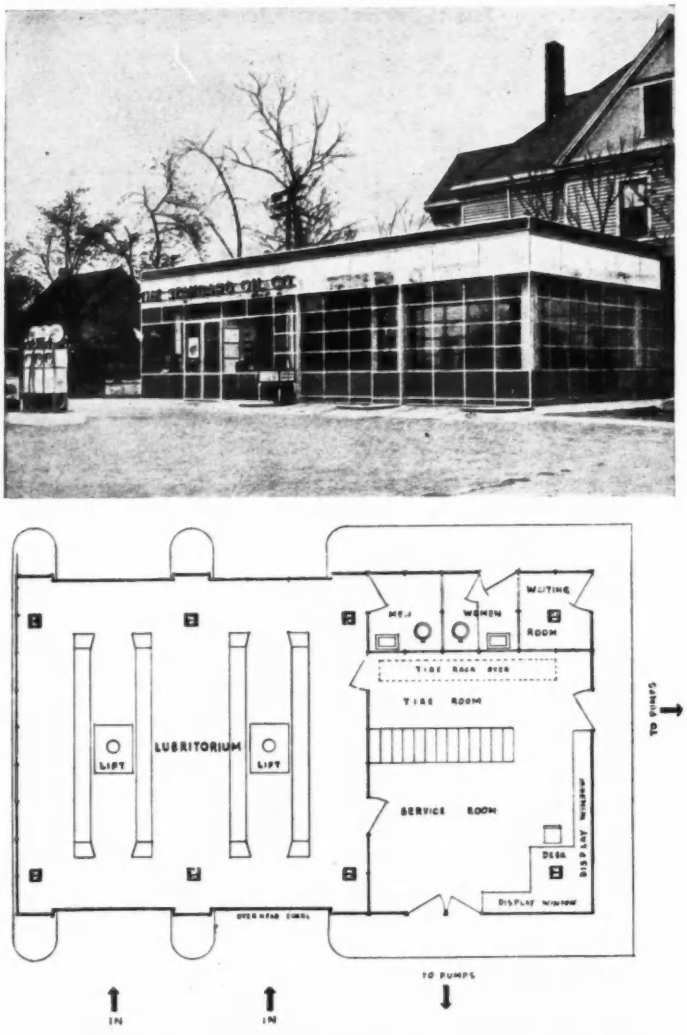
ITALY

Architettura
(Monthly, 18 Lire)

April. A long article on the planning of



The Armenian Pavilion at the Cité Universitaire, Paris. By Nafilyan.
[L'ARCHITECTURE]



A standardized American filling station. *By Clauss and Daub.*
[MODERNE BAUFORMEN]

airports and the arrangement of landing strips, with circulation analyses of aerodrome buildings and notes on hangar construction. Reviews of town planning competitions for Busto Arsizio and Monza.

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SPAIN

Obras
(Monthly)

February. An illustrated article by Werner Hegemann on current building in Switzerland, including Hubacher and Steigers' "Zett Haus." Photographs of the Neckar canal scheme, and a short but well illustrated article on film architecture. Current Spanish interior decoration.

Viviendas
(Monthly, 2 pesetas)

March. Plans and photographs of a house in Vienna by Armand Weiser: country houses in Italy and Spain, and examples of current European interiors.

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SWEDEN

Boet
(Monthly, 1.50 kronor)

April. Current Swedish glass, silver and pottery. Notes on recent Danish furniture.

Form
(Monthly, 1.25 kronor)

March. Excellent examples of recent photography and a discussion on photography as an "Art." Better advertising photographs could have been chosen.

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SWITZERLAND

Schweizerische Bauzeitung
(Weekly)

No. 14, 1934. A new market hall at Basle by Preiswerk and Esser, full constructional details of a steel-truss roof of 160 ft. span. Plans and elevations of a new insurance office in Zurich, architects, A. and H. Deschger.

No. 15. Technical notes: the working of automatic traffic signals, and the uses of aluminium in bridgework.

Werk
(Monthly, 3.60 f.)

April. A hydro-electric power station at Wettingen, by the brothers Pfister; photographs, plans, and sections. Photographs of a hydro-electric scheme and hotel at the top of the Grimsel Pass.

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YUGOSLAVIA

Architektura
(Monthly)

March. Modern villa at Zagreb by Vladimir Sterk: plans and full photographs.

Swimming bath in Madrid. *By L. Gutierrez Soto.*
[L'ARCHITECTE]

OBITUARY

SIR GEORGE SUTTON

We regret to record the death, on April 30, of Sir George Sutton, President of W. T. Henley's Telegraph Works Co., Ltd. Sir George Sutton began his career with Henley's as secretary to the company in 1881, at the age of 24. At that time W. T. Henley's Telegraph Works Co., Ltd., was a small struggling concern which had been formed out of the scraps of the crash of William Thomas Henley—who died in 1882. Almost from the time of Mr. Sutton's appointment the company began to progress. He was appointed manager of the company in 1886 and in 1893 he joined the board and became managing director. He was appointed chairman of the company in 1918, retaining also his position of managing director, which latter position he voluntarily relinquished in 1927. When he also voluntarily retired from the position of chairman on April 1, 1932, he became president of the company by the unanimous wish of his fellow directors. Sir George received his baronetcy in the King's Birthday Honours in 1922, and the staffs of W. T. Henley's Telegraph Works Co., Ltd., and Henley's Tyre and Rubber Co., Ltd., to mark their appreciation of him and of the honour conferred upon him, presented him with an illuminated address which was contributed to by every member of the staffs.

Sir George was one of the founders of the Cable Makers' Association which was formed in January, 1900, and he was very greatly interested in the work of the Royal Society of Arts of which Association he was a vice-president.

Besides being a director of this company, he was also a director of Henley's Tyre and Rubber Co., Ltd., Henley's (South Africa) Telegraph Works Co., Ltd., and the Enfield Rolling Mills, Ltd.

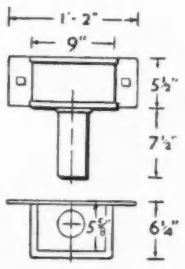
B. J. HALL

We regret to record the death, in his eightieth year, of Mr. Benjamin J. Hall, Chairman of B. J. Hall & Co., Ltd.

After serving as chief draughtsman to a well-known firm of engineers in the north of England, Mr. Hall resigned his position in 1895 and set up as a consulting engineer in London. He knew scarcely anyone in London and no one came to consult him. In order to keep himself occupied in the office and to give a semblance of activity in case anyone called, he designed pieces of machinery of his own fancy. Gradually his thoughts entered upon plan copying because, at that time, photographic copies of plans could only be made in sunshine or bright daylight. In winter it frequently happened that for two or three weeks at a time the daylight was inadequate and the copies had to be made by hand.

During his second year in London he designed the first practical electric copying machine. Its success was due to the use of a carbon arc as the source of illumination. His experiments with an arc lamp showed that a totally unorthodox adjustment which gave an unsatisfactory illumination for lighting purposes, produced rays, invisible to the eye, but these rays affected the sensitized materials much more powerfully than the visible rays.

This invention of the electric copier revolutionized drawing office practice all over the world. Many modifications of the copier have been made for speed and continuity both by Mr. Hall and others, but the machines built according to his early designs are still widely manufactured. He did not devote himself to the exploitation of his discovery in a general way and his actinic arc was adopted freely for process work and photography by artificial light. He had now become interested in plan copying and the improvement of drawing office apparatus and, in partnership with his brother-in-law, started the drawing office manufacturing firm of which he was the chairman until his death.



TYPE B

TRADE NOTES

[BY F. R. S. YORKE, A.R.I.B.A.]

Rainwater Heads

A NEW range of rainwater heads, supplied in cast iron or lead, is described and illustrated in a leaflet No. 142 that has just been issued by Messrs. Henry Hope and Sons. The heads are much more simple in design than the usual standard type. The types illustrated on this page cost: A, £1 1s. 6d., B, 13s. 9d. in cast iron. A, £3 1s., B, £2 3s. 6d. in cast lead.

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Type A is supplied with outlets 3 in., 3½ in. or 4 in. diameter, or 4 in. by 3 in. placed ½ in. 1 in., 1½ in. or 2 in. from back of head, except the 4 in. diameter outlet which can be placed at ½ in. 1 in. or 1½ in. from back of head.

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Type B can be supplied with, 2½ in., 3 in. and 3½ in. diameter, or 4 in. by 3 in. outlets, placed ½ in. 1 in., 1½ in. or 2 in. from back of head.

Reinforced Concrete Floor

The Aerodome floor, constructed from concrete, steel rods, and expanded metal, is designed on a similar principle to hollow-tile types, but expanded steel-mesh cages or domes take the place of tiles, displacing concrete in the lower part of the slab.

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A series of light expanded metal domes, with flanges on two or four sides, are placed side by side and end to end, so that there are spaces to receive reinforcement rods in one or both directions. Concrete is poured over this light structure to form a slab with reinforced T beams. The arched form of the domes gives the T beams a particularly effective cross section.

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It is apparent that the mesh adds little to the weight of the finished floor. Design is flexible, since the dome units can be made in any width, length or height.

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The floor is particularly adapted to big spans, and 25,000 yards have recently been laid on a job where the bays were 30 ft. by 29 ft.

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The floor is designed to take sprinkler pipes, electric conduits and panel heating pipes without increase in the normal thickness necessary for structural stability.

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The floor can be designed for single or cross reinforcement, with ends free, or continuous over several supports.

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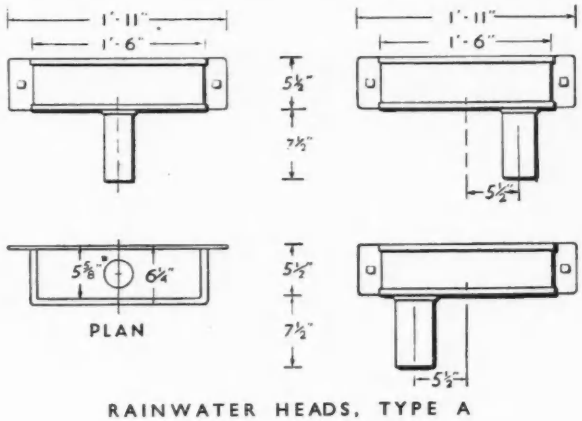
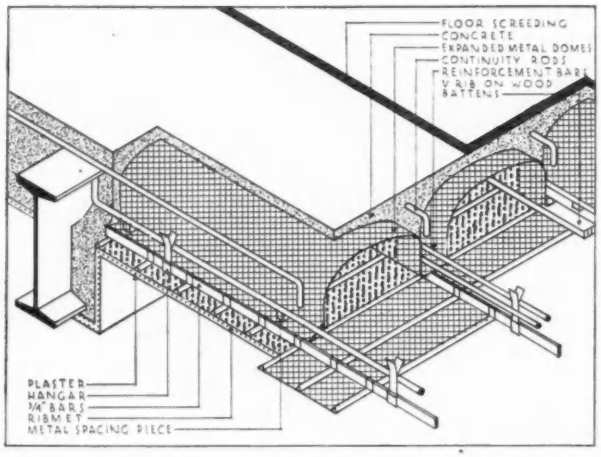
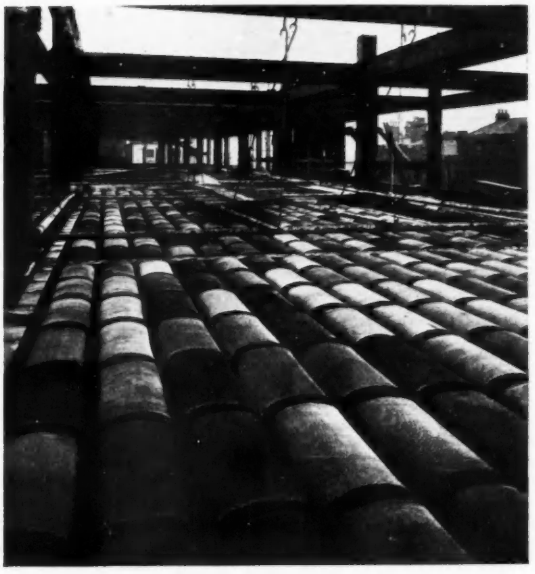
The manufacturers claim to have found in the Insulated Aerodome floor, a type that eliminates pattern staining, whilst costing less than the normal floor with suspended



RAINWATER HEADS, TYPE A





Above: Aerodome Insulated reinforced concrete floor. Right: Expanded metal domes ready for concreting to form Aerodome floor.

ceiling. The floor is constructed either with "rot-proofed" timber fillets, to which Ribmet expanded metal is attached, in the usual manner, but with the addition of a second series of V section metal strips inserted between the V's of the Ribmet and the underside of the timber fillets. This provision is made so that there shall be point contact only. (See diagram.)

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As an alternative the Ribmet may be attached to ¾ in. metal bars suspended from the concrete floor beams by galvanized hangers. The bars are placed in position at the same time as the domes, and retained by temporary sheeting fillets, which also form the undersides of the concrete beams. When the sheeting fillets are removed, Ribmet ceiling lathing is attached by standard galvanized clips.

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The Building Research Station publish a pamphlet—No. 10—dealing with pattern staining, and their Report on the subject, dated March 24, 1934, was issued with a recent number of the *R.I.B.A. Journal.*

THE BUILDINGS ILLUSTRATED

Sub-Contractors' List

The following is a list of the general and some of the sub-contractors for the Royal Masonic Institution for Girls, Rickmansworth, illustrated on pages 678-683 of this issue. General contractors, Walter Lawrence and Son, Ltd., who were also responsible for general joinery, panelling and fitments, also stalls and organ lofts in chapel, and furniture. Quantity surveyor, A. Boxall; clerk of works, E. J. Appleton; stone and wood carving, designed by Charles Knight and L. Ginnett and executed by Joseph Cribb; painted panels in assembly hall and chapel by L. Ginnett, in dining hall by Charles Knight; stained glass windows, designed and painted by L. Ginnett, Dudley Jarrett and B. Tatchell and executed by Cox and Barnard; mosaic pavings and linings to swimming bath designed by H. Morgan Rendle; nameplates, Austin Dale; Omar Ramsden, ornaments to altar table in chapel presented by the Head Mistress, Head Matron and Some Old Girls. Sub-contractors: Ames and Finnis, Lombardic tile roofings, bricks (generally); Gibbs Bros., Dorking Brick Co., Ltd. and Elliott's West Howe Pottery (Dorset), Ltd., special bricks; J. C. Edwards (Ruabon), Ltd., special glazed internal facing bricks (classroom corridors, gymnasium and swimming bath); Shaw's Glazed Brick Co., Ltd., faience work (curb to swimming bath); Doulton & Co., Ltd., fireclay linen shoots (sanatorium); The South-Western Stone Co., Ltd., stonework and stone pavings; W. W. Jenkins & Co., Ltd., marble pavings and steps; Martin Van Straaten & Co., tile pavings and steps and wall tiling; Fenning & Co., Ltd., terrazzo work (sanatorium); Rust's Vitreous Mosaic & Tile Co., mosaic pavings and linings to swimming bath; Hollis Bros. & Co., Ltd., hardwood floorings; Korkoid Decorative Floors, special floorings; Roberts Adlard & Co., tile pavings, steps and wall tiling and pantile roofings; G. Asserati, Ltd., asphalte; Educational Supply Association, Ltd., laboratory fittings and blackboards; Norman and Burt, altar and reredos in chapel; The Crittall Manufacturing Co., Ltd., steel windows; Henry Hope and Sons, Ltd. and Standard Patent Glazing Co., skylights; McGruer Hollow Spar Co., Ltd., flagpole; Higgins and Griffiths, Ltd., electrical work, wiring and plant and light fittings; Hailwood and Ackroyd Ltd., Falk Stadelman & Co., Ltd., and Birmingham Guild, Ltd., electric light fittings; Gillett and Johnston, Ltd., electric clocks and tower clock and bell; G.P.O., telephones; G. N. Haden and Sons, Ltd., heating, boiler plant, hot and cold water supplies, gas services, laundry equipment, ventilation, disinfector plant, aeration and filtration plant; Benham and Sons, Ltd., kitchen equipment; J. J. G. Saunders and Sons, sanitary fittings generally; Dent and Hellyer, Ltd., sanitary fittings in sanatorium; Shanks & Co., Ltd., sanitary fittings (drinking fountain); Bell Bros. (Manchester), Ltd., water purification plant; Adamsez, Ltd., washing troughs; Birmingham Guild, Ltd., main entrance gates and architectural metalwork; J. Starkie Gardner, Ltd., staircase balustrades, etc.; Walter MacFarlane & Co., cast iron rainwater goods; Potter Rax Gate Co., cloakroom fittings, drying racks, etc.; Geo. Wright, Ltd., trollies, gas rings and sundries; Davis Gas Stove Co., Ltd., gas fires and surrounds; J. J. G. Saunders and Sons, tile fireplaces; Cross and Cross, Ltd., and Rees and Kirby, steelwork; J. and E. Hall, Ltd., lifts, electric passenger and hand power services; Skinner Board & Co., greenhouses; James Walker (Architectural Decorations), Ltd., fibrous plaster; Robert Adams, Ltd., door furniture; Henry Hope and Sons, Ltd., N. F. Ramsay & Co., Ltd., James Gibbons, Ltd., J. Starkie Gardner, Ltd., Roanoid, Ltd., P. C. Henderson, Ltd., door furniture; Haywards, Ltd., pavement lights; Spencer Heath and George, Ltd., gymnasium apparatus and swimming bath equipment; Allen and Hanbury's Ltd., sterilizing equipment; Siebe Gorman & Co., Ltd., fire extinguishers; John Kerr & Co. (Manchester), Ltd., fire escapes; Electrolux, Ltd., electric sweepers and polisher; The Sanitary Floor Co., Ltd., floor polishers; The London India Rubber Co., rubber curtains and mats; Staines Kitchen Equipment Co., Ltd., domestic science fittings; The Bennet Furnishing Co., Ltd., blackboards; Newalls Acoustic Products, Ltd., acoustical and insulation work; R. H. Penney and Sons, masonite insulation; Frank Burkitt, Ltd., shutters for cinema projection room; Gordon Stark, Bennet Furnishing Co., Ltd., and Maples & Co., Ltd., furniture; Mander Bros., Ltd., "Vernasca" paint; Chas. Turner and Sons, Ltd., "Anti-Rugine" anti-corrosive paint to metalwork; The Stainax Co., "Stainax" stain; Ronuk Ltd., polish for woodwork generally.

Correction

We regret that on the cross-section through platform and canopy of Osterley Station—published on page 644 of our last issue—the beams were inadvertently marked Seigwart. The Rapid Floor Co., who were responsible for the beams, point out that their Rapid Pre-cast Floors were used for the floor of the booking hall, also for the bridge across the line and the canopies to the platforms.

Manufacturers' Items

There are several features of interest to architects in the latest catalogue of Triton tiles which has recently been issued by Messrs. Wheatly & Co., Springfield Tileries, Newcastle, Staffs.

The catalogue is reduced in size this year for greater convenience in handling, and it is no longer necessary to mutilate it as the manufacturers will supply extra loose sheets of any

of the illustrations—reproductions in colour of tiles taken from stock.

Details and methods of fixing tiles are included and there is also a table of quantities to save time in working out costs or measurement figures.

Although the catalogue only deals with roofing tiles and ridges, this firm also specializes in flooring quarries, fireplace briquettes, finials, copings, air bricks and garden tiles, and goods to special order. Moreover, it gives a conditional guarantee to replace any tiles which laminate, free of all charge on the roof.

*

A complete circulating, filtration, æration and heating plant has been installed by Messrs. Bell Brothers (Manchester, 1927), Ltd., in the swimming bath at the R.M.I.G. School, Rickmansworth.

The plant is entirely self-contained and is capable of maintaining the water in perfect condition for bathing at all times. It consists of an electrically-driven pump, filter, chemical apparatus, ærator and injector type heater, and the cycle of operation of the plant is briefly as follows :—

The pump draws the water from the deep end of the bath, the water first of all passing through a specially designed strainer box to remove all the larger impurities, such as fluff from costumes, towels, etc. After leaving the pump suitable chemicals are added to the water which then passes through 2–4 feet diameter vertical type air scoured pressure filters. These filters remove all the finest particles of suspended matter from the water, which is then passed through a Bell ærator, by which air is forced into the water to render it bright and sparkling.

Before returning to the bath the water is heated by means of an injector type heater to maintain the temperature of the water at a constant figure. The water is returned to the shallow end of the bath through two specially designed inlets, which are adjustable, in order that the flow of water from the shallow end to the deep end of the bath can be easily regulated.

This cycle of operation enables the whole of the contents of the swimming bath to be circulated once every four hours, and is carried on continuously until such time as the filters require cleaning. The cleaning operation is carried out by means of agitating the filter bed by compressed air which thoroughly breaks up the bed and loosens all the dirt which the sand has taken out of the water. A reverse flow of water is then passed up through the filters, washing away the dirt already loosened, and on completion of this operation the filters are again set to work.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS 15-MILE RADIUS)

BERMONDSEY. *Flats.* The B.C. has approved plans for the erection of 38 flats at Bryan's Court site, at a cost of £20,914 10s.

BERMONDSEY. *Dwellings.* The B.C. has approved a scheme for the erection of 106 dwellings on the Renforth Street area, at a cost of £50,000.

CROYDON. *Hospital.* The Corporation has approved a revised scheme for extensions at the nurses' home at the Mayday hospital, at a cost of £20,000.

CROYDON. *Houses.* Plans passed by the Corporation : Three houses, Stanley Grove, for Lynton Building Co. ; 17 houses, Temple Avenue, for Gower Builders (London), Ltd. ; two houses, Violet Way, for Mr. C. E. Welstead ; 19 houses, Gatwick Road, for Mr. E. Handley ; three houses, Willet Place, for Mr. F. Ashwood ; six shops, Tennison Road, for Mr. W. Ernest ; two houses, Devonshire Way, for Messrs. Burcote, Ltd. ; three bungalows, Woodmere Avenue, for Mr. R. W. Trent ; three houses, Chaffinch Avenue, for Messrs. Wylie and Berlyn, Ltd. ; two houses, Duppas Hill Terrace, for Messrs. E. and H. Midmer.

DEPTFORD. *Dwellings.* The L.C.C. is to erect dwellings on the Bate Place area, at a cost of £14,000, and on the Bronze Street area, at a cost of £43,000.

HAMMERSMITH. *Town Hall.* The B.C. has approved plans by Sir A. Brumwell Thomas, F.R.I.B.A., for the erection of the new town hall, at an estimated cost of £200,000.

HAMMERSMITH. *School.* The L.C.C. is to erect a new elementary school for 800 children.

HAMMERSMITH. *Pumping Station.* The Metropolitan Water Board is to erect buildings at a cost of £10,500, and provide machinery and mains at a cost of £27,500, at the pumping station.

ST. HELIER. *Hospital.* The L.C.C. has sold a 10-acre site in Wrythe Lane, on the St. Helier estate, to the Surrey C.C., for the erection of a hospital with about 300 beds.

SOUTH WEST SUBURBAN WATER CO. *New Works.* The Metropolitan Water Board proposes to arrange to provide the bulk supply to the South West Suburban Water Co., which will involve new works at a cost of £207,000.

WESTMINSTER. *Hospital Rebuilding Scheme.* The Middlesex C.C. recommends a grant of £10,000 to the governors of the Westminster hospital, towards the cost of the new building scheme.

WEYBRIDGE. *Thames Improvement Scheme.* The Middlesex C.C. reports, in connection with the Thames improvement scheme, that the cost of the completion of the scheme, which includes the making of the new Walton-Weybridge cut, will be about £300,000.

WILLESDEN. *Offices.* The Middlesex C.C. has approved a scheme for the erection of local offices at Sidmouth Road, at a cost of £18,500.

WOOD GREEN. *Library extensions.* The Corporation has prepared a scheme for the extension of the public library, at a cost of £37,886.

SOUTHERN COUNTIES

BOURNEMOUTH. *Baths.* The Corporation has now adopted a scheme to cost £64,000 for the provision of baths at the pier approach.

BRIGHTON. *School.* The Education Committee has approved plans for the erection of a school for 360 children, in Warmdene Avenue, Patcham, at an estimated cost of £19,580.

MIDLAND COUNTIES

MANSFIELD WOODHOUSE. *Houses.* Messrs. H. Rouse and Sons are to erect 72 houses on the New Mill Lane estate.

NORTHAMPTON. *Swimming Pool.* The Frankin's Gardens Sports and Pleasure Co., Ltd., is to erect a public swimming pool and appurtenant buildings at Melbourne Road.

NORTHAMPTON. *Houses and Shops.* Plans passed by the Corporation : two shops, Moore Street, for Mr. G. Civil ; two houses, Park Way, for Messrs. Stafford and Agutter ; two shops, 49 St. James Road, for Mr. F. Wreford ; two shops, Weedon Road, for Dr. R. Parker-Gray ; five houses, Welford Road, for Mr. P. S. Joce ; 26 houses, Headlands estate, for Mr. J. E. Lucas ; six houses, Pinewood Road, for Messrs. A. C. Beardsmore & Co. ; three houses, Buttocks Booth Lane, for Messrs. Jordan.

NORTHERN COUNTIES

BLYTH. *Houses.* The Corporation has approved plans for the erection of 52 houses in Crawford Street, at a cost of £16,380.

BLYTH. Plans passed by the Corporation : Eight houses, Barras Avenue, for Messrs. Robson & Co. ; 10 houses, Nixon Terrace, for Mr. J. W. Tebble ; four houses, Wolmer Road, for Mr. William Swann ; and three houses, Bebside Hall, for Choppington Collieries, Ltd.

CARLISLE. *Library Extensions.* The Corporation has approved plans for extensions at the public library, at a cost of £8,850.

CHESTER. *Houses.* Plans passed by the Corporation : 10 houses, Parkgate Road, for Messrs. T. Warrington and Sons, Ltd. ; four houses, Stocks Lane, for Mr. H. Moorcroft.

The Ministry of Health has approved the proposal of the Corporation for the erection of 64 houses on the Lache estate.

HULL. *School.* The Education Committee has arranged to erect, by direct labour, a senior department at the Eastfield Road school, at a cost of £16,443 16s. 8d.

HULL. *Pumping Plant.* The Corporation is to increase the pumping plant at the western district pumping station, at a cost of £11,000.

KEIGHLEY. *Houses.* Plans passed by the Corporation : Three houses, Moorland Terrace, for Mr. George Woollard ; 50 houses, Woodhouse estate, for Corporation ; four houses, West Lane, for Mr. Eric Lister ; four houses, Exley Mount, for Messrs. Hird Bros & Co., d,

LEEDS. *Housing.* The Corporation has purchased 23 acres off Old Lane, Beeston, for housing purposes.

HYDE. *Houses.* Plans passed by the Corporation : Eight houses, Ashton Road, for Messrs. Crompton Bros. ; four houses, Park Road, for Messrs. Dean Bros. ; shops, 8-10 Church Street, for Messrs. E. C. Byle & Co. ; four houses, Baron Street, for Mr. B. Armitage.

MANCHESTER. *Re-housing Scheme.* The Corporation is to undertake a clearance and re-housing scheme for the St. Clement's area at a cost of £160,000.

MANCHESTER. *Houses and Flats.* The Corporation is to proceed with the erection of a further 452 houses on the Wythenshawe estate, at a cost of £150,064. The Housing Committee proposes to introduce six blocks of cottage flats at the entrance to the new recreation ground proposed in the Wythenshawe town plan, in order to accentuate this point of interest, and give variation to the winding development on Greenwood Road.

MORECAMBE. *Houses.* Plans passed by the Corporation : 12 houses, Sanders Grove, for Mr. W. Sanders ; six houses, Elkin Road, for Messrs. Bell and Isaacs ; four houses, Lathom Avenue, for Mr. P. Holmes ; eight houses, Morecambe Road, for Mr. A. Heathcote ; 20 houses, Chandos Avenue, for Messrs. A. Robinson and Sons ; 10 houses, Low Lane, for Messrs. Kay Building Co. ; 14 houses, Westgate, for Messrs. Brook and Kershaw ; two houses, Chandos Avenue, for Mr. H. Marsden ; eight houses, Duff Avenue, for Messrs. Russell Bros.

SALFORD. *Offices.* The Corporation is to erect public assistance offices at Pendleton, at a cost of £19,000.

SHEFFIELD. *Houses.* The Corporation has decided this year to erect 2,000 houses in connection with the slum clearance campaign.

TYNEMOUTH. *Houses and Shops.* Plans passed by the Corporation : Two houses, Balkwell Lane, for Mr. W. K. Waite ; two houses, Tynemouth Park Estate, for Mr. J. R. Wallace ; two houses, Balkwell Lane, for Mr. W. Stockdale ; two shops, Ridges estate, for Mr. H. P. Woodall ; two houses, Tynemouth Park estate, for Mr. C. Brannen ; two houses, Mast Lane estate, for Mr. R. Chambers.

TYNEMOUTH. *Houses and Flats.* The Corporation has approved the lay-out plan for the erection of 306 houses and flats on the Ridges estate, in connection with the slum clearance scheme.

TYNEMOUTH. *Flats.* Mr. S. Pye is to erect 44 flats in Verne Road.

WALES

NEATH. *Houses.* The Corporation is to erect 57 houses on two sites for rehousing persons displaced from slum areas.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I s. d.	II s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A_1	Abergavenny ..	S Wales & M.	1 5	1 0½
A_2	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1½
A_2	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1½
A	Airdrie ..	Scotland	*1 5½	1 1½
C	Aldeburgh ..	E. Counties	1 1½	10½
A	Altrincham ..	N.W. Counties	1 5½	1 1½
B_2	Appleby ..	N.W. Counties	1 2	10½
A	Ashton-under-Lyne ..	N.W. Counties	1 5½	1 1½
A_2	Atherstone ..	Mid. Counties	1 4	1 0
B_2	Aylesbury ..	S. Counties	1 2½	11
B_1	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_2	Barnard Castle ..	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1½
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow ..	N.W. Counties	1 5½	1 1½
A	Barry ..	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke ..	S.W. Counties	1 3	11½
A_2	Bath	S.W. Counties	1 4½	1 0½
A	Batley ..	Yorkshire	1 5½	1 1½
A_2	Bedford ..	E. Counties	1 4½	1 0½
A_2	Berwick-on-Tweed ..	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_2	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	*1 7	1 2½
A	Birmingham ..	Mid. Counties	1 5½	1 1½
A_1	Bishop Auckland ..	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1½
A	Blackpool ..	N.W. Counties	1 5½	1 1½
A	Blyth ..	N.E. Coast	1 5½	1 1½
B_1	Bognor ..	S. Counties	1 3	11½
A	Bolton ..	N.W. Counties	1 5½	1 1½
A_2	Boston ..	Mid. Counties	1 4	1 0
A_2	Bournemouth ..	S. Counties	1 4	1 0
B_2	Bovey Tracey ..	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1½
A_1	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M.	1 5½	1 1½
B_1	Bridgwater ..	S.W. Counties	1 3	11½
A_1	Bridlington ..	Yorkshire	1 5	1 0½
A	Brighouse ..	Yorkshire	1 5½	1 1½
A_2	Brighton ..	S. Counties	1 4	1 0
A	Bristol ..	S.W. Counties	1 5½	1 1½
B_2	Brixham ..	S.W. Counties	1 2½	11
A_2	Bromsgrove ..	Mid. Counties	1 4½	1 0½
B_2	Bromyard ..	Mid. Counties	1 2	10½
A	Burnley ..	N.W. Counties	1 5½	1 1½
A	Bursiem ..	Mid. Counties	1 5½	1 1½
A	Burton-on-Trent ..	Mid. Counties	1 5½	1 1½
A	Bury ..	N.W. Counties	1 5½	1 1½
A_1	Buxton ..	N.W. Counties	1 5	1 0½
A_1	CAMBRIDGE ..	E. Counties	1 5	1 0½
B_1	Canterbury ..	S. Counties	1 3	11½
A	Cardiff ..	S. Wales & M.	1 5½	1 1½
A	Carlisle ..	N.W. Counties	1 5½	1 1½
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Carnforth ..	N.W. Counties	1 5½	1 1½
A	Castleford ..	Yorkshire	1 5½	1 1½
B	Chatham ..	S. Counties	1 3½	11½
A_2	Chelmsford ..	E. Counties	1 4	1 0
A_2	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester ..	N.W. Counties	1 5½	1 1½
A	Chesterfield ..	Mid. Counties	1 5½	1 1½
B_1	Chichester ..	S. Counties	1 3	11½
A	Chorley ..	N.W. Counties	1 5½	1 1½
B_1	Cirencester ..	S. Counties	1 3	11½
A	Clitheroe ..	N.W. Counties	1 5½	1 1½
A	Clydebank ..	Scotland	1 5½	1 1½
A	Coalville ..	Mid. Counties	1 5½	1 1½
A_2	Colchester ..	E. Counties	1 4	1 0
A	Colne ..	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_1	Consett ..	N.E. Coast	1 5	1 0½
A_2	Conway ..	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1½
A_2	Crewe	N.W. Counties	1 4½	1 0½
A	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON ..	N.E. Coast	1 5½	1 1½
A	Darwen ..	N.W. Counties	1 5½	1 1½
B_1	Deal	S. Counties	1 3	11½
A_2	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby ..	Mid. Counties	1 5½	1 1½
A	Dewsbury ..	Yorkshire	1 5½	1 1½
B	Didcot ..	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1½
B_2	Dorchester ..	S.W. Counties	1 2½	11
A	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley ..	Mid. Counties	1 5½	1 1½
A	Dundee ..	Scotland	1 5½	1 1½
A	Durham ..	N.E. Coast	1 5½	1 1½
A_2	EASTBOURNE ..	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1½
A_1	E. Glamorgan-shire, Rhondda Valley District ..	S. Wales & M.	1 5	1 0½
A_2	Exeter ..	S.W. Counties	*1 4½	1 0½
B	Exmouth ..	S.W. Counties	1 3½	11½
A_2	FELIXSTOWE ..	E. Counties	1 4	1 0
A_2	Filey	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1½
B_1	Folkestone ..	S. Counties	1 3	11½
A	Frodsham ..	N.W. Counties	1 5½	1 1½
B_2	Frome	S.W. Counties	1 2½	11
A	GATESHEAD ..	N.E. Coast	1 5½	1 1½
B	Gillingham ..	S. Counties	1 3½	11½
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole ..	Yorkshire	1 4½	1 0½
A_2	Gosport ..	S. Counties	1 4½	1 0½
A_2	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0½
A	Greenock ..	Scotland	*1 5½	1 1½
A	Grimsby ..	Yorkshire	1 5½	1 1½
B	Guildford ..	S. Counties	1 3½	11½
A	HALIFAX ..	Yorkshire	1 5½	1 1½
A	Hanley ..	Mid. Counties	1 5½	1 1½
A	Harrogate ..	Yorkshire	1 5½	1 1½
A	Hartlepools ..	N.E. Coast	1 5½	1 1½
B	Harwich ..	E. Counties	1 3½	11½
B_1	Hastings ..	S. Counties	1 3	11½
A_2	Hatfield ..	S. Counties	1 4½	1 0½
B	Hereford ..	S.W. Counties	1 3½	11½
A	Hertford ..	E. Counties	1 4½	1 0½
A	Heysham ..	N.W. Counties	1 5½	1 1½
A	Howden ..	N.E. Coast	1 5½	1 1½
A	Huddersfield ..	Yorkshire	1 5½	1 1½
A	Hull ..	Yorkshire	1 5½	1 1½
A	ILKLEY ..	Yorkshire	1 5½	1 1½
A	Immingham ..	Mid. Counties	1 5½	1 1½
A_2	Ipswich ..	E. Counties	1 4½	1 0½
B_2	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1½
A	KEIGHLEY ..	Yorkshire	1 5½	1 1½
B	Kendal ..	N.W. Counties	1 3½	11½
B	Keswick ..	N.W. Counties	1 3½	11½
A_2	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster ..	Mid. Counties	1 4½	1 0½
B_1	King's Lynn ..	E. Counties	1 3	11½
A	LANCASTER ..	N.W. Counties	1 5½	1 1½
A_1	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester ..	Mid. Counties	1 5½	1 1½
A	Leigh	N.W. Counties	1 5½	1 1½
B_2	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln ..	Mid. Counties	1 5½	1 1½
	Liverpool ..	N.W. Counties	*1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly ..	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12-15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1½
A	Loughborough ..	Mid. Counties	1 5½	1 1½
A_2	Luton	E. Counties	1 4	1 0
A	Lytham ..	N.W. Counties	1 5½	1 1½
A_1	MACCLES-FIELD ..	N.W. Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11½
A_2	Malvern ..	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1½
A	Mansfield ..	Mid. Counties	1 5½	1 1½
B_1	Margate ..	S. Counties	1 3	11½
A	Matlock ..	Mid. Counties	1 4	1 0
A_1	Merthyr ..	S. Wales & M.	1 5	1 0½
A	Middesbrough ..	N.E. Coast	1 5½	1 1½
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1 2½	11
A	Morecambe ..	N.W. Counties	1 5½	1 1½
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson	N.W. Counties	1 5½	1 1½
A	Newcastle ..	N.E. Coast	1 5½	1 1½
A	Newport ..	S. Wales & M.	1 5½	1 1½
A	Normanton ..	Yorkshire	1 5½	1 1½
A	Northampton ..	Mid. Counties	1 5½	1 1½
A	North Staffs ..	Mid. Counties	1 5½	1 1½
A	North Shields ..	N.E. Coast	1 5½	1 1½
A_1	Norwich ..	E. Counties	1 5	1 0½
A	Nottingham ..	Mid. Counties	1 5½	1 1½
A	Nuneaton ..	Mid. Counties	1 5½	1 1½
A_2	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham ..	N.W. Counties	1 5½	1 1½
A_2	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford ..	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	*1 5½	1 1½
B_2	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth ..	Scotland	*1 5½	1 1½
A_2	Peterborough ..	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	*1 5½	1 1½
A	Pontefract ..	Yorkshire	1 5½	1 1½
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_2	Portsmouth ..	S. Counties	1 4½	1 0½
A	Preston ..	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY ..	N.W. Counties	1 5½	1 1½
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate ..	S. Counties	1 3½	11½
A_2	Retford ..	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A_2	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1½
B	Rochester ..	S. Counties	1 3½	11½
A_1	Ruabon ..	N.W. Counties	1 5	1 0½
A	Rugby	Mid. Counties	1 5½	1 1½
A_2	Rugeley ..	Mid. Counties	1 4½	1 0½
A	Runcorn ..	N.W. Counties	1 5½	1 1½
A_1	ST. ALBANS ..	E. Counties	1 5	1 0½
A	St. Helens ..	N.W. Counties	1 5½	1 1½
B_2	Salisbury ..	S.W. Counties	1 2½	11
A_1	Scarborough ..	Yorkshire	1 5	1 0½
A	Scunthorpe ..	Mid. Counties	1 5½	1 1½
A	Sheffield ..	Yorkshire	1 5½	1 1½
A	Shipley ..	Yorkshire	1 5½	1 1½
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton ..	Yorkshire	1 4½	1 0½
A_2	Slough ..	S. Counties	1 4½	1 0½
A_1	Solihull ..	Mid. Counties	1 5	1 0½
A_2	Southampton ..	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport ..	N.W. Counties	1 5½	1 1½
A	S. Shields ..	N.E. Coast	1 5½	1 1½
A_1	Stafford ..	Mid. Counties	1 5	1 0½
A	Stockport ..	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees ..	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent ..	Mid. Counties	1 5½	1 1½
B	Stroud ..	S.W. Counties	1 3½	11½
A	Sunderland ..	N.E. Coast	1 5½	1 1½
A	Swadlincote ..	Mid. Counties	1 5½	1 1½
A	Swansea ..	S. Wales & M.	1 5½	1 1½
A_2	Swindon ..	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton ..	S.W. Counties	1 3½	11½
A	Teesside Dist...	N.E. Counties	1 5½	1 1½
A_2	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1½
A_1	Torquay ..	S.W. Counties	1 5	1 0½
B_2	Truro ..	S.W. Counties	1 2½	11
B	Tunbridge Wells ..	S. Counties	1 3½	11½
A	Tunstall ..	Mid. Counties	1 5½	1 1½
A	Tyne District ..	N.E. Coast	1 5½	1 1½
A	WAKEFIELD ..	Yorkshire	1 5½	1 1½
A	Walsall ..	Mid. Counties	1 5½	1 1½
A	Warrington ..	N.W. Counties	1 5½	1 1½
A_1	Warwick ..	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid. Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby ..	Yorkshire	1 4½	1 0½
A	Widnes ..	N.W. Counties	1 5½	1 1½
A	Wigan	N.W. Counties	1 5½	1 1½
B	Winchester ..	S. Counties	1 3½	11½
A_2	Windsor ..	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A	Worcester ..	Mid. Counties	1 4½	1 0½
A_2	Worksop ..	Yorkshire	1 4	1 0
A_1	Wrexham ..	N.W. Counties	1 5	1 0½
A_2	Wycombe ..	S. Counties	1 4	1 0
B_1	YARMOUTH ..	E. Counties	1 3	11½
B_1	Yeovil	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	1 1½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	£ s. d.
Bricklayer . . . . . per hour	1 7
Carpenter . . . . . ,,	1 7
Joiner . . . . . ,,	1 7
Machinist . . . . . ,,	1 8
Mason (Banker) . . . . . ,,	1 7
,, (Fixer) . . . . . ,,	1 8
Plumber . . . . . ,,	1 7
Painter . . . . . ,,	1 6
Paperhanger . . . . . ,,	1 6
Glazier . . . . . ,,	1 7
Slater . . . . . ,,	1 7
Scaffolder . . . . . ,,	1 3
Timberman . . . . . ,,	1 3
Navvy . . . . . ,,	1 2½
General Labourer . . . . . ,,	1 2½
Lorryman . . . . . ,,	1 5
Crane Driver . . . . . ,,	1 6
Watchman . . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£ s. d.
Grey Stone Lime . . . . . per ton	2 2 0
Blue Lias Lime . . . . . ,,	1 16 6
Hydrated Lime . . . . . ,,	3 0 9
Portland Cement, in 4 ton lots (d/d site, including Paper Bags) . ,,	**1 18 0**
Rapid Hardening Cement, in 4 ton lots (d/d site, including Paper Bags) ,,	**2 5 6**
White Portland Cement, in 1 ton lots ,,	**8 15 0**
Thames Ballast . . . . . per Y.C.	6 3
¾" Crushed Ballast . . . . . ,,	6 9
Building Sand . . . . . ,,	7 3
Washed Sand . . . . . ,,	8 3
2" Broken Brick . . . . . ,,	8 0
¾" ,, ,, ... ,,	10 3
Pan Breeze . . . . . ,,	6 6
Coke Breeze . . . . . ,,	8 9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

	4" s. d.	6" s. d.
Straight Pipes . .per F.R	0 9	1 1
Bends . . . . each	1 9	2 6
Taper Bends . . ,,	3 6	5 3
Rest Bends . . ,,	4 3	6 3
Single junctions . ,,	3 6	5 3
Double . . . ,,	4 9	6 6
Straight channels . .per F.R.	1 6	2 6
¾" Channel bends . . each	2 9	4 0
Channel junctions . ,,	4 6	6 6
Channel tapers . . ,,	2 9	4 0
Yard gullies . . ,,	6 9	8 9
Interceptors . . ,,	16 0	19 6
IRON DRAINS:		
Iron drain pipe . . per F.R.	1 6	2 6
Bends . . . . each	5 0	10 6
Inspection bends . . ,,	9 0	15 0
Single junctions . . ,,	8 9	18 0
Double junctions . . ,,	13 6	30 0
Lead wool . . . lb	6	—
Gaskin . . . ,,	5	—

BRICKLAYER

	£ s. d.
Flettons . . . . . per M.	2 18 0
Grooved do. . . . . ,,	3 0 0
Phorpres bricks . . . . ,,	2 17 3
Phorpres Cellular bricks . . ,,	2 17 3
Stocks, 1st quality . . . ,,	4 11 0
,, 2nd ,, . . . ,,	4 2 6
Blue Bricks, Pressed . . . ,,	8 17 6
,, Wirecuts . . . ,,	7 17 6
,, Brindles . . . ,,	7 0 0
,, Bullnose . . . ,,	9 0 0
Red Sand-faced Facings . . ,,	6 18 6
Red Rubbers for Arches . . ,,	12 0 0
Multicoloured Facings . . ,,	7 10 0
Luton Facings . . . . ,,	7 10 0
Phorpres White Facings . . ,,	3 17 3
Phorpres Rustic Facings . . ,,	3 12 3
Midhurst White Facings . . ,,	5 0 0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:	
Stretchers . . . . . ,,	21 0 0
Headers . . . . . ,,	20 10 0
Bullnose . . . . . ,,	27 10 0
Double Stretchers . . . ,,	29 10 0
Double Headers . . . . ,,	26 10 0
Glazed Second Quality, *Less* . ,,	1 0 0
,, Buffs and Creams, *Add* . ,,	2 0 0
,, Other Colours . . ,,	5 10 0
2" Breeze Partition Blocks . . per Y.S.	1 7
2½" ,, ,, ,, . . ,,	1 10
3" ,, ,, ,, . . ,,	2 1
4" ,, ,, ,, . . ,,	2 6

MASON

	s. d.
The following d/d F.O.R. at Nine Elms:	
Portland stone, Whitbed . . F.C.	4 4½
,, ,, Basebed . . ,,	4 9
Bath stone . . . . . ,,	2 11
York stone . . . . . ,,	6 6
,, ,, Sawn templates . . ,,	7 6
,, ,, Paving, 2" . . . F.S.	1 8
,, ,, ,, 3" . . . ,,	2 6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£ s. d.
24" × 12" Duchesses . . . per M.	28 17 6
22" × 12" Marchionesses . . ,,	24 10 0
20" × 10" Countesses . . ,,	19 5 0
18" × 10" Viscountesses . . ,,	15 10 0
18" × 9" Ladies . . . ,,	13 17 6
Westmorland green (random sizes) . per ton	8 10 0
Old Delabole slates d/d in full truck loads to Nine Elms Station:	
20" × 10" medium grey per 1,000 (actual)	21 11 6
,, green ,, ,,	24 7 4
Best machine roofing tiles . . ,,	4 10 0
Best hand-made do. . . . ,,	5 0 0
Hips and valleys . . . . each	9½
,, hand-made . . . . ,,	10
Nails, compo . . . . lb.	1 4
,, copper . . . . ,,	1 6

CARPENTER AND JOINER

	s. d.
Good carcassing timber . . F.C.	2 2
Birch . . . . as 1" F.S.	9
Deal, Joiner's . . . ,, ,,	5
,, ,, 2nds . . ,, ,,	4
Mahogany, Honduras . . ,, ,,	1 3
,, African . . ,, ,,	1 1
,, Cuban . . ,, ,,	2 6
Oak, plain American . . ,, ,,	1 0
,, Figured ,, . . ,, ,,	1 3
,, Plain Japanese . . ,, ,,	1 2
,, Figured ,, . . ,, ,,	1 5
,, Austrian wainscot . ,, ,,	1 6
,, English . . . ,, ,,	1 11
Pine, Yellow . . . ,, ,,	1 0
,, Oregon . . . ,, ,,	4
,, British Columbian . ,, ,,	4
Teak, Moulmein . . . ,, ,,	1 3
,, Burma . . . ,, ,,	1 2
Walnut, American . . ,, ,,	2 3
,, French . . ,, ,,	2 3
Whitewood, American . . ,, ,,	1 1
Deal floorings, ¾" . . . Sq.	18 6
,, 1" . . . ,,	1 1 6
,, 1¼" . . . ,,	1 2 0
,, 1½" . . . ,,	1 5 0
,, 1¾" . . . ,,	1 10 0
Deal matchings ¾" . . . ,,	14 0
,, 1" . . . ,,	15 6
Rough boarding ¾" . . . ,,	1 4 0
,, 1" . . . ,,	16 0
,, 1¼" . . . ,,	18 0
Plywood, per ft. sup.	1 6 0

Thickness	¼"	½"	¾"	¼"
Qualities	AA. A. B.	AA. A. B.	AA. A. B.	AA. A. B.
	d. d. d.	d. d. d.	d. d. d.	d. d. d.
Birch	4 3 2	5 4 3	7½ 6 4½	8½ 7 6
Alder	3½ 3 2	5 4 3	6½ 5½ 4½	8 7 6
Gaboon Mahogany	4 3 3	6½ 5½ 4½	9½ 7½ –	1/0½ 10 –
Figured Oak 1 side	8½ 7 –	10 8 –	11½ – –	1/6 – –
Plain Oak 1 side	6½ 6 –	7½ 7 –	9½ – –	1/– – –
Oregon Pine	5 4 –	5½ 5 –	6 – –	– – –

	d.
Scotch glue . . . . . lb.	8

SMITH AND FOUNDER

Tubes and Fittings:

(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	¼"	½"	1"	1½"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9
,, 3"-11½" long ,,	7	9	1/3	1/8	3/–
Long screws, 12"-23½" long ,,	11	1/3	2/2	2/10	5/3
,, ,, 3"M-1½" long ,,	8	10	1/5	1/11	3/6
Bends . . . . ,,	8	11	1/7½	2/7½	5/2
Springs not socketed . ,,	5	7	1/1½	1/11½	3/11
Socket unions . . ,,	2/–	3/–	5/6	6/9	10/–
Elbows, square . . ,,	10	1/1	1/6	2/2	4/3
Tees . . . . ,,	1/–	1/3	1/10	2/6	5/1
Crosses . . . . ,,	2/2	2/9	4/1	5/6	10/6
Plain Sockets and nipples ,,	3	4	6	8	1/3
Diminished sockets . ,,	4	6	9	1/–	2/–
Flanges . . . ,,	9	1/–	1/4	1/9	2/9
Caps . . . . ,,	3½	5	8	1/–	2/–
Backnuts . . . ,,	2	3	5	6	1/1
Iron main cocks . . ,,	1/6	2/3	4/2	5/4	11/6
,, ,, with brass plugs ,,	—	4/–	7/6	10/–	21/–

Discounts:

TUBES.

	Per cent.		Per cent.
Gas . . .	65	Galvanized gas .	52½
Water . . .	61½	,, water	47½
Steam . . .	57½	,, steam	42½

FITTINGS.

Gas . . .	57½	Galvanized gas .	47½
Water . . .	52½	,, water	42½
Steam . . .	47½	,, steam	37½

SMITH AND FOUNDER—*continued*

	s. d.
Rolled steel joists cut to length . . cwt.	10 9
Mild steel reinforcing rods, ¾" . . ,,	8 8
,, ,, ½" . . ,,	8 3
,, ,, ⅝" . . ,,	8 0
,, ,, ¾" . . ,,	7 6
,, ,, ⅞" . . ,,	7 6
,, ,, 1" . . ,,	7 6
,, ,, 1¼" . . ,,	7 6
,, ,, 1½" . . ,,	7 6
,, ,, 3" . . ,,	4"

	s. d.	s. d.
Cast-iron rain-water pipes of ordinary thickness metal .	F.R 8	10
Shoes	each 2 0	3 0
Anti-splash shoes . . .	,, 4 6	8 0
Boots	,, 3 0	4 0
Bends	,, 2 7	3 9
,, with access door . .	,, —	6 3
Heads	,, 4 0	5 0
Swan necks up to 9" offsets .	,, 3 9	6 0
Plinth bends, 4½" to 6" .	,, 3 9	5 3
Half-round rain-water gutters of ordinary thickness metal .	F.R. 5	6
Stop ends	each 6	6
Angles	,, 1 7	1 11
Obtuse angles . . .	,, 2 0	2 6
Outlets	,, 1 9	2 3

PLUMBER

	£ s. d.
Lead, milled sheets . . . cwt.	18 6
,, drawn pipes . . . ,,	17 0
,, soil pipe . . . ,,	18 6
,, scrap . . . ,,	10 6
Solder, plumbers' . . . lb.	9½
,, fine do. . . . ,,	1 0
Copper, sheet . . . ,,	8½
,, tubes . . . ,,	11

L.C.C soil and waste pipes:	3"	4"	6"
Plain cast .	F.R. 1 0	1 2	2 6
Coated .	,, 1 1	1 3	2 8
Galvanized .	,, 2 0	2 6	4 6
Holderbats .	each 3 10	4 0	4 9
Bends . .	,, 3 9	5 3	10 3
Shoes . .	,, 2 10	4 4	9 6
Heads . .	,, 4 8	8 5	12 9

PLASTERER

	£ s. d.
Lime, chalk . . . per ton	2 5 0
Plaster, coarse . . . ,,	2 10 0
,, fine . . . ,,	4 15 0
Hydrated lime . . . ,,	3 0 9
Sirapite . . . ,,	3 6 0
Keene's cement . . . ,,	5 0 0
Sand, washed . . . Y.C.	11 6
Hair . . . . lb.	6
Laths, sawn . . . bundle	2 4
,, rent . . . ,,	3 9
Lath nails . . . lb.	3½

GLAZIER

	s. d.	s. d.
Sheet glass, 21 oz., squares n/e 2 ft.	s. F.S.	2½
,, ,, 26 oz. ,, ,, ,,		3½
Flemish, Arctic, Figured (white)* ,,		7
Blazoned glasses . . . ,,		2 6
Reeded; Cross Reeded ,,		11
Cathedrals: eleven varieties (white)* ,,		6½
Crown sheet glass (n/e 12 in. x 10 in), ,,		2 0
Flashed opals (white and coloured) ,,	1 0 and 2	0
¼" rough cast; rolled plate . . ,,		7
¼" wired cast; wired rolled . . ,,		10
¼" Georgian wired cast . . ,,		11
¼" Polished plate, n/e 1 ft. . . ,,	†10 to ‡1	1
,, ,, 2 . . ,,	†1 2 ,, ‡1	4
,, ,, 4 . . ,,	†2 3 ,, ‡2	6
,, ,, 8 . . ,,	†2 9 ,, ‡3	2
,, ,, 20 . . ,,	†3 7 ,, ‡4	2
,, ,, 45 . . ,,	†3 11 ,, ‡4	7
,, ,, 100 . . ,,	†5 0 ,, ‡5	7
Vita glass, sheet, n/e 2 ft. . . ,,		1 3
,, ,, over 2 . . ,,		1 9
,, ,, plate, n/e 2 ft. . . ,,		3 0
,, ,, ,, 7 . . ,,		5 0
,, ,, ,, 15 . . ,,		6 0
,, ,, ,, over 15 . . ,,		7 6
"Calorex" sheet 21 oz., and 32 oz. ,,	2 6 and 3	6
rough cast ½" and ¾" ,,	8½ ,, 1	0
Putty, linseed oil . . . lb.		3

*Colours 1d. F.S. extra.

†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

	£ s. d.
White lead in 1 cwt. casks . . cwt.	2 6 0
Linseed oil . . . . gall.	2 2½
Boiled oil . . . . ,,	2 4½
Turpentine . . . . ,,	4 1½
Patent knotting . . . ,,	14 0
Distemper, washable . . cwt.	2 6 0
,, ordinary . . ,,	2 0 0
Whitening . . . . ,,	4 0
Size, double . . . firkin	3 0
Copal varnish . . . gall.	13 0
Flat varnish . . . ,,	14 0
Outside varnish . . . ,,	16 0
White enamel . . . ,,	1 15 0
Ready-mixed paint . . ,,	13 6
Brunswick black . . . ,,	7 6

Changes from last week are set out in heavier type.

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR

		£ s. d.
Digging over surface n/e 12" deep and cart away	Y.S.	2 9
" to reduce levels n/e 5' 0" deep and cart away	Y.C.	8 6
" to form basement n/e 5' 0" deep and cart away	"	9 0
" " 10' 0" deep and cart away	"	9 6
" " " 15' 0" deep and cart away	"	10 0
If in stiff clay add	"	2 6
If in underpinning	"	4 0
Planking and strutting to sides of excavation	F.S.	1 0
" " to pier holes	"	5
" " to trenches	"	5
" " extra, only if left in	"	3
Hardcore, filled in and rammed	Y.C.	10 0
Portland cement concrete in foundations (6-1)	"	1 6 0
" " (4-2-1)	"	1 12 6
" " underpinning	"	1 16 0
Finishing surface of concrete, spade face	Y.S.	7

DRAINLAYER

		4" s. d.	6" s. d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1 6	2 3
Extra, only for bends	Each	2 8	3 9
" junctions		3 9	4 6
Gullies and gratings	"	16 6	18 0
Cast iron drains, and laying and jointing	F.R.	4 9	6 9
Extra, only for bends	Each	10 6	15 6

BRICKLAYER

		£ s. d.
Brickwork, Flettons in lime mortar	Per Rod	27 10 0
" " in cement	"	28 15 0
" Stocks in cement	"	35 0 0
" Blues in cement	"	52 0 0
Extra only for circular on plan	"	2 0 0
" backing to masonry	"	1 10 0
" raising on old walls	"	2 0 0
" underpinning	"	5 10 0
Fair Face and pointing internally	F.S.	1½
Extra over fletton brickwork for picked stock facings and pointing	"	8½
" " " red brick facings and pointing	"	11
" " " blue brick facings and pointing	"	1 4
" " " glazed brick facings and pointing	"	3 6
Tuck pointing	"	7
Weather pointing in cement	"	3½
Slate dampcourse	"	10
Vertical dampcourse	"	1 1

ASPHALTER

		s. d.
½" Horizontal dampcourse	Y.S.	4 6
½" Vertical dampcourse	"	6 9
½" paving or flat	"	4 0
1" paving or flat	"	5 6
1" × 6" skirting	F.R.	1 0
Angle fillet	"	2
Rounded angle	"	2
Cesspools	Each	5 0

MASON

		s. d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C.	17 9
Bath stone and do., all as last	"	13 6
Artificial stone and do.	"	13 0
York stone templates, fixed complete	"	10 6
" thresholds	"	13 6
" sills	"	1 0 6

SLATER AND TILER

		£ s. d.
Slating, Bangor or equal, laid to a 3" lap, and fixing with compo nails, 20" × 10"	Sqr.	3 10 0
Do., 18" × 9"	"	3 7 0
Do., 24" × 12"	"	3 17 0
Westmorland slating, laid with diminished courses	"	6 0 0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course	"	3 0 0
Do., all as last, but of machine-made tiles	"	2 16 0
20" × 10" medium Old Delabole slating, laid to a 3" lap (grey)	"	4 6 0
" " " " " (green)	"	4 15 0

CARPENTER AND JOINER

		£ s. d.
Flat boarded centering to concrete floors, including all strutting	Sqr.	2 5 0
Shuttering to sides and soffits of beams	F.S.	8
" to stanchions	"	8
" to staircases	"	1 8
Fir and fixing in wall plates, lintols, etc.	F.C.	3 9
Fir framed in floors	"	4 6
" " roofs	"	6 6
" " trusses	"	7 6
" " partitions	"	8 6
⅞" deal sawn boarding and fixing to joists	Sqr.	1 14 6
1" " " " "	"	1 17 6
1½" " " " "	"	2 3 0
1½" × 2" fir battening for Countess slating	"	9 6
Do. for 4" gauge tiling	"	12 0
Stout feather-edged tilting fillet	F.R.	4½
Patent inodorous felt, 1 ply	Y.S.	2 3
" " " 2 "	"	2 9
" " " 3 "	"	3 3
Stout herringbone strutting to 9" joists	F.R.	10½
1" deal gutter boards and bearers	F.S.	1 2
1½" " " " "	"	1 6
2" deal wrought rounded roll	F.R.	8
1" deal grooved and tongued flooring, laid complete, including cleaning off	Sqr.	2 1 0
1¼" do.	"	2 10 0
1½" do.	"	2 17 0
1" deal moulded skirting, fixed on, and including grounds plugged to wall	F.S.	1 6
1¼" do.	"	1 9

CARPENTER AND JOINER—*continued*

		s. d.
1¼" deal moulded sashes of average size	F.S.	1 9½
2" " " "	"	1 11½
1½" deal cased frames double hung, of 6" × 3" oak sills, 1¼" pulley stiles, 1¼" heads, 1" inside and outside linings, ⅝" parting beads, and with brass faced axle pulleys, etc., fixed complete	"	3 7
2" " " "	"	3 10
Extra only for moulded horns	Each	6
1½" deal four-panel square, both sides, door	F.S.	2 0
2" " " "	"	2 8
1½" " but moulded both sides	"	2 4
2" " " "	"	3 0
4" × 3" deal, rebated and moulded frames	F.R.	1 0
4½" × 3½" " "	"	1 4
1½" deal tongued and moulded window board, on and including deal bearers	F.S.	1 9
1½" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	"	2 6
1½" deal moulded wall strings	"	2 1
1½" " outer strings	"	2 4
Ends of treads and risers housed to string	Each	1 9
3" × 2" deal moulded handrail	F.R.	1 3
1" × 1" deal balusters and housing each end	Each	2 0
1½" × 1½" " " "	"	2 9
3" × 3" deal wrought framed newels	F.R.	1 3
Extra only for newel caps	Each	6 0
Do., pendants	"	6 0

SMITH AND FOUNDER

		£ s. d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt.	15 6
Riveted plate or compound girders, and hoisting and fixing in position	"	19 6
Do. stanchions with riveted caps and bases and do.	"	19 0
Mild steel bar reinforcement, ½" and up, bent and fixed complete	"	17 6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S.	11
Wrot-iron caulked and cambered chimney bars	Per cwt.	1 10 0

PLUMBER

		£ s. d.
Milled lead and labour in flats	cwt.	1 12 0
Do. in flashings	"	1 15 6
Do. in covering to turrets	"	2 3 0
Do. in soakers	"	1 7 6
Labour to welted edge	F.R.	3½
Open copper nailing	"	3
Close " "	"	4

Lead service pipe and fixing with pipe hooks	½" s. d.	¾" s. d.	1" s. d.	1¼" s. d.	2" s. d.	4" s. d.
	F.R. 10	1 0	1 3	2 0	2 10	—
Do. soil pipe and fixing with cast lead tacks	—	—	—	—	—	5 6
Extra, only to bends	Each —	—	—	—	2 0	6 9
Do. to stop ends	" 6½	8	9	11	1 0	—
Boiler screws and unions	" 3 3	3 9	5 0	8 0	—	—
Lead traps	" —	—	—	6 3	8 9	—
Screw down bib valves	" 6 9	9 6	11 0	—	—	—
Do. stop cocks	" 7 0	9 6	12 6	—	—	—

		£ s. d.
4" cast-iron ¼-rd. gutter and fixing	F.R.	1 0
Extra, only stop ends	Each	1 0
Do. angles	"	1 6
Do. outlets	"	2 9
4" dia. cast-iron rain-water pipe and fixing with ears cast on	F.R.	1 2
Extra, only for shoes	Each	1 3
Do. for plain heads	"	5 6

PLASTERER AND TILING

		s. d.
Expanded metal lathing, small mesh	Y.S.	2 0
Do. in n/w to beams, stanchions, etc.	"	2 9
Lathing with sawn laths to ceilings	"	1 3
½" screeding in Portland cement and sand for tiling, wood block floor, etc.	"	1 5
Do. vertical	"	1 7
Rough render on walls	"	1 2½
Render, float and set in lime and hair	"	1 9
Render and set in Sirapite	"	1 11
Render, backing in cement and sand, and set in Keene's cement	"	2 9
Extra, only if on lathing	"	4
Keene's cement, angle and arris	F.R.	6
Arris	"	1½
Rounded angle, small	"	3
Plain cornices in plaster, including dubbing out, per 1" girth	"	1½
1" granolithic pavings	Y.S.	3 6
1½" " "	"	4 6
6" × 6" white glazed wall tiling and fixing on prepared screed	"	17 6
9" × 3" " " " "	"	1 2 6
Extra, only for small quadrant angle	F.R.	8

GLAZIER

		s. d
21 oz. sheet glass and glazing with putty	F.S.	2½
26 oz. do. and do.	"	8½
Flemish, Arctic, Figured (white) and glazing with putty	"	1 1
Cathedral glass and do.	"	1 2
Glazing only, British polished plate	"	7
Extra, only if in beads	"	2
Washleather	F.R.	4

PAINTER

		s. d.
Clearcolle and whiten ceilings	Y.S.	6½
Do. and distemper walls	"	9
Do. with washable distemper	"	1 1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	"	3 3
Do. on woodwork	"	3 6
Do. on steelwork	"	3 0
Do. and brush grain and twice varnish	"	5 6
Stain and twice varnish woodwork	"	1 11
Stain and wax-polish woodwork	"	4 6
French polishing	F.S.	1 2
Stripping off old paper	Piece	2 0
Hanging ordinary paper from	"	2 9

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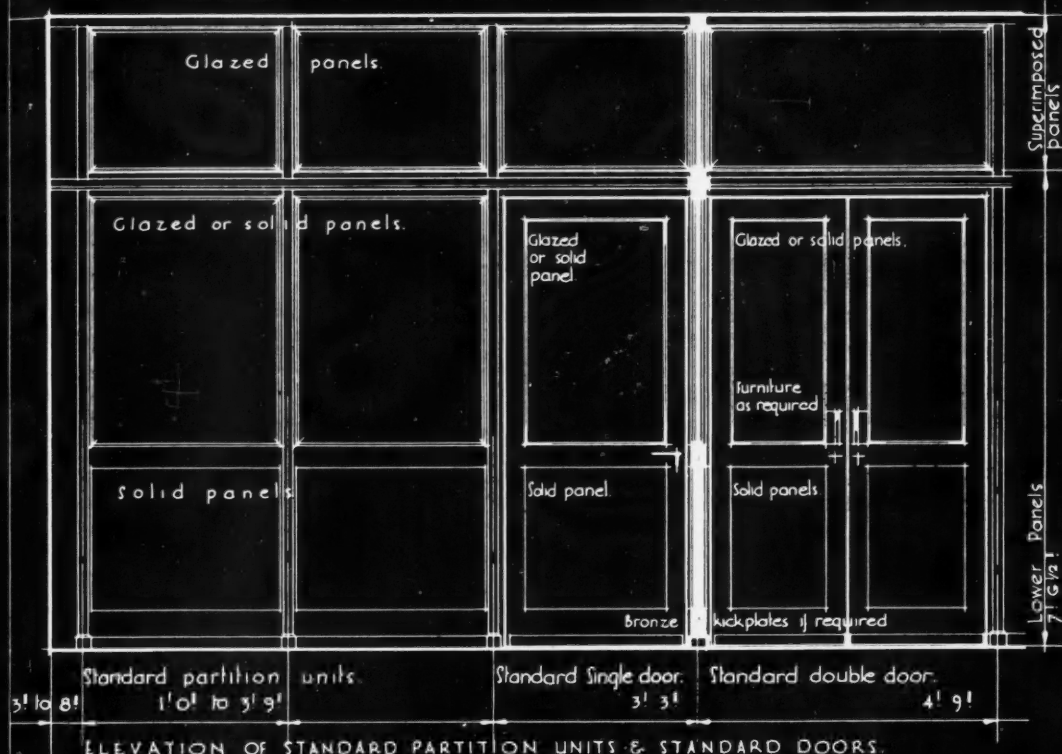
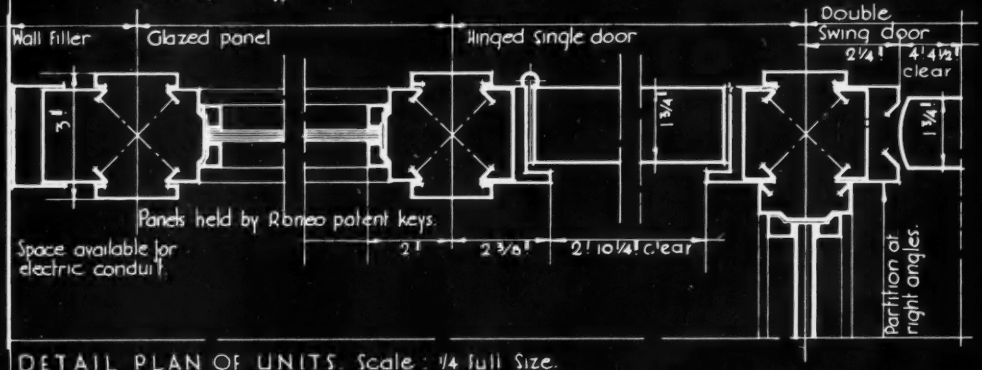


ELEVATION OF STANDARD PARTITION UNITS & STANDARD DOORS.
Scale: 3/8" = 1'0"

RONEO STEEL UNIT PARTITIONS.

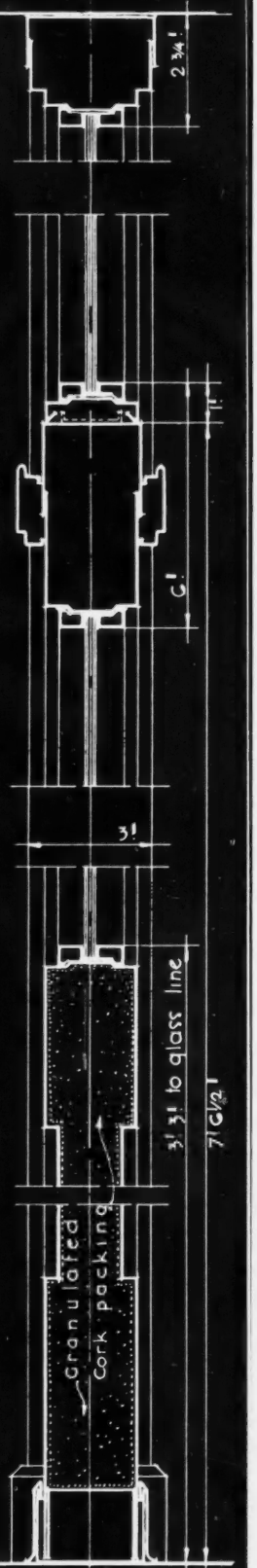
The details & unit sizes given are of the standard parts from which any partition work can be built up. Special variations can be made from these standard parts without greatly affecting the cost, provided the quantity is sufficient.



DETAIL PLAN OF UNITS. Scale: ¼ full size.

TABLE OF SIZES OF STANDARD UNITS.

	Height	Widths.									
Lower Panels	7' 6½'	1' 0' 2' 0'	1' 3' 2' 3'	1' 6' 2' 6'	1' 9' 2' 9'	3' 0'	3' 3'	3' 6'	3' 9'	.	.
Single doors	7' 6½'	.	.	.	.	.	3' 3'	.	.	.	.
Double doors	7' 6½'	.	.	.	.	.	.	.	.	4' 9'	.
Superimposed panels		Sizes to suit height of ceiling.									.



DETAIL SECTION OF PARTITION
Scale: ¼ full size.

Information from Roneo Limited.

INFORMATION SHEET: DETAILS OF RONEO STEEL UNIT PARTITIONS.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1.

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INFORMATION SHEET

• 107 •

ADJUSTABLE STEEL UNIT PARTITIONS

Name of Product : "Roneo" Unit Partitioning

Type Illustrated : Double Wall Office Type

Description :

The steel partitions are designed on the unit principle, an installation being assembled from standard parts. This method gives the greatest elasticity in design and allows additions or alterations to be made with the utmost facility. The parts are delivered to the site fully finished, and have merely to be put together, which can be done by unskilled labour. Likewise they may be taken down and re-assembled for a different office lay-out easily, quickly and with the minimum of inconvenience and expense. The sections form complete units, which are held to one another by means of distance keys. The structure is further secured by continuous channels at floor and top levels. The space between units is covered by a removable pilaster, behind which is room for electric light conduits and other wiring, which is thus accessible at any time. Door sections are of similar construction to the panel units, and are interchangeable with them so that an entrance may be made at any desired point.

PANELS

The lower part of each unit section is built with a double sheet steel hollow panel packed with fire and sound resisting material which also prevents resonance and drumming. The upper part, i.e., directly above the dado rail, can be fitted with either glazing or with a solid panel similar, except in thickness, to the one below. By means of super-imposed sections or fillers the height can be increased to requirements.

DOORS

Door sections are made both in single door or double door type, sizes as indicated overleaf. The doors are supplied in two panel, one panel and flush panel type.

FINISH

All parts are stove enamelled, and the final coat is sprayed with cellulose enamel in any colour to conform with the general colour scheme.

PRICE

The cost of partitions 7 ft. 6 in. high, without superimposed sections, is approximately 29s. per foot run, exclusive of glazing. The cost of superimposed sections varies up to about 10s. per foot run extra, according to the height, this figure being for partitions 12 ft. total height ; and again glazing extra. Single door sections are £6 10s. each, and double door sections £11 each, additional to the partition price. Glazing, locks and door furniture extra. These prices are for guidance only ; and as quantity and other considerations may make no small difference to the cost, an estimate should be sought in every case.

Name of Manufacturers : Roneo Ltd.

Addresses : 17, Southampton Row, London, W.C.1.

Works : Romford, Essex

Telephone : Holborn 7622

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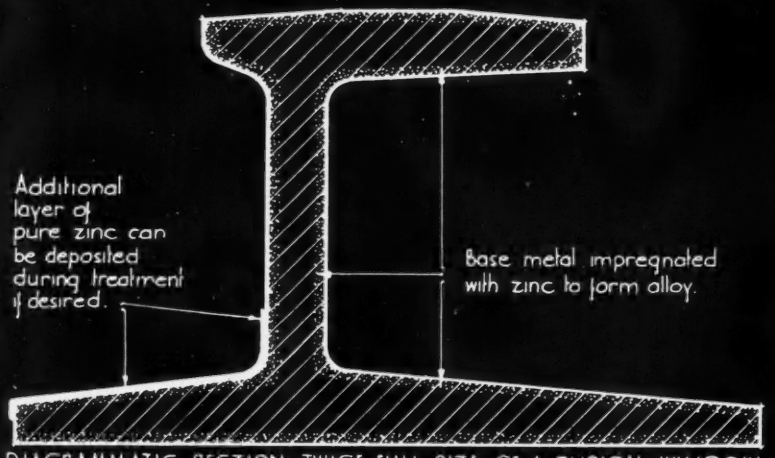

DIAGRAMMATIC SECTION, TWICE FULL SIZE, OF A TYPICAL WINDOW SECTION SHOWING EFFECT OF THE SHERARDIZING TREATMENT.

SHERARDIZING: is a Zinc-heat treatment used for rust proofing iron and steel.

Treatment: The metal work to be sherardized is thoroughly cleaned before treatment. It is then placed in a suitable steel container and packed in with the finest distilled zinc dust. The container is then sealed and placed in the furnace and subjected to an accurately controlled heat treatment, while the container is continuously revolved.
The movement of the container ensures that the zinc dust is worked into every face and corner of the articles being treated and ensures a perfectly uniform treatment throughout.

Specification:
The length of time of treatment and the control of the furnace are varied according to tests which are to be withstood These standard tests are set out overleaf.

Result: The sherardizing process results in an amalgamation of the base metal and the zinc dust, the zinc penetrating an appreciable distance into the base metal and forming an alloy. A further pure zinc coating is given in addition when required.

Finishes: Sherardizing iron and steel work leaves a matt grey finish which needs no further treatment for general purposes. Where further finish is required, the sherardized surface may be:
blacked and polished to give an "antique" finish,
burnished to give an armour bright finish,
blacked with "Sherablak",
painted.

Suitability: Sherardizing is suitable for any metal work which is within the limits set by the containers in which the treatment takes place.
Generally these limits are: 1'3" x 1'3" x 6'0"
or: 11" x 11" x 15'0"
or: 2'0" diam. x 3'4"
Made up articles such as window frames are Sherardized before assembly.

Information from Zinc Alloy Rust-Proofing Co. Ltd.

INFORMATION SHEET : RUST PREVENTION : SHERARDIZING.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.1.

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• 108 •

RUST PREVENTION:
(SHERARDIZING)

Name of Product : Sherardizing Process

Specification :

Sherardizing can be carried out to a degree sufficient to withstand the Post Office and Government test of four or seven one-minute dips in Copper Sulphate. This is known as the " Preece " test. Specifications which include this clause can also call for a Certificate of Test showing that the required treatment has been given, and the necessary tests carried out.

Brief Description of the Copper Sulphate Test :

The Copper Sulphate Test is designed to gauge the thickness, or expose variations in thickness, of Zinc Coatings by a gradual stripping of the coating during which the Zinc is replaced by Copper. The thickness can only be determined, therefore, when the coating has been completely removed from any given area or areas.

(1) To carry out the test, first remove all traces of foreign matter from the test piece.

(2) Obtain a neutral saturated solution of Copper Sulphate Specific Gravity 1.17.

(3) The solution should be used at 60 deg. to 70 deg. F., measured by thermometer, as temperature is important.

(4) Immerse the test piece in this solution for a one-minute period (timed with a watch).

(5) After this immersion rinse immediately in clean water and BRUSH the test piece with a clean nail brush. DO NOT WIPE WITH RAG.

If the test piece will stand four such immersions and brushings without the appearance of BRIGHT Plated Copper, it may be regarded as entirely satisfactory.

Suitable Articles for Treatment :

Steel casements, electrical conduit, and fittings, slate nails, wood screws, hinges of all kinds, fencing fittings, including straining screws and eye bolts, gutter brackets, spiked chain, gate latches, door furniture, casement stays, letter plates, lock cases, door bolts, ventilating gear parts such as cranked arms and rods, pulleys, railing and ornamental ironwork.

Unsuitable Articles for Treatment :

Tanks, rainwater goods, large fabricated articles, buckets, dust bins or articles where the rust-proofing process is also required to solder the joints.

Cost :

Charges for Sherardizing are usually made on a weight basis. Present-day prices range from £8 to £12 per ton of work treated.

Service :

Material for Sherardizing has to be processed for approximately five hours, so delivery generally takes twenty-four hours unless otherwise required.

Fuller details of the process are contained in textbooks issued by the Manufacturers.

Name of Manufacturers : Zinc Alloy Rust-Proofing Co., Ltd.

Address : Shakespeare Street, Horseley Fields, Wolverhampton

Telephone : Wolverhampton (2 lines) 20647 and 20648

London Office : 91b, Manor Street, Chelsea S.W.3

Telephone : Flaxman 1033

Registered Office : Crawford St., Rochdale

Telephone : Rochdale 2112

THE REAL ECONOMY

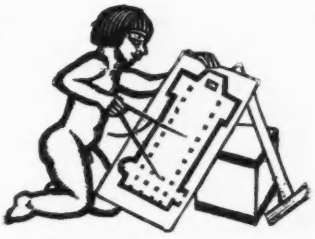
CIVILIZATION AS WELL AS ACCOMMODATION

IN a well planned housing area the safety and serenity of the inhabitants is considered equally with their accommodation. Children must not be allowed to pour out of the front doors into a busy traffic thoroughfare, nor must they find the public streets the only available playgrounds ; and neighbourly conversation and the airy parking of perambulators must be possible away from the dirt and bustle of ordinary coming and going.

In the housing scheme of which this is an illustration, the L.C.C. Glebe estate at Camberwell, quiet access and ample seclusion has been provided, existing trees have been preserved. and a general appearance of civilized living successfully added to the actual shelter accommodation.

UN-PLANNED LONDON

Here are seen the chaotic conditions that have resulted from London's haphazard growth: factories, cricket grounds, residential streets, through traffic routes, churches, gasometers and railway sidings in confusing juxtaposition, to the detriment of each other's efficiency and of the health and well-being of the whole population. This particular photograph was taken over the south-east of London, with the Old Kent Road struggling across the picture; similar symptoms of un-planning could be seen in every part of the country.



LONDON

THE need for a bold plan of rehousing and slum clearance is now generally recognized and has ceased to be a political or even a social question. It has become a matter for economic development, the effective utilization of the resources at the disposal of the community. The new London County Council has declared its intention of initiating a policy which will no longer tolerate piecework development, un-co-ordinated and unplanned, but will aim at some proper determination of what should be preserved and what should be destroyed in a great capital city.

Substitution too rapid and elimination too ruthless might of course set up new difficulties worse than the old, but it is more dangerous still to temporize and conciliate where the object of such conciliation is merely to remove opposition. There is no doubt whatever that the new London County Council will meet objection and resistance no matter what policy it adopts, but if it concentrates on the main issues, conceives boldly and plans boldly, if it keeps before it the conception of a great capital city, which should be a model to other capital cities in its rebuilding and in its replanning, then it will have such a weight of public opinion behind it that opposition and objection will have no influence.

We do not pretend in this issue to tell the London County Council anything that it does not know already. It has carried out in the past very fine architectural schemes devoted to rehousing and slum clearance and in this work it has been ably assisted by public utility societies and by independent organizations such as the Ecclesiastical Commissioners, the Church Army and the Commissioners for Crown Lands.

What we have attempted to do is to illustrate typical examples of the rehousing schemes carried out, since we believe that it is possible to learn from the work already done certain lessons which can be applied to the new building programme. And we have carried the story forward to the point where we indicate what might be done by the London County Council if it had the continuous and unqualified support of the citizens of London.

The London County Council has a vast programme in front of it—a programme which, as it has already indicated, will involve a greater expenditure than the £35 million already scheduled for the five-year campaign. It is a programme which has two policies : a short-term and a long-term policy.

The urgency of slum clearance and rehousing is such that it is impossible to await the elaboration of a plan which will cover the whole of London. In a short-term policy provision must be made for rehousing as close as possible to the site where demolition takes place. This does not mean a collection of isolated blocks scattered promiscuously all over London, such as we see today ; it means the deliberate selection of an area sufficiently large to permit of very extensive schemes, schemes equal to those of the St. Pancras Borough Council, St. Pancras House Improvement Society, the London County Council and Cumberland Market in the St. Pancras area combined. Such an area is provided by the South Bank of the Thames in Lambeth and Southwark.

The long-term policy must consist of the provision of a complete master plan for London—a plan which will cover an area within a radius of at least twenty-five miles and will provide for zoning, for the provision of open spaces, the development of satellite towns and dormitories ; the proper co-ordination of transport with a definition of the necessary services, the necessary communications, the co-ordination also of other public utilities such as water, gas and electricity.

But it is important that the short-term policy should not weaken or defer the long-term policy. It is no help to the long-term policy to transfer confusion from the centre to the outer ring of the city. The solution of the housing problem of London lies in London itself. The London County Council has all the prospect of creating a new standard of architecture and of town planning which will serve as a model for the whole world. It will not be criticized adversely if it aims at the highest levels of modern architecture and engineering. It *will* be criticized if it is satisfied with timid and reactionary compromises.

Obviously, only a portion of this great work can be carried out by the permanent architectural staff of the London County Council ; the work will no doubt call for the activities of the architectural profession as a whole. Are architects in a position to face this task at once if the London County Council asks for their co-operation ? Are they in possession of adequate knowledge relating to the design, the planning and equipment of great housing schemes on a modern scale ? Again, is the building industry sufficiently well organized to contribute the maximum effort and to give the maximum service ? These are important questions. The immediate future of London will depend on active and effective co-operation between the L.C.C., the architectural profession, and the building trade.

The Architects' Journal
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Telegrams:
Buildable
Par
London

NOTES & TOPICS

MINIMUM SALARIES

ON this matter I refuse to take sides. I preserve an intelligent neutrality. But as I observe in the correspondence pages of this JOURNAL a vociferousness on the part of the A.A.S.T.A. and scant retort from the other side, I am constrained to make some comments.

*

The present lack of control of salaries does, obviously, make possible an unfair exploitation of assistants by architects in practice; it also encourages "undercutting" amongst the assistants themselves. In other words, both parties are usually in some part to blame. I am not certain that, when two unscrupulous men get together, legislation of any sort is going to avail much. It may merely bring into special prominence the cynical rescript to the Commandments: "Thou shalt not be found out."

*

It may be present-day practice, but I cannot persuade myself that it is logic, to put a premium on the bad workman at the expense of the good one. On the average it may pan out in hard cash—but it is not fair to the employer of the man below the average or to the assistant who is above it.

*

But there is an aspect of the matter which may easily be overlooked. It concerns a particular type of assistant of which, to my own personal knowledge, there are very many; and the number is likely to increase rather than otherwise.

*

I refer to the "long-service-and-good-conduct" type, who is past his best. His employer pays him a wage and keeps him on, rather than dismiss him with scant chance of getting another job—and there is no pension.

*

Now, so long as this assistant can carry on at even a low salary, he can at least keep himself. But what happens when the employer finds himself forced to pay, say, another £50 or £100 a year? Will he—can he—afford to do it?

*

Any minimum salary system must be progressive, varying, presumably, according to years of experience (as opposed to ability). Clearly the tendency will be for the employer to discharge a man as he rises into the more highly-paid category.

"WULFRUNIAN"

My readers will remember this word in connection with a little competition which I organized about a year ago. Now Wolverhampton itself is organizing a competition; it is for designs for the new Municipal Assembly Halls.

*

The buildings are to cost "£100,000 with an extra 10 per cent. for contingencies." Mr. Cowles-Voysey is the assessor and the premiums are £350, £250, and £150.

*

People in the south are inclined to regard Wolverhampton as just a "midland industrial town"; but it has, as I have said before, quite a surprising quantity of good architecture.

*

I should like to be sure that this new venture has not been embarked upon without the skilled help of the town planning expert; that the new assembly halls will be, as it were, the foundation stone of the real *plan*, which will use the best of the town and stimulate the improvement of the worst, taking account of present-day conditions.

*

The announcement, however, goes on to say that "it is *possible* that at some future time the retail market in North Street may be pulled down and an open space formed in front of the Town Hall and the new building and a civic centre developed." (The italics are mine.)

*

Why only "*possible*"? Competitors ought to be quite sure about it. Anyway, Wolverhampton ought.

THE GROPIUS SHOW AT THE R.I.B.A.

I discussed Walter Gropius's visit to this country a fortnight ago. His exhibition at the R.I.B.A. is now open.

We hope to publish the next of our series of HOUSING SUPPLEMENTS *in a fortnight's time.*

Walter Gropius: an exhibition of his work is now being held at the R.I.B.A.

In a quick tour round the show on Tuesday I found, of course, the Bauhaus, and other less-illustrated work: there is an exhibition stand (to display non-ferrous metals) which says everything that I have been saying about the B.I.F. for years. All exhibition organizers should be made to kneel down in front of it and pray for forgiveness.

*

I was interested to see that all Gropius' housing schemes have proper balconies to each flat. Mr. Maxwell Fry, I believe, is most insistent about the same thing elsewhere in this issue.

SIR REGINALD AGAIN

In an address given last week to the English Speaking Union Sir Reginald Blomfield condemned "modernismus" painters, sculptors, writers and musicians, for an anxiety to startle at all costs. Although that was comparatively harmless, he said, "there is another phase of some modernist sculpture that is not."

*

He described this as "the slant to the hideous and unclean, to matters which by tacit consent of civilized people have been hitherto left in abeyance." Of course, the shock tactics used by bright young minds vary from generation to generation and from clime to clime. Half a century ago it would have been daring, not to say indecent, to allow the legs of a piano to appear in a genteel New England drawing-room without sheaths of frilly fabric to hide their mahogany nudity.

*

Even today a pleasing, but occasionally misleading, reticence regarding matters of hygiene and sanitation complicates life. I recall the irritation of an architect who, quite recently, provided a charitable institution, already rich in such conveniences, with ten lavatory basins, at the request of the matron and the committee of ladies who ran the place. They did not want ten extra lavatories but "by tacit consent" they had refrained from murmuring to a man the dread initials of their actual need.

*

Sir Reginald said: "The modernist sails as near the wind as the police will allow him, and, as the police do not visit modern galleries, this gives him a fairly open field."

*

But the police *do* visit modern galleries. I remember a police raid on an exhibition of paintings by the late D. H. Lawrence. And I also seem to recall a story that among the pictures they removed from that gallery were some by William Blake.

*

To the pure eyes of the police officials the pictures by Lawrence and by Blake seemed, as Sir Reginald might say, "sailing too near the wind," and with some difficulty the paintings by Blake were rescued from the condemned cell because their age was more respectable than their subjects.

LONDON AND THE FUTURE

London has been burnt probably four times, twice by accident, once by the Danes, and possibly by the Saxons when it was still a Roman city. But it has only been planned twice, and the plan has only been carried out once.

*

That was about eighteen hundred years ago, when it was Londinium Augusta, and, in the late Professor Lethaby's phrase, "a little Rome in the West." Fifteen centuries later Wren made a plan which wasn't adopted. Now, London is a residential and commercial disease, out of control, and without a plan, without even an adequate survey.

*

London has this advantage today. In the seventeenth century there was only one Wren. Now there are many able minds capable of providing plans; and the boldest plan, with all the splendour of great simplicity, is that proposed by Walcot, whose design for shortening the Thames, and giving London a sturdy skeleton of axial lines, tidying all traffic, and bringing coherence out of chaos, is magnificently possible.

*

But it takes a large-scale fire to make Englishmen think about planning at all. After the air-raids of the next war Mr. Walcot may be given his opportunity; if there are any people for whom London could be rebuilt, or, indeed, any civilization.

NOT ENOUGH TRADITION

More trouble for the builder who is sensible enough to employ an architect—this time in Hendon, where the borough council apparently get no further than "knowing what they don't like." The builders appealed and an inquiry was held by a Ministry of Health inspector, but the Hendon council apparently didn't know what they *did* want; only that they weren't sure about a white cement rendering or whether the elevation should have one window or three.

*

The original plans have now been passed but, seriously, what is the profession going to do about this ever-recurring trouble of builders being penalized for trying in good faith to do something better? It wasn't even flat roofs or concrete this time.

ASTRAGAL

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The formation of a centralized housing organization with Government backing is perhaps the most feasible approach to a rational financial policy for low-cost housing at the present time 707

Although the population of London is decreasing slightly, the number of families is increasing and may be expected to do so, though at a diminishing rate, for some fifteen years to come 709

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THE ARCHITECTS' DIARY

Friday, May 18

R.I.B.A. *At 9 Conduit Street, W.1. Exhibition, the Works of Professor Walter Gropius. Until May 26.*

ROYAL ACADEMY EXHIBITION. *Burlington House, Piccadilly, W.1. Until August 11.*

INSTITUTION OF STRUCTURAL ENGINEERS. *(Western Counties Branch.) At the Merchant Venturers' Technical College, Bristol. "Evolution and Economics of Structures." By A. J. Bowron.* 7.15 *p.m.*

Monday, May 21

Whit Monday. Bank holiday.

THE INTERNATIONAL CONGRESS FOR MODERN ARCHITECTURE

A meeting of the delegates committee of the International Congress for Modern Architecture will be held in London over the Whitsun holidays.

The following delegates are attending :—M. Victor Bourgeois (Belgium) ; M. le Corbusier (France) ; Professor Walter Gropius and Herr Korn (Germany) ; Herr C. von Eesterin (Holland) ; Messrs. Szymon Syrkus and Schmelusky (Poland) ; Herren R. Steiger, Werner M. Moser and Gideon (Switzerland) ; M. Ernest Weissman (Yugo Slavia) ; and Messrs. Wells Coates and Godfrey Samuel (England).

The delegates will be guests of the members of Mars Group, the English section of the conference.

A welcome dinner will be held on Saturday, May 19, at 7.30 p.m. Full particulars are obtainable from Mr. Frederick Gibberd, of 29 Sloane Square, S.W.1.

AUSTRIAN ARCHITECTS FEATURED ON STAMPS

The Austrian Government is to issue postage stamps in honour of four of her well-known architects. The stamps are of the "Charity" order, now so common as a means of raising money for the Red Cross Society, for Child Welfare, for hospitals and other institutions. They will be sold at double the face value, the extra money going to a charity not so far specified. Their values will be respectively of 12, 24, 30 and 40 groschen.

The architects thus honoured are, for the 12 groschen, Antonius Pilgram, designer of the pulpit and organ base in St. Stephen's Cathedral, Vienna ; 24 groschen, Fischer von Erlach, architect of the Karls-Kirche (Church of St. Charles Borromeo, Vienna) ; for the 30 groschen, J. Pransltaner, architect of the convents of Melk and St. Florian ; and for the 40 groschen, E. van der Null and A. V. Siccardsburg, architects of the Opera House in Vienna.

PROFESSOR C. H. REILLY RECEIVES NEW DEGREE

A tribute in a vein of grave scholarly humour was paid to Emeritus-Professor C. H. Reilly by the Public Orator of the University of Liverpool, Professor W. Lyon Blease, in presenting him to the Vice-Chancellor, Dr. H. J. W. Hetherington, last week, for the honorary degree of Doctor of Laws.

"Charles Herbert Reilly might have been conspicuous in more than one activity," said the Public Orator. "He has proved himself a journalist. He has hinted at the career of a theatrical impresario. At the head of the advertising department of some great store he would have persuaded innumerable customers to buy incalculable quantities of almost anything. But he selected as his profession that of a teacher of architecture. He made our school, he made it out of nothing, and he made it everywhere famous. No one knows why his work took the form it did, why he sought inspiration in ancient Athens rather than in seventeenth-century Rome, why, a Bernini by nature, he chose to make himself a Pheidias.

"By what strict course of abstinence and discipline, by what vigils, fastings and scourgings of the flesh he confined his Baroque instincts within the channel of a classical tradition, we cannot tell. But the task, however difficult, was accomplished ; and the work of his pupils is distinguished, not, as might have been expected, by complexity and exuberance, but by the simplicity and spaciousness of its planning and the economy and refinement of its detail."

WATERLOO BRIDGE

On May 14 Sir Harley Dalrymple-Hay addressed a meeting of Members in the House of Commons, under the chairmanship of Sir William Davison, on the subject of Waterloo Bridge.

Sir Harley pointed out that to pull down the present bridge the removal of 100,000 tons of granite was first of all necessary, and this in itself would be a serious complication of the river traffic. Road traffic, during the period of seven years necessary for demolition and building would be diverted to the bridges at Westminster, Blackfriars, and the temporary bridge, and as the latter would need road repairs at intervals during the seven years, there would be periods during which no traffic at Waterloo could cross the river. He further pointed out that contract plan, bills of quantities, etc., would have to be prepared before any work could be started, and this would probably take a year.

In regard to cost, Sir Harley said that the estimated cost of £1,300,000 given by the L.C.C. in 1932 was for a steel bridge. This figure at the time was disputed as being inadequate. Sir Gilbert Scott's proposed bridge was granite faced, which was more costly. Sir Harley estimated, approximately, that the cost of building that bridge would be £2,200,000. The figure quoted by the L.C.C. for the repair and widening of Waterloo Bridge was £685,000, though in his opinion it could be carried out in less time and with less obstruction to road and river traffic for £640,000. "While I do not suggest that this estimate is absolutely accurate, it is quite near enough for my present purpose as I wish quite broadly to point out that if a sum of £640,000 is expended on reconditioning Waterloo Bridge for four lines of traffic instead of building a new bridge, the money so saved, amounting to £1,560,000, could be much better applied to the construction of a new bridge at Charing Cross, and it would go a long way towards the cost of such bridge and ancillary works."

All evidence goes to show that a road bridge at Charing Cross was seriously required. Though the scheme for building a bridge at Charing Cross, including the removal of the Southern Railway to the Lion Brewery site, had been turned down for financial reasons, it was perfectly feasible to leave the railway where it was and to build a road bridge alongside it for approximately £2,000,000.

BRIGHTON MOTOR RACE TRACK SCHEME

Sir Herbert Carden, an ex-chairman of the Brighton, Hove and District Joint Town Planning Committee, defended the Brighton motor race track scheme at a meeting held in Brighton on Monday last. He said : "It is a disgrace that the East Sussex County Council should see fit to interfere with a matter which does not affect them at all.

"As a matter of fact, the motor racing track will not be on the Downs at all. It will be on agricultural land. There is no question of Downland preservation, and part of the land is scheduled as building land. Only 400 acres of land altogether will be affected."

SIR GILES GILBERT SCOTT ON THE GIDEA PARK EXHIBITION

Sir Giles Gilbert Scott, P.R.I.B.A., has made the following statement in connection with the August Modern Homes Exhibition, the houses for which—the pick of an architectural competition held last year—are now being built at Gidea Park, Essex.

"I think this Exhibition is going to be

of great educational value to the public in revealing the latest developments in British domestic architecture and appliances, and, especially, in its object of showing the improvements produced when architect and builder work together—a movement which I am always advocating most strongly wherever I go throughout the country.

"To my mind the type of speculative building under which housing schemes are put up by builders from a few 'stock' plans without consulting an architect, is one of the biggest things we architects have to tackle to-day. Much of this kind of work is ruining many parts of England, and, what is worse, is on the increase.

"As regards educating the public in house improvement, it is going to be a long process; but, undoubtedly, it is the correct thing to do, and the Gidea Park 'Modern Homes Exhibition' should be a step in the right direction. It will be a very interesting experiment."

THE ARCHITECTURE CLUB

The annual dinner of the Architecture Club is to be held at the Savoy Hotel, London, on Thursday, May 31 (7.15 for 7.45 p.m.). Subject for discussion: Slum Clearance.

The office of the club has been removed to Craig's Court House, 25 Whitehall, S.W.1. Telephone No.: Whitehall 2742.

MANSION HOUSE COUNCIL

The annual meeting of the Mansion House Council on Health and Housing is to be held at the Carpenters' Hall, Throgmorton Avenue, E.C.4, on May 29, at 5 p.m. The chair will be taken by the Bishop of Winchester, and the speakers will include Sir Raymond Unwin, PP.R.I.B.A., and Mr. E. Maxwell Fry, A.R.I.B.A.

ST. GEORGE'S HALL, LIVERPOOL

Liverpool Finance Committee has given authority for the uncovering of the mosaic floor of St. George's Hall during and after the celebrations to mark the opening of the Mersey Tunnel. The floor has not been seen by the public since 1923, when it was disclosed during the visit of the British Association.

ARCHITECTS' BENEVOLENT SOCIETY

At the annual meeting of the Architects' Benevolent Society, held at the R.I.B.A., the following officers were elected for the ensuing session:—President: Sir Giles Gilbert Scott, R.A., PP.R.I.B.A. Vice-Presidents: Messrs. Walter Tapper, A.R.A., PP.R.I.B.A., H. S. E. Vanderpant, HON. A.R.I.B.A. Ordinary Members: Messrs. Charles Woodward (A.); Maxwell Ayrton (F.); C. McArthur Butler (L.); J. Alan Slater, M.A.CANTAB. (F.); A. Saxon Snell (F.); E. Stanley Hall, M.A.OXON. (F.); A. H. Moberly, M.A.CANTAB. (F.); Sydney D. Kitson, M.A.CANTAB., F.S.A. (F.); Michael Tapper, M.C. (A.); R. E. Enthoven (F.); Arthur Keen (F.); W. Curtis Green, R.A. (F.); F. R. Hiorns (F.); A. Hunter Crawford (F.); H. Chalton Bradshaw (F.); Francis Jones (F.) (representing the Manchester Society); C. M. Hadfield (F.) (representing the Sheffield, South Yorkshire and District Society); Ingalton Sanders (F.) (representing the Hampshire Society); Hon. Humphery A. Pakington (F.) (representing the Architectural Association); Arthur Crow (F.) (representing the London Society); C. McLachlan (A.) (representing the Association of Architects, Surveyors and Technical Assistants); E. Hadden Parkes (F.) (representing the Mount Pleasant Artists' Rest Home); Honorary Treasurer: Mr. Maurice E. Webb, D.S.O., M.C. (F.); Honorary Secretary: Sir Charles Nicholson, Bart. (F.); Honorary Auditors: Messrs. Charles Woodward (A.) and H. S. E. Vanderpant, HON.A.R.I.B.A.

STEEL FRAMED BUILDINGS RESEARCH PROGRESS

The Department of Scientific and Industrial Research issued on Tuesday last the second report of the Steel Structures Research Committee, which is enquiring into the design of steel-framed buildings. The report reviews the work done by the Committee from April 1, 1931.

THE GROPIUS EXHIBITION

The exhibiton of the work of Professor Walter Gropius was opened by Sir Raymond Unwin, PP.R.I.B.A., at the R.I.B.A., on Tuesday last. The exhibition, which contains some 170 drawings, photographs and diagrams illustrating Professor Gropius's buildings, will run until May 26.

Born in Berlin in 1883, Professor Gropius studied architecture at the Technical High Schools of Berlin-Charlottenberg and Munich, during which time he also worked for Solf and Wichards. After travelling for two years in Spain and England he returned to work for Peter Behrens. In 1910 he established his own practice in Berlin, and in 1914 he was appointed Director of the Industrial Section of the Werkbund Exposition at Cologne, where he designed the Hall of Machines.

After the war, in which he served, he was appointed Director of the Grand Ducal Art School and Arts and Crafts School at Weimar, which under his organization developed into the Bauhaus. He became increasingly interested in the social problems of housing, and began to apply to housing schemes modern principles of design and modern methods of construction. In 1925 the Bauhaus moved to Dessau, where Gropius designed the buildings for the School. He is probably best known in this country for this work.

In 1928 he left the Bauhaus, where he was succeeded by Hannes Meyer, and returned to Berlin to resume his private practice. He won first prize in the competition for the Dammerstock Siedlung at Karlsruhe, his scheme being carried out in 1929, and also in the Federal Government competition for the Experimental Siedlung at Berlin-Haselhorst, though this scheme was never executed. At this time he was working chiefly on projects for the development of apartment houses and carried out schemes for the City of Berlin and the City of Frankfort. Two important members of his Bauhaus group, Marcel Breuer, the architect and furniture designer, and Moholy-Nagy were associated with him in these projects.

His appointments include the following: member of the board of the "German Works Association"; member of the German Free Academy of Municipal Building; and member of the Permanent International Committee of Architects.

COMPETITION NEWS

COMPETITION RESULT

Designs for the proposed new chapels at Quinton and Yardley Cemeteries submitted by ten Birmingham architects in the competition arranged by the Birmingham Parks and Cemeteries Committee, are now on exhibition at the Birmingham Museum and Art Gallery.

The awards in the competition were as follows:—

Quinton Chapel.—1, Mr. James A. Swan, F.R.I.B.A.; 2, Mr. Holland W. Hobbiss, F.R.I.B.A., 33 Newhall Street; commended, Messrs. Harvey and Wicks, 5 Bennett's Hill; Mr. S. N. Cooke, F.R.I.B.A., Sun Buildings, Bennett's Hill.

Yardley Chapel.—1, Mr. James A. Swan, F.R.I.B.A.; 2, Mr. John B. Surman, F.R.I.B.A. 19 Cannon Street; commended, Messrs. Batemans, 18 Bennett's Hill; Mr. Holland W. Hobbiss, F.R.I.B.A., 33 Newhall Street; and Messrs. Harvey and Wicks, 5 Bennett's Hill.

PORTSMOUTH COMPETITION

The Portsmouth Corporation has decided to hold a competition for the development of the Lumps Fort site. The cost of the work is estimated at £150,000.

Competitions Open

June 26.—Sending-in Day. Proposed Council Offices, Slough, for the Slough U.D.C. Assessor: H. S. Goodhart-Rendel, V-P.R.I.B.A. Premiums: £250, £150 and £100 for designs placed first, second and third, respectively. Conditions, etc., may be obtained from F. R. Duxbury, Clerk to the Council, Council Offices, Slough. (Deposit £1 1s.). Last day for submission of designs: June 26.

July 16.—Sending-in Day. Proposed Council School, Dudley. The competition is limited to architects having an office within 15 miles radius of Dudley. Assessor, H. T. Buckland, F.R.I.B.A. Premiums: £150, £100 and £50. The last day for application for conditions was April 23. Designs should be submitted to the Director of Education, Education Offices, St. James' Road, Dudley.

July 31.—Sending-in Day. Proposed Municipal Sanatorium and Children's Hospital Belfast. Competition limited to architects who have resided in Northern Ireland since March 1, 1933. Assessor: R. S. Wilshere, F.R.I.B.A. Premiums: 500, 200 and 100 guineas. Last day for questions: April 28. Designs should be submitted to the Town Clerk, City Hall, Belfast.

No Date.—Proposed Town Hall for the Swinton and Pendlebury U.D.C. Assessor: J. R. Adamson, F.R.I.B.A. Premiums: £150, £100 and £75.

LETTERS FROM READERS

SIR RAYMOND UNWIN, PP.R.I.B.A. (Chairman of the General and Executive Committees of the Mansion House Council)

MAURICE E. WEBB, F.R.I.B.A. (Chairman, Architects' Unemployment Committee)

R.H.

Housing in London

SIR,—The housing situation in London has reached a critical stage: after a period of relative inactivity, large schemes of slum clearance and projects for providing dwellings to relieve overcrowding are foreshadowed. Unfortunately there exists no central body equipped to take a comprehensive view of the whole problem, to assist the many authorities and voluntary organizations which are working at this serious problem, and to co-ordinate their efforts so that the best results may be secured.

The Mansion House Council on Health and Housing is seeking as far as possible to accomplish this necessary work. Founded in 1883, following the Royal Commission on Dwellings of the Poor, the Council has a long and useful tradition of work in reporting insanitary dwellings, pressing for their repair or demolition and in calling attention to the many aspects of housing reform needed from time to time. In recent years, under the auspices and with the financial support of the London Council of Social Service, it has become the co-ordinating body representative of many organizations concerned in one way or another with the London housing problem.

The relationship between the two Councils mentioned has lately been simplified, the Joint Housing Committee set up by the two Councils having been reconstituted as the General Committee of the Mansion House Council on Health and Housing. On this body the London Council of Social Service continues to be adequately represented. There are also represented upon it a very large number of public utility societies and other bodies dealing with housing in Greater London.

In view of the present situation, the Council feels that an urgent need exists to widen the scope of its work and to appeal for the co-operation and support of all who are concerned to secure the best and most adequate solution possible of the housing problem for London. The Council believes that this problem must be considered as a whole, and it stands for a comprehensive policy which shall include all aspects, among which the following may be specially mentioned:—

(*a*) The replanning of the area as a whole to secure proper location of the houses.

(*b*) The making good of the deficiency in low-rented dwellings to overcome overcrowding by new building, and by the conversion of large houses into flats where these are structurally suitable.

(*c*) The clearance of dwellings in the category of slums and the rehousing of their inhabitants at rents within their means.

(*d*) The reconditioning of such defective property as can be made fit for a reasonable period by this means.

(*e*) The need for skilled collective management in the interests of the tenants and community, roughly on the lines associated with the name of Miss Octavia Hill.

The Council aims at being a research rather than merely a propaganda body, one of its main purposes being to collect all relevant information on which alone a sound housing policy for London can be based, and to place it at the disposal of those engaged in Local Government or voluntary housing efforts, and of the general public. Recently the Council has collected a small reference library on housing at the Housing Centre, Bush House, W.C.2, where the latest publications dealing with the subject may be consulted or purchased. This activity has been made possible by the generosity of the Carnegie Trust. The honorary secretaries are in frequent attendance at this housing centre as well as at the main office of the Council, 1 Lincoln's Inn Fields, and are ready to give information on housing questions.

The Council's last pamphlet, "The Present Housing Situation in London," recently published, gives valuable statistical information in regard to the housing position and the most urgent requirements of the immediate future for Greater London.

To enable the Council to carry out this extended field of work effectively funds are urgently needed. Through its accumulated tradition and with the prestige of the Mansion House support which it has enjoyed, the Council believe that, with adequate financial support, it can serve a valuable function as a common meeting-ground for all those anxious to promote a far-sighted and large-scale housing policy for Greater London.

On behalf of the Council we therefore appeal for donations or for new members. The minimum membership subscription is 10s. 6d. and members are entitled to free copies of any literature published by the Council.

Cheques should be made payable to the Mansion House Council on Health and Housing. RAYMOND UNWIN

Unemployment Relief Fund

SIR,—An Exhibition is to be held towards the middle of June of the work that has been done under the Architects' Unemployment Relief Fund. The work done will include measured drawings of seventeenth and eighteenth-century architecture in London, surface utilization maps and maps showing the height of buildings in the more densely populated parts of London, models, strip drawings of the principal London thoroughfares, town-planning schemes and other matters of architectural and public interest.

It is desired to make the Exhibition as representative as possible of the emergency work which architects have done during the difficult days of unemployment, and the Committee feel sure that much material might be suitably included from what has been done by architects in occupational centres. If any architects have such drawings and photographs we should be interested to see them, and should be glad to include them in a special section in the Exhibition.

MAURICE E. WEBB

Engineers and the Control of Elevations

SIR,—Mr. Manning Robertson, in a recent issue, says he would like to see a complete prohibition of sham half-timbering, or fake Tudor, and pink asbestos-cement. I agree with him entirely and would go further and prohibit all "shirt-front" architecture and free adaptations of this, that and the other ancient styles.

He says he believes that municipal and county engineers would build their own houses in fake Tudor with pink roofs; but he must know that there are many architects who also persist in designing village houses, great and small, and public-houses in the same manner.

We must keep the control of elevations in the hands of architects and take Mr. Robertson's advice, for the time being at any rate, and treat control as a means of preventing eyesores rather than of securing beauty. R. H.

The L.C.C. Ossulston Estate, Somers Town. Drawn by M. Rowe.

FOREWORD

By The Rt. Hon.
HERBERT MORRISON
(Leader of the Labour Party in the L.C.C.)

¶ ALREADY THE ARCHITECTS' JOURNAL has won for itself a reputation in the conduct of serious sociological investigations. We may agree or not agree with its facts and conclusions, but we can all pay a tribute to its desire to bring home to architects the public purpose of their work and to bring before those concerned with public administration the feelings of architects about public problems.

The present issue deals with the rehousing and re-planning of London. It is a great and inspiring subject which was well to the fore during the recent London County Council election. The more it is talked about the better I shall be pleased; the more light that is thrown upon the problem the better equipped will our minds become.

The new London County Council is anxious to get to grips with London housing and London planning. In so doing we believe we shall be warmly supported by public opinion.

"There is possibly one point I did not emphasize at that time, and that was the opportunity that this further rehousing drive is giving to our architects. I am naturally referring to the rehousing of those workers who are still unfortunately living in dwellings and under conditions that they should not be. The rehousing of these people can only be achieved by keeping the rents down to one-fifth or one-sixth of their wages and facilitated by the co-operation of the Arts and the building trade. From some study and experience of the whole question I believe the solution lies in simplicity of exterior and interior design in order to provide those who are to live in these new dwellings with the up-to-date modern appliances of everyday life, embodying convenience, cleanliness, and labour-saving."

The Prince of Wales, speaking at the Royal Academy Banquet—("The Times," May 4, 1934).

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"The Government's attention has also been concentrated on the reconstruction of the homes of the masses of our people—and I say homes and not merely houses. A shelter is not enough for human happiness. What we are aiming at is a house which, by its chaste simplicity, its beautiful proportions, its calm of outline, will appeal to the souls of those who live in it. In this direction I am glad to say that more and more public authorities are looking for the creation of beautiful homes for people whose minds, bodies and souls shall be appropriate dwellers. . . .

"Any Government which is to serve a country should be chary of jerry-building in houses or policies. This country, with its national complications and relationships, requires the services, not of men in a hurry, but men who are prepared with a well-thought-out plan which will stand the experience of years. That is the mind of the present Government."

The Prime Minister at the Royal Academy Banquet—("The Times," May 4, 1934).

" They had already seen samples of what could be done in that fruitful alliance of art and industry. They had seen the services of great artists enlisted and the railway stations gradually converted into excellent picture galleries. The one industrial building which they might have supposed would have withstood the advance of art was Battesea Power Station. Yet the genius of **Sir** *Giles Scott had invested even it with a real nobility of art. If their exhibition could inspire the masters and men of the industries to take a new interest in their workmanship, and believe that even beauty could have a marketable value, they would have some consolation for living in an industrial age. In those and other ways the Royal Academy tried to educate the people in a sense of beauty. If that education would only spread they might at last have a public opinion which recognized that in a nation greatness and ugliness could not go together, and that magnanimity in public life was inseparable from the splendour of public buildings and the reverence which was paid to nature. Then at last they might begin in very truth to build Jerusalem and not Sodom and Gomorrah in what remained of England's green and pleasant land."*—THE ARCHBISHOP OF CANTERBURY, speaking at the Royal Academy Banquet (*The Times*, May 4, 1934.)

An adequate supply of workers' houses can *be built today if we are willing to make the effort we made in the War to manufacture munitions, and if the rich are willing to sacrifice whatever small fraction of their income may be necessary to assist through taxation the financing of a national housing campaign. There is no insuperable economic bar to the solution of the problem. Idle capital and idle labour are waiting and wasting. Indeed, most economists believe that a large-scale housing campaign, which brought this capital and labour together, would actually* assist *recovery from the general economic depression.*—D. P. T. JAY, Fellow of All Souls College, Oxford.

PART I

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THE PROBLEM

[*BY DUDLEY WARD, B.ARCH., A.R.I.B.A.*]

THE results achieved in low-cost housing by most countries since the war have been very encouraging, although no country has done more than start on a great task which must occupy much more attention before a solution to this vital problem has been attained. By a comparative study of the conditions existing in each country, the methods adopted to meet these conditions and the housing accomplished, such as appeared in THE ARCHITECTS' JOURNAL for April 12,* one can more easily draw conclusions for the formulation of a housing policy which benefits from the combined experience to date of a great variety of experimental policies. I propose to outline here, in the form of a conclusion to the data already published, those policies and practices which proved most effective and which still offer possibilities for further exploitation.

The housing problem, in all cases, owes its existence to a misrelation between supply and demand. Actually in Europe during recent years this misrelation resulted from a number of factors which caused an increase in the normal demand for low-cost housing while others simultaneously decreased the supply. On the one hand, the demand for dwellings to replace those which had become dilapidated and obsolete, had been tremendously augmented by the requirements of extraordinarily rapid increases in European urban populations since the war. On the other, the rent control legislation widely adopted as a temporary protection for tenants, served to aggrevate the economic difficulty which private enterprise experienced in obtaining a profitable return on money invested in low-cost housing. Furthermore, economic and political instability, depreciation of the currencies, high interest rates on building loans and increased building costs, all combined to place further obstacles in the way of supplying the growing need for cheap dwellings and of meeting the accumulated deficit of previous years. The position was particularly serious in countries such as Germany, Austria and Poland, where the inflation of the currency was most marked, and in France, Italy, Belgium, Czechoslovakia and Finland for instance, where it was not so drastic but more prolonged. In Great Britain, Holland, Sweden, Denmark and Norway, where the currency was more stable, housing by private enterprise met with less difficulty. However, even in these latter countries it has been found impossible to provide sufficient or satisfactory accommodation for the lower income groups by methods of unassisted private supply. Such means have only met those housing demands which showed a profitable return on money invested. The remainder of the housing needs were naturally neglected until public authorities felt it their business, for the general good of the communities which they represent, to intervene.

The methods adopted by public bodies for the organization and stimulation of low-cost housing were rather diverse by force of the varying circumstances existing in each country. If, however, the worker could not afford a better dwelling two remedies were offered. One was to raise his income and the other was to lower his rent. The first alternative was the most difficult of attainment owing to post-war industrial and economic conditions, and did not offer a feasible solution to the problem. The second was widely attempted in the early part of the housing crisis by a direct method of rent control legislation, the results of which have already been described. But there were other methods of reducing the workers' rent. One was for the governments to offer financial assistance to building enterprise by providing, directly or indirectly, amounts equivalent to the loss occasioned in building low-cost dwellings

* *Housing Supplement I.* Post-war Housing and Slum Clearance Policies in Britain and Europe.

to let at rentals consistent with low grade incomes. This was the method generally adopted during the most critical periods, but despite its extensive application, it is necessarily more or less a temporary measure depending on the source of government funds. The approach to a more permanent solution is offered by cost reduction through rationalisation.

The policies of all countries have been directed towards rationalization in three main channels. First in building finance, secondly in land policy and thirdly in the matter of technical methods, materials and labour. In a short article it is only possible to summarize the successful results achieved in post-war years by organization and rationalization and to call attention to the possibilities of an even greater and more comprehensive application of such methods in the future. The housing activities of post-war years have shown that the larger the organization promoting housing the greater can be the efficiency in planning. By the elimination of waste on all sides, a higher standard of accommodation can be provided with the same or less expenditure. Not only can economy be achieved by the development of large units, by planning for the community rather than for a series of individual requirements, but rational civic design and social integration follow as a natural consequence.

First, the policies of the different governments have been directed towards a reduction in the actual cost of housing finance. Interest rates payable on building loans have been reduced by the provision of government loans or the backing by governing bodies of loans to builders by public utility or other housing organizations. Redemption of the loans has also been spread over longer periods and thus costs and rents have reen reduced. The policy of granting subsidies has of course also been, in its many different forms, a means of reducing cost to the actual builder or occupier and this method introduced during the most critical post-war years is undoubtedly the most direct way of providing the necessary funds for low-cost housing. The evidence, however, shows that the system of direct grants without thorough control of the supply of materials and labour, tends to create a rise in building prices and the purpose of the subsidy can thus easily be defeated. If subsidies are not offered, interest and amortisation rates must be kept low by rational finance if satisfactory dwellings are to come within the means of the low grade wage earner. In the provision of cheap credit facilities rather than subsidies, the funds made available have the advantage of comprising floating capital for future use.

The undertaking of housing by a large organization, working for the community's interests, could so organize the distribution of building activity over long periods, that, in addition to the saving through methods of mass production, costs could also be reduced by eliminating seasonal unemployment in the building industry. If the supply of housing were properly controlled by authorities or organizations who were informed as to the true existing need by a thorough statistical survey of housing conditions, then a programme could be organized which could take advantage of comprehensive rationalization. The policies of all countries have been directed towards rationalization in three main channels. First in building finance, secondly in land policy and thirdly in the matter of technical methods, materials and labour.

The formation of a centralized housing organization with government backing, granting cheap mortgage loans over long periods for housing activity on public utility lines is perhaps indicated as the most feasible approach to a rational financial policy for low-cost housing at the present time. Subsidies, which are still called for under present conditions to improve housing conditions and eliminate overcrowding and slum areas, may be avoided if this method is carried to a logical conclusion.

The second approach to cost reduction is through a rational land policy. Money saved in the purchase and development of land is available for the dwellings themselves. Purchase of large areas of land for housing purposes has been a policy widely adopted by many European local authorities. The capital cost of dwellings can then be reduced by the elimination of the land speculator and the profit which he draws from the appreciation in land values following premature development. A policy of land purchase and control by municipalities or other bodies undertaking low-cost housing not only eliminates conflicting party rights and the economic evils of speculation but such a policy enables great saving in capital cost of dwellings by the development at one time and in one unit of roads, footways and essential services—water, electricity, gas, sewerage, etc., and provides opportunities for successful pre-planning and civic design.

Thirdly, the approach to cost reduction by the revision and rationalisation of methods of cheap house building through the standardization of types of construction and subsequent mass production of component parts and the organization and supply of materials and labour, has occupied much attention in all countries since the war. The treatment of large units and the construction of dwellings on a large scale by local authorities and other bodies, has made this method of cost reduction possible. The production of factory made dwellings in standardised parts is one possibility which is still receiving much attention in some countries and which, with further research, may yet provide the solution to the problem of better dwellings at lower cost.

The undertaking of housing by a large organization, working for the community's interests, could so organise the distribution of building activity over long periods, that, in addition to the saving through methods of mass production, costs could also be reduced by eliminating seasonal unemployment in the building industry. If the supply of housing were properly controlled by authorities or organisations who were informed as to the true existing need by a thorough statistical survey of housing conditions, then a programme could be organised which could take advantage of comprehensive rationalisation in the three main aspects; finance, land policy and building methods, materials and labour.

If these methods were thoroughly exploited, to a greater degree than has yet been attempted in any one instance, then it would be possible, without government grants, to provide dwellings of a much higher standard, at sufficiently low rentals for that section of each community which needs them most.

FACTS AND FIGURES

THE PRESENT POSITION

[BY PHILIP H. MASSEY]

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THE statistics on housing conditions in London presented below represent, in effect, a summary of the much more complete information contained in the "London Slum" issue of THE ARCHITECTS' JOURNAL (October 26, 1933). It will be seen that comparable figures respecting every Metropolitan Borough (including the City of London) are given and that the final column gives the total figures for the Administrative County.

Attempt has been made to exclude all but the absolutely essential figures and to present these in the most intelligible manner. This has necessitated rearrangement in natural groups :

1. The area and population of the borough.
2. The number of private families and of structurally separate dwellings and the average number of families per structurally separate dwelling.
3. The increase, over the intercensal decade 1921-31, in the number of families and of structurally separate dwellings.
4. The number of people living in private families, the number of rooms they live in, and the average number of persons per room.
5. The number of persons overcrowded, at three different levels, and the total number living at over 1½ per room.
6. The number of rooms needed to abate overcrowding at over 1½ per room and the number of dwellings required if such overcrowding is to be abated and all unfit houses replaced.

Of the fourteen figures coming into the first five of these groups two represent the change during the intercensal decade 1921-31 in the number of private families and of structurally separate dwellings respectively. The remainder relate to the Census date in 1931. All these are official figures.

The last two figures are estimates. The number of rooms required merely to abate overcrowding at over 1½ per room can be deduced from the figures of overcrowding at over 3, 3 and over 2, and 2 and over 1½. It has been assumed that the average densities per room in these overcrowding groups are 4, 2½ and 1¾ respectively. No serious error can arise from these approximations, on the basis of which a pure mathematical calculation of the number of rooms required to abate overcrowding at over 1½ per room can be made. The result of this calculation has in every case been increased by 25 per cent. before being "rounded off." It is obvious that the "pure mathematical" estimate would only hold good if the whole population of London were regarded as a single housing unit. Only families of three, six, nine, etc., can be housed at exactly 1½ per room. Others must be housed at less than 1½ in order not to be housed at more than 1½. A family of five must be housed at 1¼ and a family of four at 1⅓, for example. The mathematical standard would

DEFINITIONS

To avoid misapprehension of the terms used, the Census definitions of "private family," "structurally separate dwelling" and "room" are given :—

PRIVATE FAMILY.—Any person or group of persons included in a separate return as being in separate occupation of any premises or part of premises is treated as a separate family for Census purposes, lodgers being so treated only when returned as boarding separately and not otherwise. Private families comprise all such families with the exception of those enumerated in (i) institutions, or (ii) business establishments or boarding-houses in which the number of resident trade assistants or resident boarders exceeds the number of members of the employer's or householder's family (including private domestic servants).

STRUCTURALLY SEPARATE DWELLINGS.—A structurally separate dwelling has been defined for the Census as any room or set of rooms, intended or used for habitation, having separate access either to the street or to a common landing or staircase. Thus each flat in a block of flats is a separate unit ; a private house which has not been structurally subdivided is similarly a single unit whether occupied by one family or by several families. But where a private house has been subdivided into maisonnettes or portions, each having its front door opening on to the street or on to a common landing or staircase to which visitors have access, then each such portion is treated as a separate unit.

ROOMS.—For the purpose of the Census, the rooms enumerated are the usual living rooms, including bedrooms and kitchens, but excluding sculleries, landings, lobbies, closets, bathrooms, or any warehouse, office, or shop rooms.

	CITY OF LONDON	BATTERSEA	BERMONDSEY	BETHNAL GREEN	CAMBERWELL	CHELSEA	DEPTFORD	FINSBURY	FULHAM	GREENWICH
Area (acres)	677	2,163	1,503	760	4,480	660	1,564	587	1,706	3,858
Population	10,999	159,552	111,542	108,194	251,294	59,031	106,891	69,888	150,928	100,924
Number of private families	2,499	44,618	28,766	27,916	68,435	16,332	29,248	19,059	43,153	25,144
Structurally separate dwellings occupied	2,359	27,219	18,305	18,156	42,114	10,966	17,750	10,369	26,245	18,114
Average number of families per occupied dwelling	1·06	1·64	1·57	1·54	1·62	1·49	1·65	1·84	1·64	1·39
Increase (+) or decrease (−) during 1921-31 in number of private families	− 675	+ 1,630	+ 156	+ 320	+ 2,331	− 223	+ 1,241	− 946	+ 2,717	+ 2,172
Increase (+) or decrease (−) during 1921-31 in number of occupied dwellings	− 563	+ 28	+ 39	− 125	+ 695	+ 104	− 125	− 520	+ 266	+ 1,588
Population in private families	7,590	155,004	108,488	105,700	242,604	52,374	104,181	67,459*	146,071	94,066
Rooms occupied	8,300	158,118	86,654	78,466	253,360	66,525	105,823	47,641	150,313	99,863
Average number of persons per room	0·91	0·98	1·25	1·35	0·96	0·79	0·98	1·42	0·97	0·94
Persons living over 3 per room	80	4,571	7,082	7,322	6,044	1,186	3,253	7,130	3,397	2,293
3 and over 2	344	13,905	16,589	17,647	19,287	4,179	8,173	12,717	12,001	8,135
2 and over 1½	919	23,539	22,341	24,654	35,965	7,853	15,968	15,363	23,146	14,008
Total number of persons living over 1½ per room	1,343	42,015	46,012	49,623	61,296	13,218	27,394	35,210	38,544	24,436
Rooms required to abate overcrowding at over 1½ per room	250	10,000	12,000	12,500	14,000	3,000	6,250	9,750	8,500	5,500
Dwellings required altogether	750	5,250	6,000	7,500	7,500	1,500	4,000	6,500	5,000	3,000

only hold good if these two families could be put into six rooms, one family living in $3\frac{1}{3}$ rooms, the other in $2\frac{2}{3}$, which is manifestly ridiculous. In practice the two families must be given four and three rooms respectively in order that each shall be on the right side of the "$1\frac{1}{2}$" standard.

Another practical necessity arises from the fact that the constitutions of individual families are not static. We cannot shift families instantly on the birth of a child or the death of a member of a family, although on the strict mathematical standard such action would be implied.

It seems probable that a 25 per cent. addition, on account of these two factors, is more likely to underestimate than overestimate true needs to abate overcrowding at over $1\frac{1}{2}$ per room.

The estimate of the number of dwellings required altogether is deduced from the estimate of needs in respect of overcrowding, on the basis of such evidence as to the number of unfit houses as is available. Where no adequate information on this point is available, a figure has been taken which will give a proportion between "room needs" and "dwelling needs" similar to that arrived at in the case of other boroughs (modified in the light of general knowledge of conditions in the borough concerned as being average, below, or above average).

	HACKNEY	HAMMERSMITH	HAMPSTEAD	HOLBORN	ISLINGTON	KENSINGTON	LAMBETH	LEWISHAM	PADDINGTON	POPLAR
Area (acres)	3,287	2,287	2,265	406	3,092	2,290	4,083	7,015	1,357	2,331
Population	215,333	135,523	88,947	38,860	321,795	180,677	296,147	219,953	144,923	155,089
Number of private families	59,143	37,345	23,709	9,355	93,613	47,713	83,777	58,673	40,714	38,901
Structurally separate dwellings occupied	34,155	22,307	14,758	6,177	43,162	28,999	48,873	46,739	19,281	23,340
Average number of families per occupied dwelling	1·73	1·67	1·61	1·51	2·17	1·65	1·71	1·26	2·11	1·67
Increase (+) or decrease (−) during 1921-31 in number of: private families	+ 3,123	+ 4,082	+ 2,189	− 327	+ 4,189	+ 4,712	+ 5,378	+ 14,988	+ 2,394	+ 1,613
Increase (+) or decrease (−) during 1921-31 in number of: occupied dwellings	+ 660	+ 2,840	+ 436	− 317	+ 1,072	+ 1,193	+ 189	+ 12,319	− 152	+ 276
Population in private families	208,728	127,938	78,763	27,524	309,216	158,491	280,885	213,950	125,430	149,800
Rooms occupied	208,779	126,466	112,014	25,622	276,592	197,256	290,666	263,155	139,600	120,000
Average number of persons per room	1·00	1·01	0·70	1·07	1·12	0·80	0·97	0·81	0·90	1·25
Persons living over 3 per room	4,715	2,688	663	1,458	14,956	5,443	7,881	1,154	5,185	7,992
3 and over 2	15,383	10,305	2,590	3,260	34,493	14,542	21,771	7,602	10,242	22,110
2 and over $1\frac{1}{2}$	31,231	22,322	6,647	5,451	56,531	22,174	41,806	23,268	18,762	32,697
Total number of persons living over $1\frac{1}{2}$ per room	51,329	35,315	9,900	10,169	105,980	42,159	71,458	32,024	34,189	62,799
Rooms required to abate overcrowding at over $1\frac{1}{2}$ per room	11,250	7,500	2,000	2,500	26,000	10,000	16,500	6,000	8,300	15,500
Dwellings required altogether	8,000	4,000	1,000	3,000	14,000	7,500	10,000	2,500	5,000	9,000

	ST. MARYLEBONE	ST. PANCRAS	SHOREDITCH	SOUTHWARK	STEPNEY	STOKE NEWINGTON	WANDSWORTH	WESTMINSTER	WOOLWICH	ADMINISTRATIVE COUNTY OF LONDON
Area (acres)	1,473	2,694	658	1,132	1,766	864	9,107	2,503	8,282	74,850
Population	97,627	198,133	97,042	171,695	225,238	51,208	353,110	129,579	146,881	4,397,003
Number of private families	27,352	56,929	25,084	46,372	54,657	14,908	95,383	33,056	38,176	1,190,030
Structurally separate dwellings occupied	17,575	24,980	13,678	27,168	35,671	8,196	71,566	22,536	29,870	730,628
Average number of families per occupied dwelling	1·56	2·28	1·83	1·71	1·53	1·82	1·33	1·47	1·28	1·63
Increase (+) or decrease (−) during 1921-31 in number of: private families	+ 138	+ 276	− 49	− 355	− 1,175	+ 978	+ 14,857	− 890	+ 4,529	+ 69,133
Increase (+) or decrease (−) during 1921-31 in number of: occupied dwellings	+ 438	− 320	− 289	− 1,567	− 1,113	− 127	+ 9,026	− 970	+ 3,122	+ 29,593
Population in private families	84,453	178,341	94,521	164,274	214,061	49,443	333,863	101,442	137,979	4,122,639
Rooms occupied	103,695	158,489	65,330	128,558	161,570	55,219	421,286	132,882	156,050	4,198,292
Average number of persons per room	0·81	1·13	1·45	1·28	1·33	0·90	0·79	0·76	0·88	0·98
Persons living over 3 per room	3,766	9,010	9,621	10,230	15,952	662	3,688	1,277	1,431	150,130
3 and over 2	7,332	22,392	17,916	25,287	34,468	2,580	13,648	5,946	6,378	391,222
2 and over $1\frac{1}{2}$	11,539	34,234	22,491	36,042	47,909	5,844	32,531	14,097	16,210	665,542
Total number of persons living over $1\frac{1}{2}$ per room	22,637	65,636	50,028	71,559	98,329	9,086	49,867	21,320	24,019	1,206,894
Rooms required to abate overcrowding at over $1\frac{1}{2}$ per room	5,750	16,250	13,700	18,000	25,000	2,000	10,000	4,250	4,750	287,000
Dwellings required altogether	3,000	8,000	6,500	10,000	14,000	1,000	6,000	3,500	2,750	165,750

In assessing needs over a period of years it is necessary to emphasize that although the population of London is decreasing slightly, the number of families is increasing and may be expected to do so, though at a diminishing rate, for some fifteen years to come.

Finally, it is to be emphasized that although *some* allowance has been made in the above estimates for the need to demolish all dwellings, or prohibit their use for residential purposes, in certain industrial and dock areas, that allowance would not be adequate to permit of a large scale replanning of *all* the seriously "mixed" areas now unsuitable for residential purposes which exist within the Administrative County of London.

It can be seen from the above that the Administrative County of London contained in 1931 4,397,003 people of whom

150,130 were living at over 3 per room.

1,206,894 were living at over $1\frac{1}{2}$ per room.

On the basis of the standards used and the evidence collected, about 287,000 rooms are required merely to abate overcrowding at over $1\frac{1}{2}$ per room; and 165,000 dwellings are required altogether.

MINIMUM STANDARDS FOR HOUSING

The minimum housing standards set out below were originally published by "The Week-end Review" last December, as a report on "Uncomfortable England," and as a logical development of the original "Hungry England" report, which analysed the minimum cost of an adequate diet. This housing survey has been based on field investigations of the dwellings inhabited by the lowest-paid wage-earners in Hoxton and the Tidal Basin, carried out largely by Mr. Ellic Howe; this and other material being subsequently criticized or commented upon by architects, economists, social workers and others with expert knowledge.

The aim of the report was to prepare a standard which would command substantial agreement on most points and would enable independent investigators to measure the minimum accommodation, in quantity and quality, required by a family of any size, age and sex. No attempt has been made to fix any arbitrary percentage of total income which it would be legitimate to absorb in rent, as it is suggested that the income of any family unit should be considered in the light of the British Medical Association scale of minimum diet. Nor was it thought justifiable to decide on a standard density of houses or rooms per acre: the tests were intended to be applied from the consumer's, not the producer's end.

It should be emphasized that this report is not intended to be anything more than a rule of thumb ready reckoner—in the words of its introductory notice, "it is intended merely to set the pace and to be superseded as soon as possible by something better."

1. It is not possible to lay down any minimum standard for housing having absolute validity at all times and in all circumstances. The following definition of a minimum will, it is hoped, be acceptable as a working basis in the present conditions, although on some points it may be counted too harsh and on others too generous. In that event it may be modified or reservations made accordingly, but the principle of defining a minimum and the broad conception of a minimum here presented will not necessarily be invalidated.

2. The following points should be borne in mind:

(*a*) This minimum is intended to apply to all dwellings built or to be built in the future. It does not apply to boarding-houses, hotels and institutions, nor to "families" containing only one person.

(*b*) A minimum applicable to new dwellings alone would have to be made more exacting if such dwellings are not soon to become obsolete.

(*c*) An attempt has been made to devise a technique of measurement for as many factors as possible. There are, however, one or two factors which defy measurement, the most important of these being the general design of a building internally and externally, and its amenities. The fact that no reference is made to these intangibles must not be taken to mean that their importance is considered negligible.

(*d*) This scale is only intended to apply to towns of 10,000 or more inhabitants. The problem of rural areas is not here considered.

(*e*) It is assumed throughout that this minimum standard of housing will be treated as supplementary to the minimum standard of dietary laid down in the report on the *Minimum Cost of an Adequate Dietary* by a committee under the chairmanship of Prof. A. L. Bowley (see *The Week-end Review*, April 1, 1933, pp. 357-360).

3. There are three main elements in a minimum standard:

(*a*) Number of rooms, which must vary according to the number of persons concerned and their sub-division according to family groups, ages and sexes.

(*b*) Structure and equipment, including the size, condition and resources of the accommodation, which do not vary so closely according to the number of users.

(*c*) External factors, including accessibility to work, recreation and common services, amenities and so forth.

OVERCROWDING

4. As to number of rooms, an acceptable minimum standard has already been laid down in essentials by Mr. Philip Massey in his slum survey for THE ARCHITECTS' JOURNAL (June 22, 1933, pp. 815-818). This minimum provides as nearly as possible for a standard of one and a-half to a room as the highest tolerable density; in particular cases some overstepping of this limit is often unavoidable, but the average ought to be borne in mind.

The scale resulting from an adoption of this basis, with allowance for sex separation, above ten years of age, is as follows:

(*a*) Man and wife, two rooms. (*b*) Man and wife plus one child, two rooms. (*c*) Man and wife plus two children of same sex or under 10, three rooms. (*d*) Man and wife plus three children of same sex or under 10, four rooms. (*e*) Man and wife plus four children of same sex or under 10, four rooms. (*f*) Man and wife plus two children of different sexes, three rooms. (*g*) For man and wife and more than two children of different sexes: add rooms so that not more than three children of one sex need sleep in one room. (*h*) For one extra adult: add one room. (*j*) For two extra adults of the same sex: add one room to (*a*) or two rooms to (*b*) or one room to (*c*). (*k*) For two extra adults of different sexes: add two rooms, except where a room can be shared with a child over 14, or in special circumstances, without the standard of one and a-half per room being exceeded.

(Only some of the more usual family units are given: others can be estimated on the basis of one and a-half per room. Rooms, as defined for the Census, are the usual living rooms, including bedrooms and kitchens, but excluding sculleries, lobbies, closets, bathrooms, or any warehouse, office or shop rooms.)

STRUCTURE AND EQUIPMENT

5. The above purely numerical standard must be used in conjunction with other criteria which cannot always be numerically expressed. It is suggested that these criteria should be:

(*a*) *Size of rooms.*—No room should be counted in the calculation of a minimum which has a floor area of less than 90 sq. ft., in which the height to the ceiling averages less than 7 ft. 6 in., or in which there is not a minimum space of 360 cubic ft. per person. Rooms of 65-90 sq. ft. floor area may be reckoned as half-rooms.

(*b*) *Structural Separation.*—No dwelling can be included in the minimum which involves permanent use by a family of rooms which are not structurally separated from those of other families. (The Census definition of a structurally separate dwelling is: Any room, or set of rooms, intended or used for habitation, having separate access either to the street or to a common landing or staircase. Thus each flat in a block of flats is a separate unit, a private house which has not been structurally sub-divided is similarly a single unit, whether occupied by one family or several families. But where a private house has been sub-divided into maisonettes or portions, each having its front door opening on to the street or on to a common landing or staircase to which visitors have access, then each such portion is treated as a separate unit.)

(*c*) *Light and Air.*—The angle from the lowest inhabited floor level of any dwelling or block of dwellings (measured from the outer face of the wall) subtended by any obstruction to light should in no case exceed 45 degrees. Windows must not be smaller than one-tenth of floor area, with a 50 per cent. minimum opening. All bedrooms without a flue, w.c.'s and larders should be provided with an air-brick of 9 in. by 6 in., 50 per cent. open, or the equivalent in ventilation.

(*d*) *Approach.*—If the dwelling is on an upper floor it must be reached by stairs which are safe and reasonably lit, and must not be more than four storeys high, unless a passenger lift is provided without extra charge. There must be a paved way from the street by which access is gained.

(*e*) *Sanitation.*—There must be a separate w.c. for each family, within the structurally separate dwelling. There must be efficient and direct connection with the main drainage system of the area.

(*f*) *Water.*—There must be a constantly available supply of safe drinking water laid on within each structurally separate dwelling, at a rate which will allow the reasonable needs of the family to be satisfied at a charge that they can afford to pay.

(*g*) *Artificial Lighting.*—There must be provision for lighting adequate to prevent risk of fire or injury to eyesight in ordinary conditions of use, at a rate which will allow the reasonable needs of the family to be satisfied at a charge that they can afford to pay.

(*h*) *Cooking.*—There must be provision for cooking of a capacity adequate to the maximum size of family for which the dwelling is appropriate, in working order, at a rate which will allow the reasonable needs of the family to be satisfied at a charge that they can afford to pay.

(*j*) *Heating.*—There must be provision for heating, at any rate the living room, with reasonable efficiency, at a rate which will allow the reasonable needs of the family to be satisfied at a charge that they can afford to pay.

(*k*) *Washing and Bath.*—There must be provision for washing clothes and for bathing the body within the building, at a rate which will allow the reasonable needs of the family to be satisfied at a charge that they can afford to pay.

(*l*) *Storage.*—There must be provision for clean

and hygienic storage of a limited quantity of fresh food, for utensils, and for storage of coal or coke where required. There must be facilities for drying clothes out of doors, so that they need not be dried in the kitchen or sitting-room.

(*m*) *Repair.*—The structure as a whole and all essential equipment must be kept within a state of repair which is safe and serviceable for the occupants. There must be machinery for seeing that repairs for which the tenants are liable, as well as repairs for which the landlord is liable, are satisfactorily carried out and for redecoration when necessary.

(*n*) *Refuse.*—There must be adequate hygienic provision for the temporary storage and for the regular collection of refuse, and for the cleaning of approaches to dwellings.

(*o*) *Damp*, rats, bugs, cockroaches and fleas must not be present.

(*p*) *Management.*—There must be a routine arrangement for hearing and dealing with complaints at reasonable intervals in case of difficulties, and for the regular and efficient inspection of the property.

SERVICES AND AMENITIES

6. The minima laid down in paragraphs 4 and 5 still need to be taken in conjunction with certain other factors which, though external to the property itself, are relevant to its suitability and habitability :

(*a*) *Accessibility for Employment.*—The minimum has not been satisfied in the case of any tenant who is normally compelled either to travel for more than one hour each way in order to get most conveniently between work and home, or to pay a fare averaging more than 5s. per working week for the journey.

(*b*) *Accessibility for services.*—The minimum has not been satisfied if the essential services of transport, shops and the community services provided by local government are not reasonably accessible from the site.

(*c*) *Children.*—Where children are concerned, the minimum includes somewhere to play in the open air which is immediately accessible, is not open to fast traffic and is supervized in cases where for any reason supervision is essential to safety or health.

(*d*) *Amenities.*—The minimum has not been satisfied where the air contains on any normal occasion more than 10,000 suspended particles per cubic centimetre*, where the average figure for ultra-violet rays is less than half that for the surrounding rural area ; where there is no public open space within half-an-hour's walk of at least five acres extent ; or where the noise in the neighbourhood of the dwelling is normally in excess of 80 decibels.

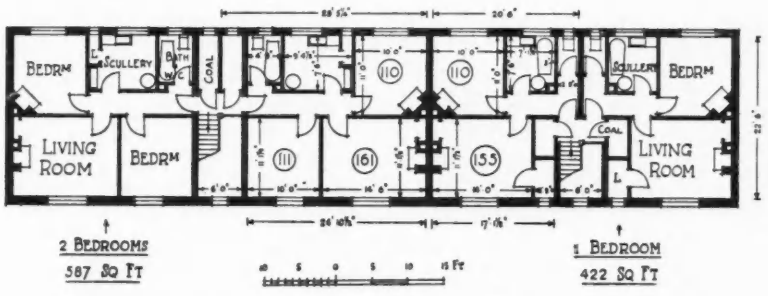
THEIR USE IN PRACTICE

7. PRACTICAL USE OF THE STANDARDS.—It is suggested that before use the standards should be examined and any minor variations or exceptions which may be considered desirable in the particular circumstances should be noted. The investigator will then be able to take either a sample or a whole area of suitable extent and ascertain how many families in it fall below the minimum of paragraph 4, and on any of the items 5 (*a*)-(*p*) or 6 (*a*)-(*d*). Where the shortcomings prove to be wholly or mainly on 4—that is, overcrowding—a rearrangement of the families through increase in number of dwellings is plainly necessary. Where the shortcomings are on paragraph 5, reconditioning (perhaps accompanied by change of management) may suffice, and it becomes a financial question which, if any, of the dwellings can be brought up to the minimum by these means more economically than by clearance and reconstruction. Should the failure come under 6, which deals with external services and amenities, partial or complete replanning of the site may prove the only solution.

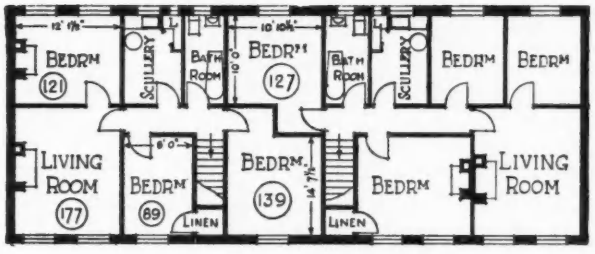
In a sample of 100 dwellings in Hoxton and Tidal Basin there proved to be, under paragraph 4, 100 per cent. overcrowding. Under 5 (*d*) 75 per cent. of the stairs were steep and difficult for old people, and were not adequately lit. In 99 per cent. there was no separate w.c. for each family within the structurally separate dwelling 5 (*e*). Five per cent. had oil lamps only ; 5 (*g*) 100 per cent. had no baths ; but most had a copper for washing clothes. At least 50 per cent. of living rooms had clothes hung up to dry in them on the day of the visit. In Tidal Basin at least 75 per cent. of dwellings and rooms were in a bad state of repair 5 (*m*). In a dozen cases rats were certainly present, and in probably twenty cases bugs 5 (*o*). The minimum of playing facilities for children was in no case satisfied 6 (*c*). It must be borne in mind that this survey of actual conditions was carried out in order to allow these minimum standards to be formulated, and that the more detailed and precise technique of measurement which should be made possible by this report was not then available.

* Pure fresh air contains on an average 350-400 particles : a London fog may contain as many as 20-30,000.

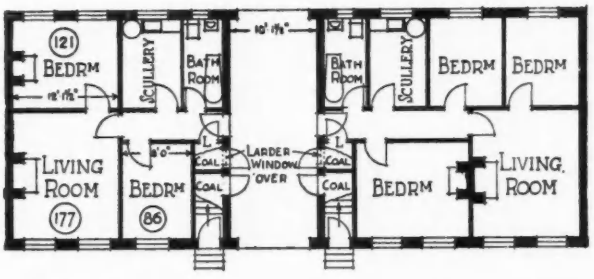
TYPE PLANS: MINISTRY OF HEALTH



Typical block of flats with one or two bedrooms, suitable for two or more storeys. There are internal common staircases.



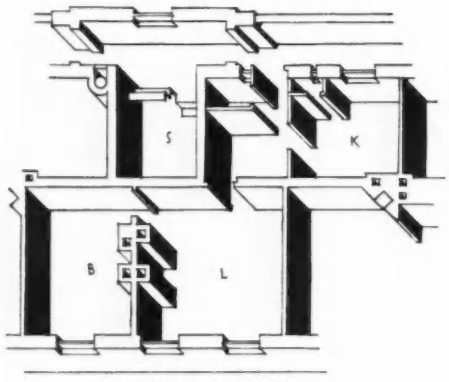
FIRST FLOOR PLAN



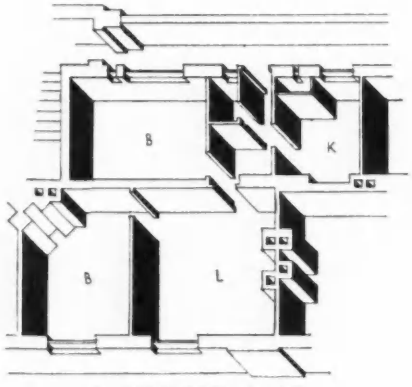
GROUND FLOOR PLAN

Typical plans of a continuous block of flats for various sized families, and with separate access to each dwelling.

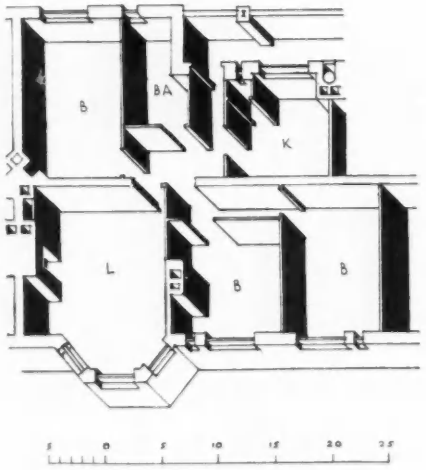
L.C.C. TYPE PLANS



2-ROOMED FLAT



3-ROOMED FLAT



4-ROOMED FLAT

These plans show the L.C.C. standard types for 2-, 3- and 4-roomed flats with balcony access. With small variations, these plans are used in all the L.C.C. schemes illustrated in the following pages. Where the bathroom is not shown, the bath is in the kitchen.

LONDON

AN ITINERANT TYPICAL

BY E. MAXWELL

ALL the blocks described and illustrated here have been up some time and are probably well known to many readers of this paper. They represent part of the general effort to clear the slums, are units on a scattered line of attack in a warfare conducted under rules of war and in circumstances which are now changing so rapidly as to make it necessary to redraw the plan of campaign and to re-equip the combatants with weapons better suited to the conditions in which they are to operate.

POWERFUL FACTORS IN RE-HOUSING

During the long and mournful history of London re-housing the character of this housing has been conditioned by several powerful factors, by far the most important of which has been the sanctity of private property, giving men the right to extract the maximum profit from land even where this profit is clearly shown to be levied upon the lives and health of their fellow citizens. It is no good saying, as many now do, that housing authorities are to blame in conducting their operations so spasmodically and wastefully, for in the period during which so much of this housing was carried out, the individual rights in property accepted by an overwhelming majority of thinking people were and still are supported by law; and the difficulties which stood in the way of land acquisition for purposes of housing were difficulties which Parliament had done nothing to ease. This has to be remembered when we seek to lay down as a prerequisite of slum clearance that it shall plan over areas sufficiently wide to offer the services of a planned community, and be, not so much a restriction of abuse, as a constructive step in the building up of a new, better and more economically managed urban community. The movement towards replanning London through slum clearance has now a wide body of consent. The unequivocal rights in property have been attacked from every quarter, and we are in a position at last to look critically on housing which has had to accept conditions which we are recognizing to be far from inevitable. We have the right to push very hard for the unification of housing on a wide front.

In the same way the standards of

HOUSING

SURVEY OF SCHEMES

FRY (B.ARCH., A.R.I.B.A.)

accommodation must change as more and more thought is applied to past experience. The early Peabody blocks put up in faith so many years ago seem now to verge on the border line of slum property ready for replacement. The absence of light, the height of blocks and the general air of gloom unfit them for decent occupation, and one feels that these earlier standards, both practical and æsthetic, permeate even the present-day activities of the trust, to its undoing. How much London re-housing could resist the application of a standard requiring sky visibility from the working parts of a ground floor living-room?

THE HYGIENIC ASPECT

Or take another aspect: children. The doctors tell us that for the first two years a child requires conditions as nearly natural as possible. I am told that houses without some form of balcony upon which a child may sleep and move are responsible for 80 per cent. of rickets, that disease in children which weakens the body to the coming attacks of colds, tuberculosis, rheumatism and a good deal else. It is not enough to have windows that open. Nothing less than a balcony, however small, will put a stop to the terrific waste of health and public money spent vainly in curing wasted health. And when children are older and begin to play on their feet, how, other than taking them from their parents altogether, are they to play in the open air in safety? Flats built like little houses disconnected from the ground leave this question unsolved; and schemes which cannot afford to consider nursery schools as part of their equipment make it still further difficult for children and mothers. For many years a flat has been planned as though it were a house: all the schemes reviewed here are of that order. On the Continent the difference is recognized, and balconies planned for use are general, and as even quite reactionary housing authorities agree, are used as they were intended to be used.

In the last few years the medical profession has seriously awakened to the therapeutic benefits of daylight, and call for larger areas of window space. Florence Nightingale, writing like an enthusiastic modern architect eighty years before her time, was all for light, and in hospitals where we try to cure disease windows are big and ventilation generous. But in housing the domestic tradition perseveres, and windows are regular interruptions of wall area considered externally. They are thought of in terms of shadows in a wall. The more generous way to think of them is from the inside as being windows to the light. But, alas, we give way slowly and are forced by our natures to carry for too long an architectural millstone of tradition, which can be a thing so pleasant to us, even where it is wrong. The wish to make a block of workmen's flats as lovely a thing as the Georgian houses whose memory we treasure gets in the way of the essential problem of housing the poor. Look round and you will see how too often the standards of housing are architectural and external standards; sometimes an unconscious desire to build well in a familiar style, and sometimes what seems to be a wilful imposition of "architecture" at the expense of poor tenants. There is a scheme in Westminster where a quarter of the vain expense on ornament would have paid for the finest of refuse disposal systems. As it is, children play among dustbins more prominently displayed than even the grandiose carvings over doors. This is, indeed, a question of standards.

STANDARDS

To an extent the raising of standards has stood in the way of the proper satisfaction of the main London housing demand. One might say with justice that it was no use building flats cheaply, in order to rent them cheaply, if that meant lowering the standards, and that authorities were right to build generously and lastingly, even if they had to keep the rents up to do it, all of which is, in the main, true. But on those terms, as records clearly show, only the fringe of the housing problem has been attacked, and it is our job now to arrive at standards which medical, sociological and architectural opinion can agree as being essential to a healthy community, and with these as a basic plan the construction of a communal plan with all the economy of present-day technique, worrying very little about architecture as such before human wants are satisfied, but keeping always in mind the nature of our work as providing the future background for living.

All the schemes that follow are of a high standard when compared with the mass of re-housing. They labour under varying difficulties seldom fully known to the casual observer, and I have not at my disposal the all-in costs of construction and land or the various offset grants in subsidy and rating out of which emerge the rental charges. It would be a good thing for the technique of housing if all-in figures were generally available for purposes of comparison and information, but they are not, and comment must remain superficial to that extent.

THE SCHEMES DESCRIBED

In doing this I treat separately of lay-out and construction, and equipment, with in every case a qualifying statement as to rent applied to particular flats visited.

L.C.C. Schemes

Any architect might be spared a second from his task to praise, all standards apart, the beauty of these fine blocks one comes upon among the grime of London. There is something very noble in the proportion and warm colour of these modern Queen Anne façades, and however certain I feel that we should not continue to build in that form, that large vertical Georgian sash windows are not the last word in housing, I have the very warmest respect for these upholders of good manners in a dirty world.

The constructional basis of all L.C.C. re-housing follows the traditional use of bricks and timber with a spine wall dividing the span between the outer walls, and blocks of chimneys gathering on this and the cross walls until they rise in heavy columns of brickwork from the steep mansard or plain-pitched roofs. Floors are in timber and concrete and windows in wood, with small Georgian panes.

Nearly always the approach to flats is by staircases placed at suitable intervals to serve external galleries, and at or near the staircases are refuse chutes with hopper doors to the gallery and a chamber on the ground floor which is cleared at intervals.

Somewhere in the lay-out of blocks one finds lawns and trees laid out to give a generally pleasant character, but not intimately used by tenants, for whom are areas of tar-paving lying among the blocks of buildings and usually, but not always, devoid of trees. Clothes drying is provided for at ground-floor level and in the steep roofs, which are defended on this account.

China Walk, Lambeth

In flat No. 96, China Walk Estate, which has a living-room, scullery, w.c., and two bedrooms, the equipment of the scullery consisted of a sink and draining-board in front of a window with tiled cill, an ample larder, small dresser with useful cupboard, a bath covered by a hinged flap, and a solid-fuel copper with syphon to bath. Cooking was by a gas stove of an oldish pattern, kept scrupulously clean by the tenant, but placed so that she cooked in her own light and had no utensils readily accessible. A mangle stood in the corner of the room.

The solid-fuel copper has its points in that tenants can burn the proceeds of successful scrounging parties, and the

bath in the kitchen means a warm room for the weekly bath. On the other hand, a weekly instead of a more frequent bath is the direct result of the clumsy dual-purpose of the bath-table, and no really efficient kitchen plan is possible so long as the bath remains there. For children a weekly bath is not enough, and it is difficult to see how feet can be washed with any regularity. The penny-in-the-slot meter, placed high over the bath, is only possible for a strong and healthy woman.

Other equipment included a fuel store for about 2½-3 cwt. in the hall, gas points to bedroom fires, a combined fire and oven, much disliked, in the living-room, generous hanging cupboard in the bedroom, and electric lighting in all rooms.

The rent of this two-bedroom flat was 16s. 3d. per week inclusive. Gas came to about 1s. 6d. per week and electricity cost 11d. per week down, and current at 8 units for 1s., in all about 19s. per week. Rent collecting and general management is by male staff.

Ossulston Street

The L.C.C. Ossulston Street scheme differs mainly in externals from other work, being modelled slightly on Viennese housing, and finished in rough stucco, now a sombre soot-grey, but not unpleasant. But the court-yard here, with its railed-off weedy grass and few trees, is not really very jolly or human, and permanent flower-boxes would have made all the difference between gloom and cheer.

A four-room flat, with electrical equipment and central hot water, costs 24s. per week, which includes 2s. 4d. for electrical charges with electricity at ½d. per unit. A three-room flat costs 20s. 6d. inclusive.

CROWN PROPERTY
Regent's Park Estate

This is one of the largest single schemes of re-housing in the country and shows the possibilities of large-scale planning. It is planned round the old terminal basin of the Regent's Canal, and fronts on to Cumberland Market, a vast open space. The temptation to be architectural has got in the way of using the basin to full advantage, and an imposing façade of full height entirely prevents sunlight from streaming through to the water, which remains a dark pool shut in by buildings, when it might have made a useful and noble extension of the open space of the market square. The archway and clock tower mean nothing: the archway because it leads abruptly into the dark water, the clock because so few of the tenants can see it. With the clear knowledge of being later able to use this sheet of water only a fraction of its possibilities have been exploited for tenants' benefits. The site calls generally for a north-south development, and is far too irregular and shut in than occasion demands. Fine though it is, I feel again rents come before cornices, clock towers and pediments.

The construction in brick with stone bands and cornices, wood sash windows or small panes, wrought iron decorative railings, etc., does not appear to differ largely from accepted L.C.C. standards; nor in the internal planning of flat No. 46 did I find any notable departure. It had living room and two bedrooms, scullery, w.c., and hall.

In the scullery was a sink with inadequate draining board, tiled cill, larder, dresser-cupboard, and pot racks. The bath with hinged flap was connected to an electric copper by syphon, and an electric stove of good design was provided. The sink had cold water only. All this new-age equipment stood about on various walls, leaving uncleanable spaces everywhere, and there seemed insufficient flat working space. The meter for shillings only must be a source of annoyance to poor tenants.

In the hall was a fuel box for 2½ cwts., and in all rooms electric plugs. The living room had a combined fire and oven, not especially commented upon.

There were refuse chutes on galleries with removable bins instead of pits, and a certain number of pram and cycle sheds were provided.

The rent for a four-room flat is 20s. 9d., including 1s. 7d. per week electrical equipment charge, with electricity at ½d. per unit for all purposes.

The estate is managed on the Octavia Hill system.

DUCHY OF CORNWALL
Newquay and Trevose Houses

These blocks continue part of the earlier Regency tradition building of Messrs. Adshead and Ramsey in a style that is tentatively transitional. Newquay House is built in brick, stone bands, wood sash windows, etc., very much to L.C.C. model, around a central court. Its lay-out plan with corner staircases and gallery approach, and its internal planning differ only slightly. There is a separate bath-room for which tenants are grateful, and in upper flats a staircase leads from the living room without partition, a sensible use of space.

The equipment is markedly superior. In kitchens and bathrooms walls are tiled 4 ft. high and up behind plate racks by the sink. The sink has two good draining boards, and the well-planned cupboard fitment, with one half zinc-lined and vented for larder is a vast improvement on normal standards. Hot water is provided by gas copper with syphon to bath, and cooking is by gas stove of recent pattern. The w.c. is in the bathroom. No extraordinary provision seems to have been made for clothes drying, and the courtyard is mainly decorative.

The rent of a three-bedroom flat was 19s., including rates, with electricity at 12s. 6d. per quarter standing charge, and ¾d. per unit, and gas at anything from 30s. to 36s. 6d. per quarter, a possible average of 23s. per week. A two-bedroom flat with a rent of 14s. 9d., plus gas and electricity, was obviously proving beyond the means of the woman I visited there. The management is in the hands of women managers.

ECCLESIASTICAL COMMISSIONERS HOUSING
Middleton House, Westminster

This little block of brick and stone buildings looked wildly expensive. All staircases are tiled to dado in glazed tiles, bedrooms have pompous and not very beautiful, but probably expensive fireplaces, all in a doubtful middle-class taste. Planning is of normal type, with w.c. in bathroom. The kitchen equipment is all-electric but not otherwise remarkable.

The rent of a two-bedroom flat visited was 21s. 2d. per week, including electrical standing charge, and one felt that a good deal of vainly spent money might have gone either to the reduction of rent or to the provision of balconies or other improved accommodation.

PUBLIC UTILITY SOCIETY HOUSING
St. Pancras Housing Trust

Though built in most congested property with the limited and fitful resources of a semi-charitable organization, the two blocks—Drummond House and Sidney House—I visited seemed to me the most human and jolly of all. There were flowers in balconies and windows, touches of glazed tile colour on the walls, and the practical drying posts were topped with coloured tile figures, blackbirds and tinker tailors.

Externally, the brick-built blocks lack the dignity of L.C.C. work, and there is a confusion of intention in the disposition of the parts. Nor can one say that internal planning is economical, for nowhere in any block visited was there anything approaching unit planning. Great variety prevails.

The equipment of Sidney House is electrical with a storage tank giving constant hot water placed under the draining board of the sink. In the kitchen is a good ventilated cupboard, with fuel space below, a not very happy arrangement. There is an electric point for a copper, of which there are one to three tenants, the copper being brought in on wash-day from a store on ground floor. All rooms have power plugs and one portable fire is supplied.

In the living room is a coal range which is well used in the winter.

The rent of a four-roomed flat is 18s. per week inclusive of a standing charge of 1s. 10d. for electrical equipment and 2d. towards capital, but owing to a system of differential rentals the same flat would cost 13s. 6d. with full allowances.

Flats in Silchester Road, Kensington

This was one of the early blocks to break away from English habits of

designing. The break is, however, very largely a matter of external appearance, and on so small a block it would have been difficult to carry out any constructional experiment of value. In point of fact one finds at closer inspection a perfectly good piece of normal planning, very well equipped, and provided with balconies which, though small and not to be compared with the fully developed family balconies of Germany, are a step in the right direction. The weekly rent for a three-room, scullery and bathroom flat is 15s., for a four-room, scullery and bathroom flat, 18s., and a system of differential renting, based upon the varying means and sizes of family of the tenants, is in operation. The effect of this small block as an ice-breaker has been considerable.

●

SUMMARY

1. The salient point about every block visited is the dearness of the accommodation considered from the point of view of rehousing. The accommodation in point of size of rooms provides a generous minimum, but inflexible rentals of 20s. or so are much above the average means of persons whom it was intended to rehouse.

2. No schemes provide balconies for children or babies, and few for flower boxes, though everywhere one sees attempts to grow flowers and give some expression of individuality.

3. Common gallery approaches are standard with staircases that are usually dark and always draughty. No attempt has been made to provide internal, well-lit or even warmed staircases.

4. Equipment, though obviously bettering with experience, is still unadvantageously disposed in loosely planned work-kitchens following precedent rather than function. Comparatively few sinks are provided with hot water, though at this point it is most needed.

5. Windows are generally vertical and too small.

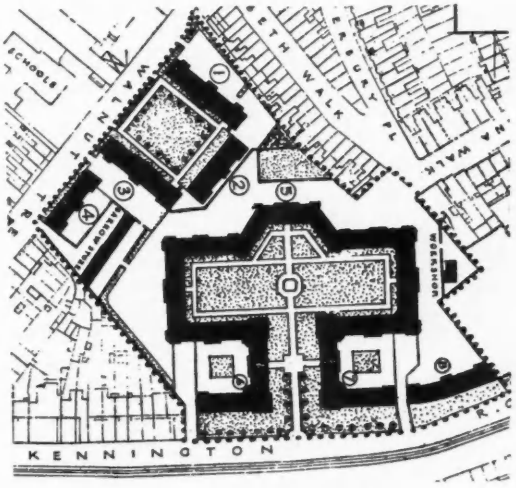
6. Not sufficient use is made of ground floor space and much of the pitched roof space is wasted.

7. The disposition of blocks on irregular and constricted sites leaves many living rooms facing north.

8. Architectural considerations bulk too largely and seem very often to restrict the proper satisfaction of functional requirements.

9. Planning systems and constructional methods take too little advantage of the means by which other forms of standardized building are cheapened. Money could undoubtedly be saved or accommodation bettered by a closer study of modern methods of building and functional planning.

CHINA WALK, LAMBETH

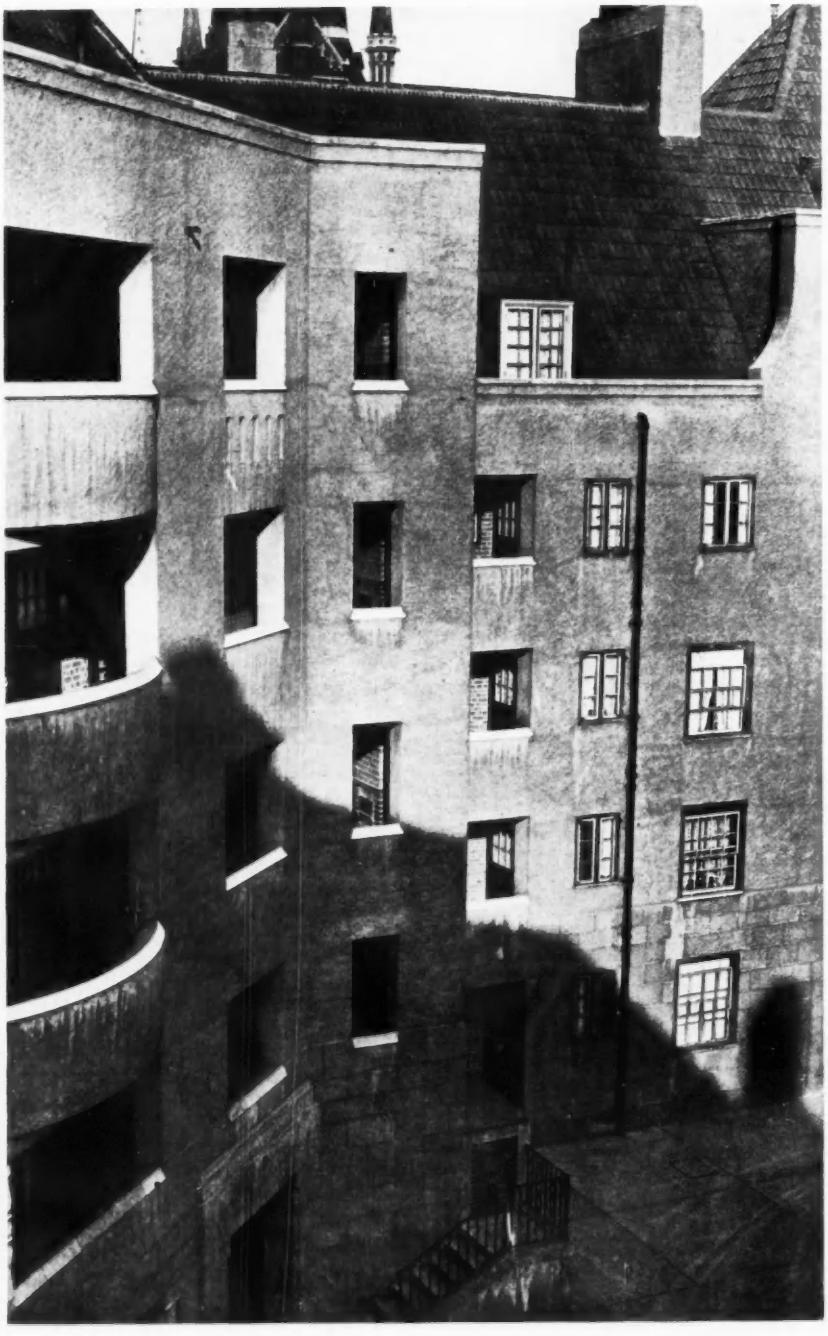


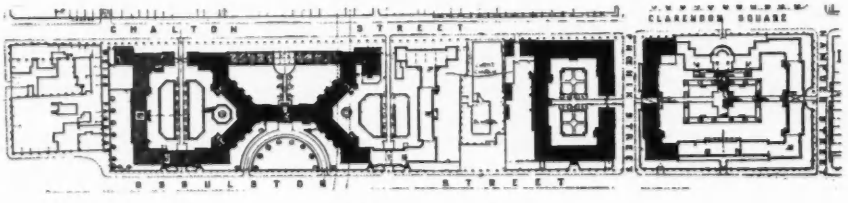
LAY-OUT PLAN

The L.C.C. Schemes illustrated on this and the following six pages (716-721) were designed by G. Topham Forrest, chief architect to the L.C.C. The costs per flat and per room given in the table below and on succeeding pages are based on the Total Cost figures.

Accommodation				Totals		Costs £				Rents			
2 rm.	3 rm.	4 rm.	5 rm.	Flats	Rms.	Building	Total	Per Flat	Per Rm.	2 rm.	3 rm.	4 rm.	5 rm.
26	175	51	31	283	936	148,000	162,000	572	173	9/2- 15/2	11/6- 15/9	13/10- 20/4	16/4- 22/1

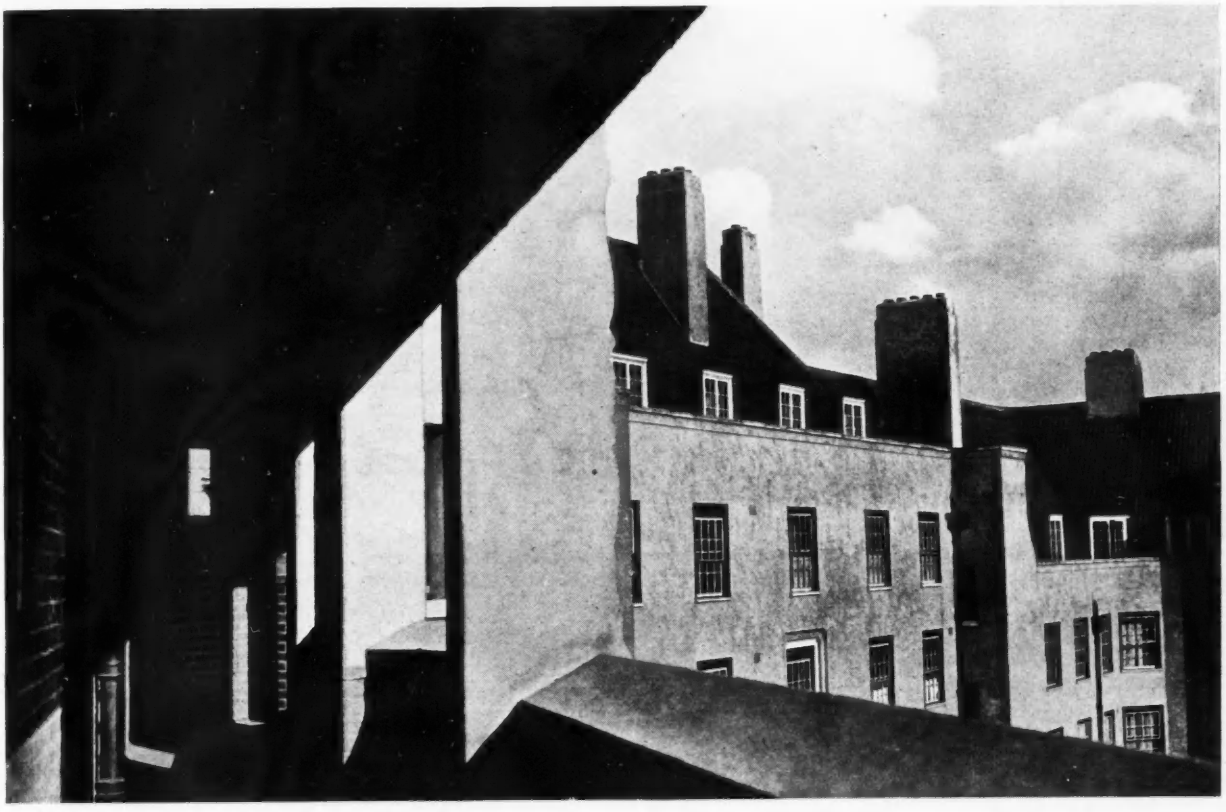
OSSULSTON ESTATE, SOMERS TOWN





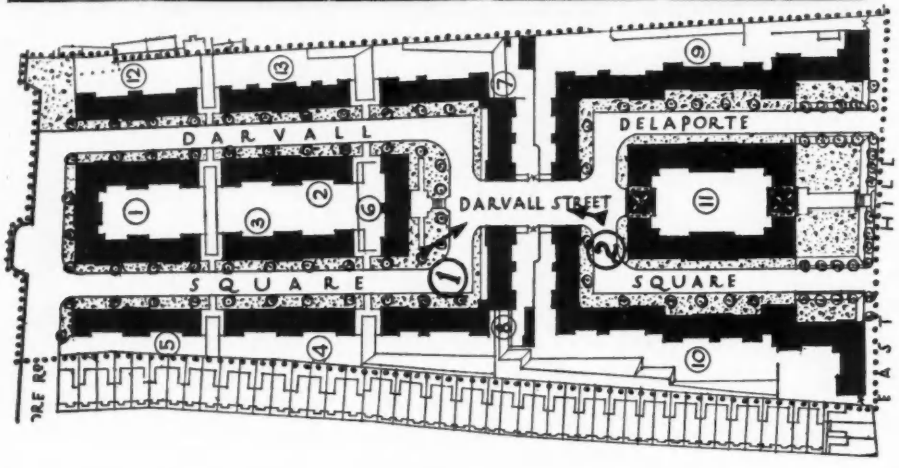
LAY-OUT PLAN

OSSULSTON ESTATE, SOMERS TOWN



Accommodation				Totals		Costs £			Rents			
2 rm.	3 rm.	4 rm.	5 rm.	Flats	Rooms	Total	Per Flat	Per Room	2 rm.	3 rm.	4 rm.	5 rm.
85	270	96	30	481	1,514	330,000	686	218	14/0-17/3	15/9-20/8	19/4-23/6	21/11-26/7

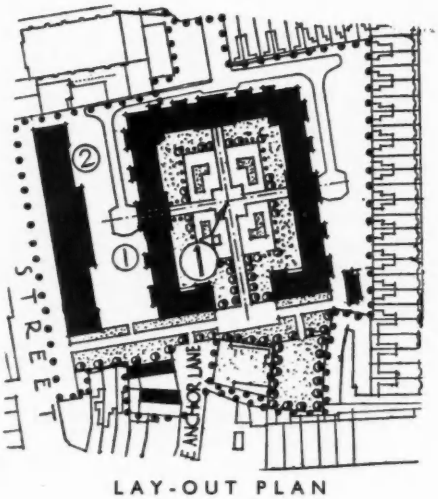
L.C.C. EAST HILL ESTATE, WANDSWORTH



LAY-OUT PLAN

Accommodation				Totals		Costs £				Rents			
2 rm.	3 rm.	4 rm.	5 rm.	Flats	Rooms	Building	Total	Per Flat	Per Rm.	2 rm.	3 rm.	4 rm.	5 rm.
123	270	84	47	524	1,627	—	305,000	582	187	10/10- 14/3	12/10- 16/11	15/2- 20/3	17/5- 21/5

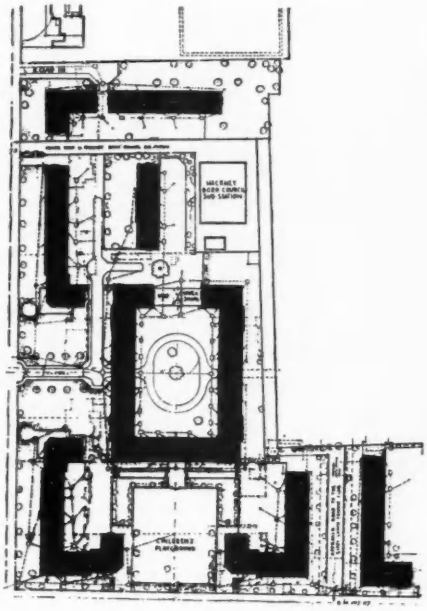
L.C.C. OLIVER GOLDSMITH ESTATE, PECKHAM



LAY-OUT PLAN

Accommodation				Totals		Costs £				Weekly Rents			
2 rm.	3 rm.	4 rm.	5 rm.	Flats	Rooms	Building	Total	Per Flat	Per Rm.	2 rm.	3 rm.	4 rm.	5 rm.
23	70	13	15	121	383	69,400	75,550	624	197	12/0- 13/4	14/4- 17/8	17/4- 20/4	19/8- 22/0

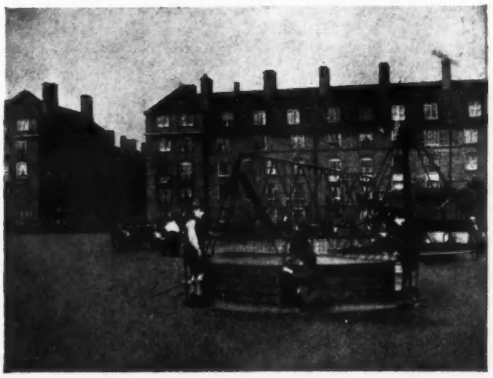
L.C.C. STAMFORD HILL ESTATE

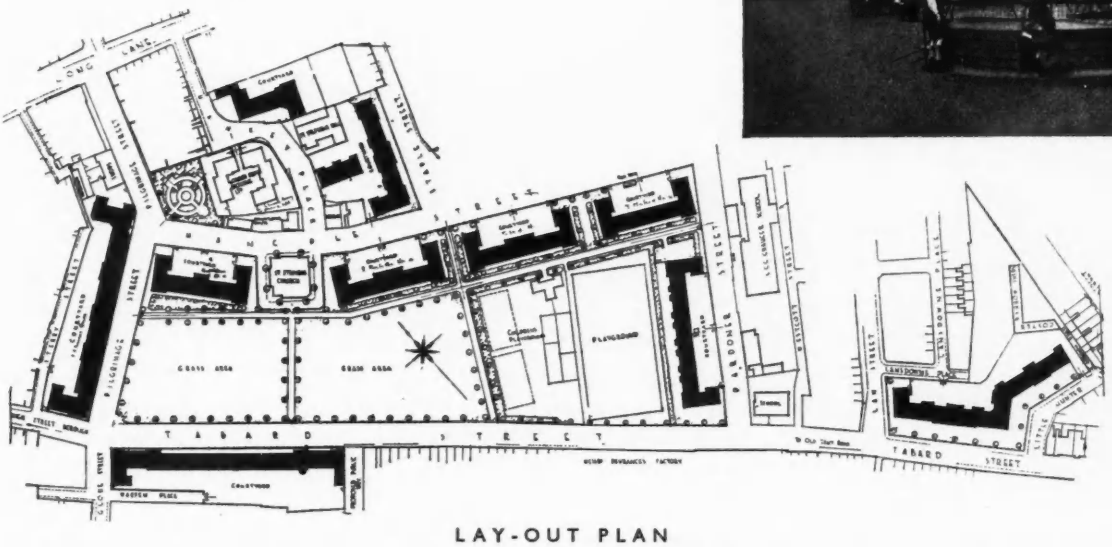


LAY-OUT PLAN

Accommodation			Totals		Costs £				Rents		
3 rm.	4 rm.	5 rm.	Flats	Rooms	Building	Total	Per Flat	Per Room	3 rm.	4 rm.	5 rm.
176	86	15	277	947	161,300	180,000	650	192	18/0-22/-	20/1-24/-	24/0-25/11

L.C.C. TABARD ESTATE, SOUTHWARK

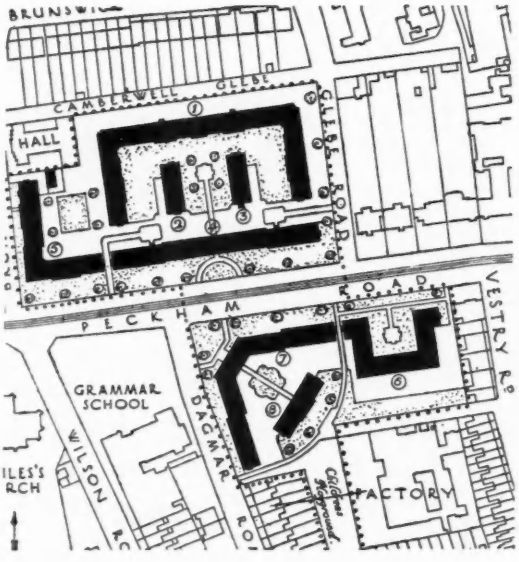




LAY-OUT PLAN

Accommodation				Totals		Costs £				Rents			
2 rm.	3 rm.	4 rm.	5 rm.	Flats	Rooms	Building	Total	Per Flat	Per Rm.	2 rm.	3 rm.	4 rm.	5 rm.
208	218	86	31	543	1,569	298,000	323,500	595	206	12/4-15/5	15/1-18/7	17/1-21/7	20/10-23/7

L.C.C. GLEBE ESTATE, CAMBERWELL

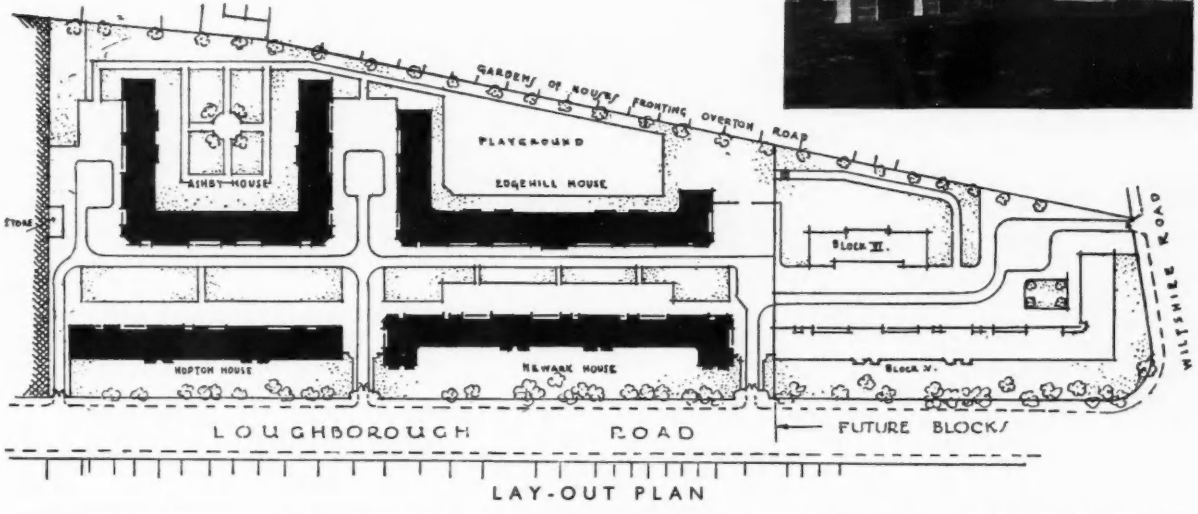


LAY-OUT PLAN

Accommodation			Totals		Costs £				Rents		
3 rm.	4 rm.	5 rm.	Flats	Rooms	Building	Total	Per Flat	Per Room	3 rm.	4 rm.	5 rm.
187	114	23	324	1,132	175,000	196,000	605	173	16/5-20/-	20/0-23/-	22/7-24/7

L. C. C. GLEBE ESTATE, CAMBERWELL

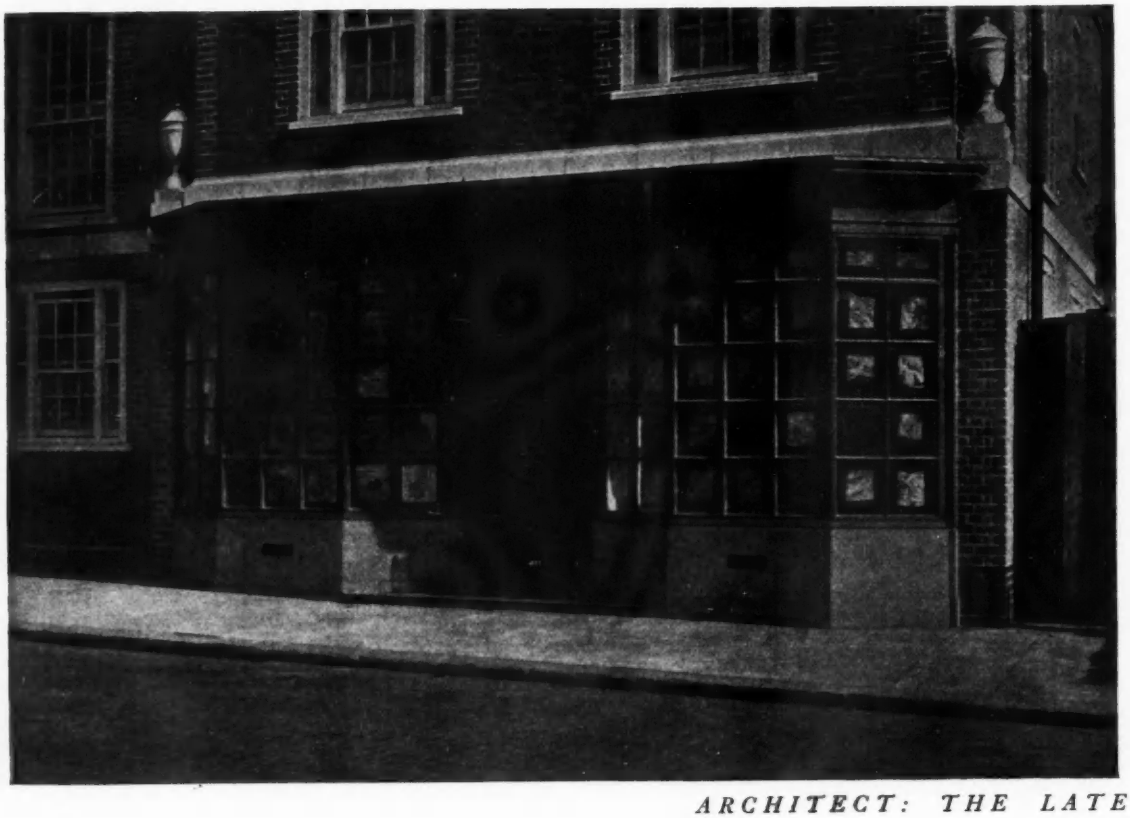
L. C. C. LOUGHBOROUGH ESTATE



LAY-OUT PLAN

Accommodation			Totals		Costs £				Rents		
3 rm.	4 rm.	5 rm.	Flats	Rooms	Building	Total	Per Flat	Per Room	3 rm.	4 rm.	5 rm.
150	68	2	220	732	120,740	134,500	611	184	16/7-19/8	19/8-21/7	22/4

REGENT'S PARK ESTATE, CUMBERLAND

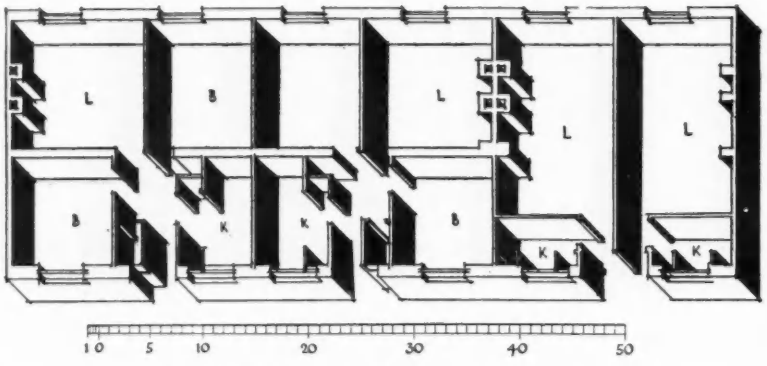


ARCHITECT: THE LATE

MARKET: COMMISSIONERS OF CROWN LANDS

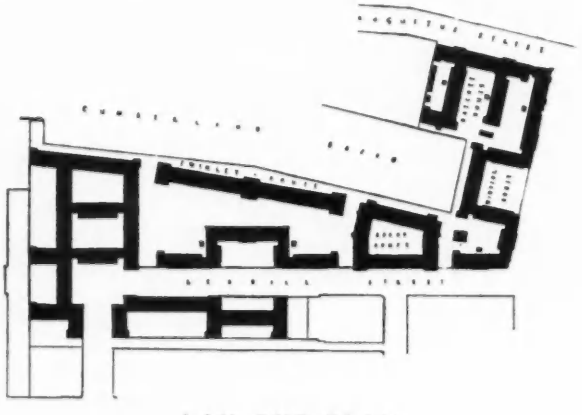
C. E. VARNDELL

REGENT'S PARK ESTATE, CUMBERLAND MARKET



TYPE PLAN (1-roomed and 3-roomed flats)

We have been unable to obtain from the Commissioners of Crown Lands figures of the total accommodation provided, or of the rents which are charged. Mr. Maxwell Fry's article reveals, on page 714, that the rent of a 4-room flat on this estate is 20/9, this figure including a charge of 1/7 per week for the hire of electrical equipment.



LAY-OUT PLAN

ARCHITECT:

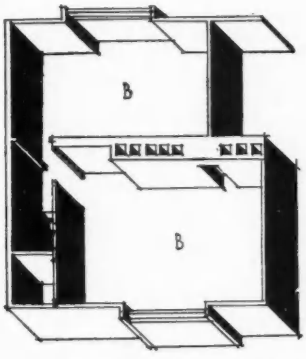
The late

C. E. VARNDELL

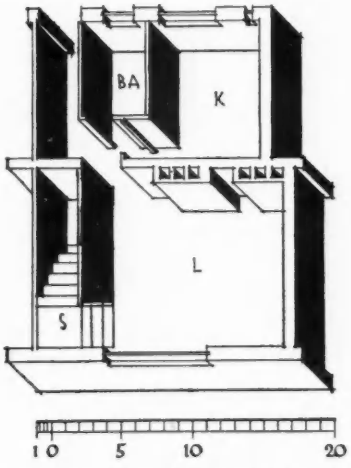
DUCHY OF CORNWALL ESTATE, KENNINGTON

NEWQUAY HOUSE

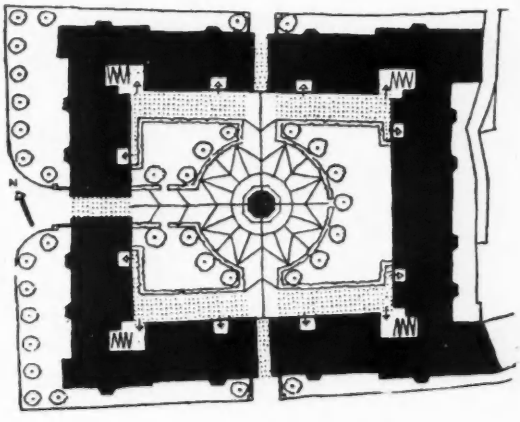
DESIGNED BY LOUIS DE SOISSONS



TYPE PLAN: FOURTH FLOOR



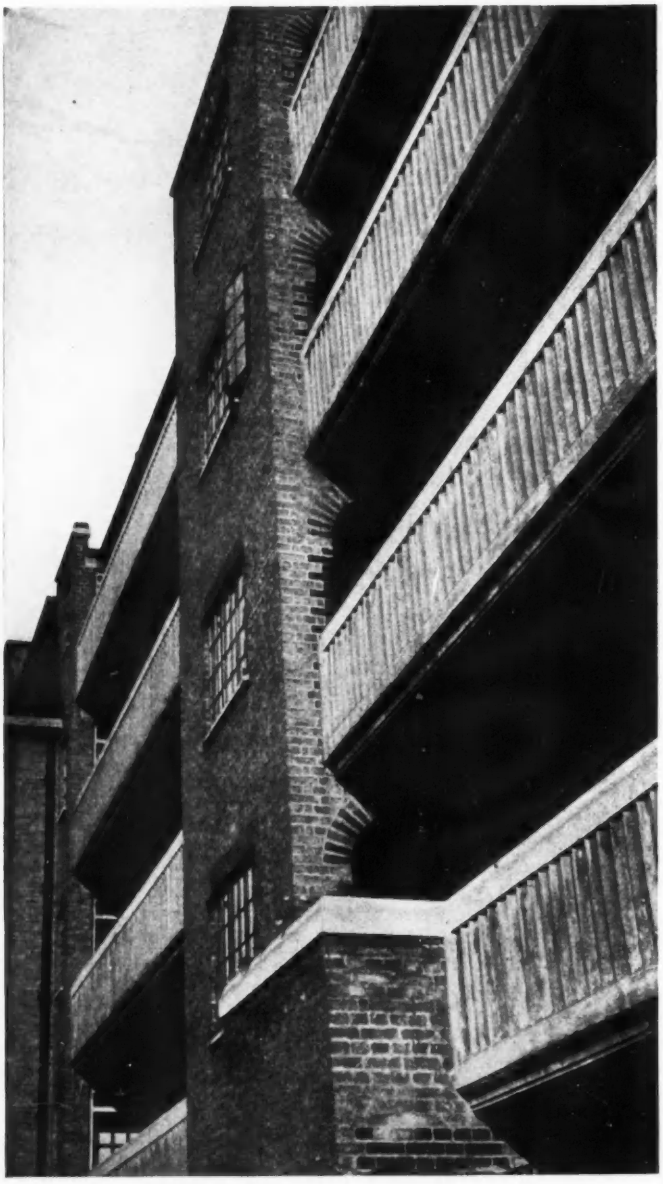
TYPE PLAN: THIRD FLOOR
(3-Roomed MAISONETTE)



LAY-OUT PLAN

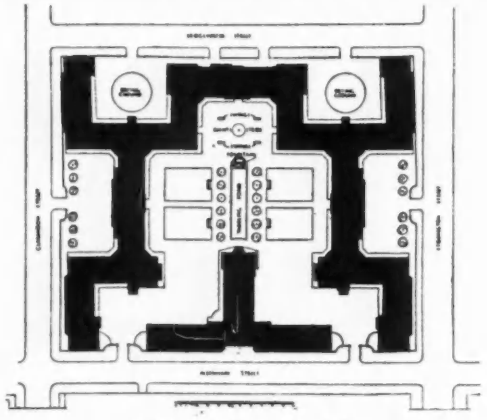
Accommodation			Totals		Costs	Rents.		
3 rm.	4 rm.	5 rm.	Flats	Rooms		3 rm.	4 rm.	5 rm.
43	27	6	76	267	1/2 per ft. cube	14/9-17/3	17/3-19/9	19/6-20/3

SIDNEY STREET ESTATE, ST. PANCRAS

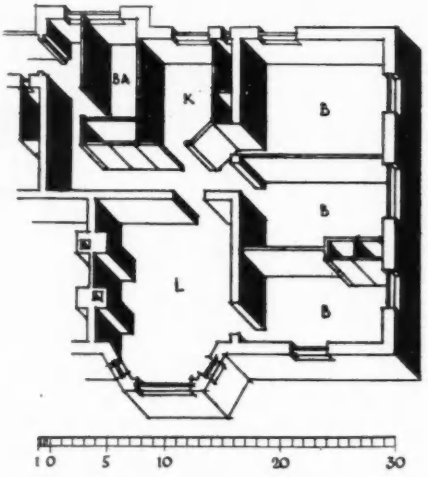


DESIGNED BY

IAN B. M. HAMILTON



LAY-OUT PLAN



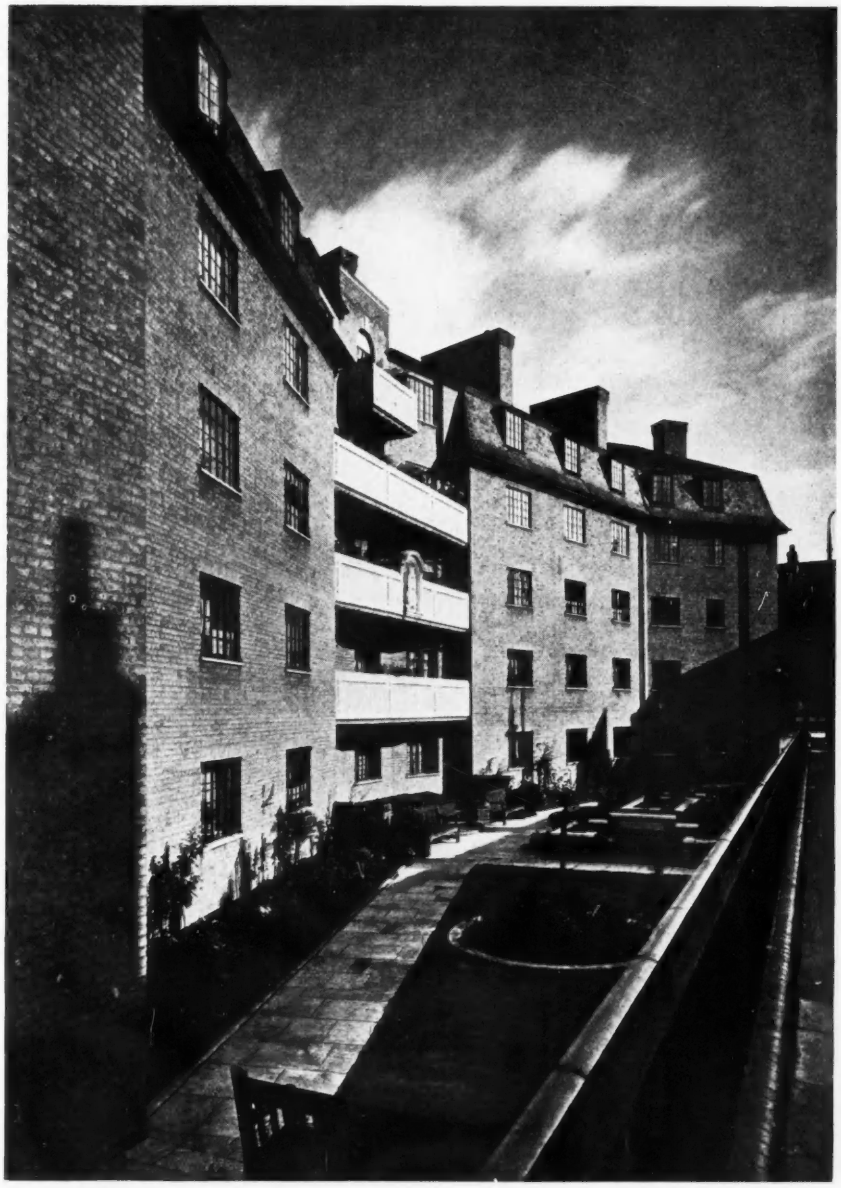
TYPE PLAN: 4-ROOMED FLAT

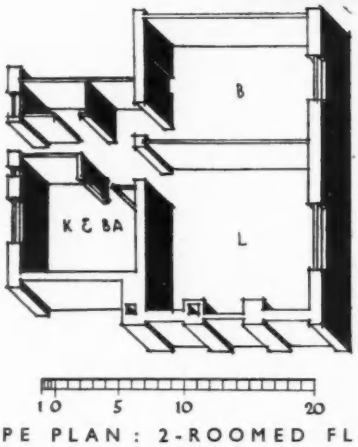
Accommodation				Totals		Costs £			
1 rm.	2 rm.	3 rm.	4 rm.	Flats	Rooms	Total	Per Flat	Per Room	Rents
4	49	100	25	178	502	85,000	477	189	4/6 per room

DRUMMOND CRESCENT, ST. PANCRAS

DESIGNED BY

IAN B. M. HAMILTON



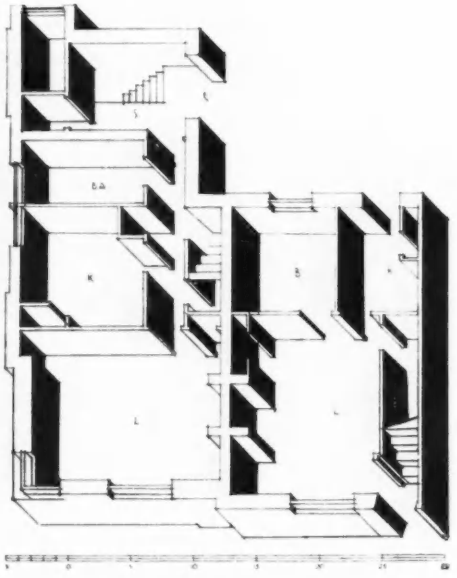


TYPE PLAN : 2-ROOMED FLAT

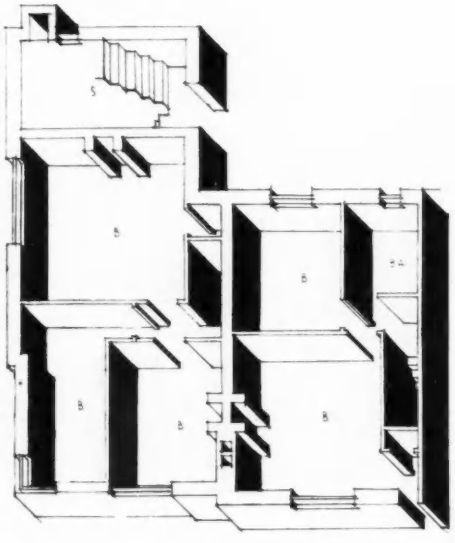
Accommodation			Totals		Costs £			
2 rm.	3 rm.	4 rm.	Flats	Rooms	Total	Per Flat	Per Room	Rents
5	40	5	50	150	26,000	520	173	4/6 per room

SILCHESTER ROAD, NORTH KENSINGTON

DESIGNED BY CAMERON KIRBY AND T. SMITH SHEARER



TYPE PLAN: GROUND FLOOR

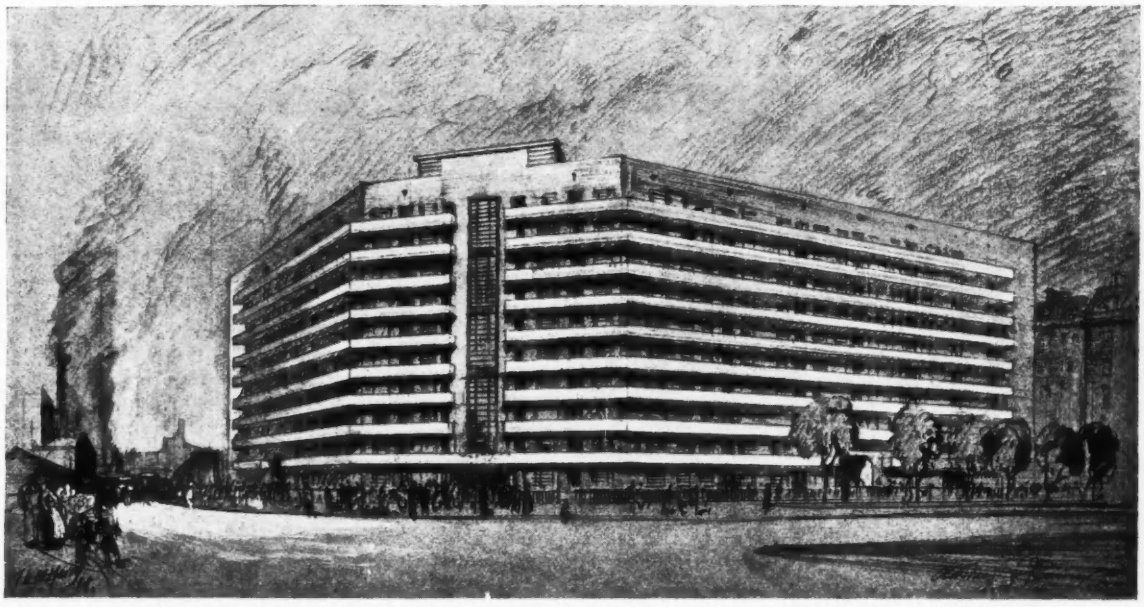


TYPE PLAN: FIRST FLOOR

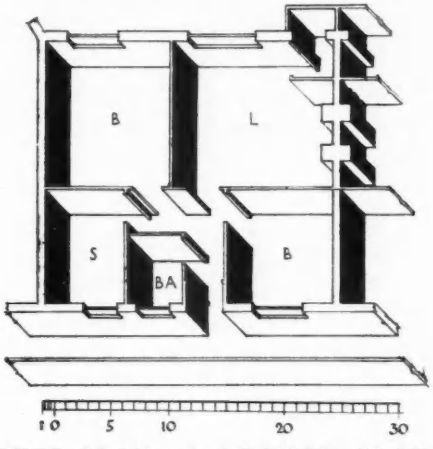
(4-roomed maisonettes)

Accommodation		Totals		Costs £			Rents	
3 rm.	4 rm.	Flats	Rooms	Total	Per Flat	Per Room	3 rm.	4 rm.
6	12	18	66	11,264	626	170	15/-	18/-

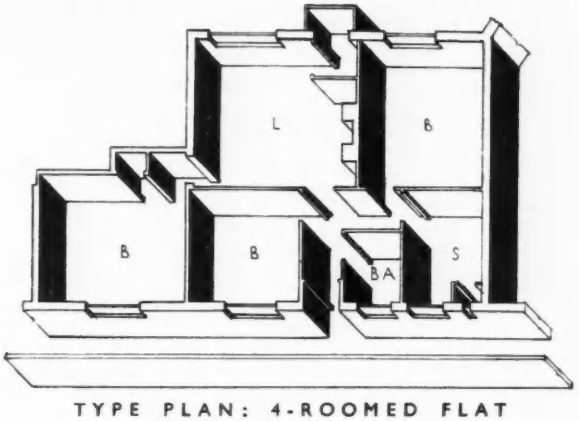
PROPOSED TENEMENT FLATS, STEPNEY



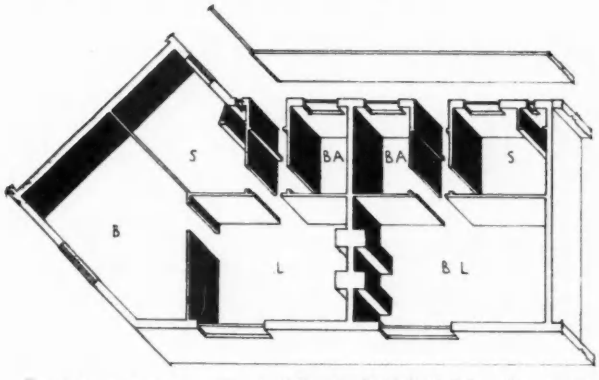
DESIGNED BY ADSHEAD AND RAMSEY



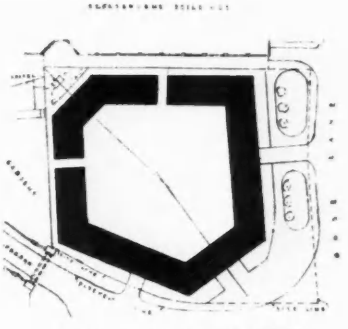
TYPE PLAN: 3-ROOMED FLAT



TYPE PLAN: 4-ROOMED FLAT



TYPE PLAN: 1 AND 2-ROOMED FLATS



LAY-OUT PLAN

Accommodation				
1 rm.	2 rm.	3 rm.	4 rm.	Total
12	2	64	26	104

There are also 32 "elastic units" which can be arranged to give 16 3-room and 16 2-room flats, or 16 4-room and 16 1-room flats, bringing the total number of flats up to 136.

" The fact is that whatever statistics may appear to prove, no one who has the slightest first-hand acquaintance of housing conditions in our big cities is satisfied that the present housing policy is likely to succeed in the twin problems of abolishing the slums and the removal of overcrowding. The difference of living in a slum and living two and three in a room is little more than a verbal one. . . .

It is not sufficiently realized that low rents are the essence of the problem. It wolud be a tragedy if the Minister for Housing believed that he was doing all that was required of him by creating a condition in which houses could be built to let at 12s. 6d. per week. . . ."
—LORD TRENT, speaking at the National Free Church Assembly, 1934.

" . . . It is essential that the Government should not only continue to press forward their plans for the clearance of slums, but also (1) should encourage local authorities to build houses which can be let at 10s. a week and under. As they can now borrow at 3½ per cent. for 60 years this is in many localities quite possible ; (2) they should legislate without delay on the lines of the Moyne Report, which would not only give another fifty years' lease of life to houses which might otherwise deteriorate into slums, but would also provide additional accommodation for the overcrowded who are now living in them ; (3) they should carefully reconsider the arguments for the creation of a National Housing Board which would borrow money at a low rate of interest with a Government guarantee for the erection of houses at a low rent where private enterprise and local authorities have failed to provide them.

" The delay of 10 or 20 years in the building of houses through miscalculation is a short period in the life of a nation, but it is a long time in the lives of men, women and children who now have for their homes wretched and overcrowded dwellings."—THE BISHOP OF WINCHESTER in a letter to *The Times*, December 13, 1933.

PART II

THE FUTURE PROBLEM

[*By ARTHUR HARRISON*]

THE Greater London area contains nearly ten million people living in 2,000 square miles and controlled by 162 local authorities. It extends some 25 miles in radius from Charing Cross, and is the most rapidly expanding region of Great Britain in population and production. It contains the major slum clearance problem of the country, the traffic problem, and the zoning problem within its orbit, as well as the related problems of rapid industrial accretion, ribbon development and spoliation of the countryside.

A TRANSPORT PLAN

In the general development of Greater London, transport tendencies are towards the gradual elimination of tramways and an increase in electric train and bus services, but a full road planning programme for quick and efficient transport is not yet in sight. The arterial roads which lead out from London's circumference do not cut through the built-up area and connect with one another ; the approach to these new roads is invariably through congested outlets which will require a large amount of reconstruction if the rapid growth of traffic is to be efficiently handled. Further, in the suburban areas, the building of factories and even bungalows along main arterial roads has been allowed without any thought as to function and purpose ; effective traffic speed has hence been slowed down and ribbon development continued out from London. Unfortunately, there are no road charges against sites which face a public highway. A comprehensive transport plan is urgently required, and it is to be hoped that the London Passenger Transport Board will take this in hand.

A ZONING PLAN

The zoning of Greater London's housing areas presents a big problem in regard to land values. If decentralization is to be undertaken, there must be a plan for establishing zones of open space, agricultural use and building. The problem of the " green belt " around London still remains unsolved, and if sufficient spaces can be reserved for this purpose there will arise the secondary problem of compensation for owners of reserved land which has been prevented from increasing in value in comparison with land zoned for building. Legislation will be needed to settle this difficulty, presumably on some basis of contribution by the owner of enhanced land values to the owner of reserved land. These difficulties remain to be faced, for there is no question but that an open belt around London plus zoning of land for different usage would constitute a betterment of the greatest value to London.

A REHOUSING PLAN

The London housing problem cannot be separated from the problems of transport and zoning on any long-term programme. There are, however, short-term programmes which could be put in hand at once without fear of prejudicing unduly the working of the greater plan.

There are three methods of approaching the rehousing question, and only three.

i. *Rehousing on the Site :* This is the easiest and the most usual procedure at present. Slum-dwellers are rehoused in large multi-storey tenement blocks built on the cleared areas, the surplus land being kept as an open space for children's playgrounds, free from traffic and with proper sun and air. Schemes such as Ossulston Street and Cumberland Market show that this method gives real improvements in accommodation, both from the point of view of general health and amenities, but it is, at best, merely temporizing.

ii. *Rehousing in Scheduled Improvement Areas.* This involves not only the demolition of slums but the general replanning of a *whole area*, the gradual concentration of dwellings in multi-storey blocks as before, probably on a slightly different site, the original site being kept as an open space, or used for roads, municipal buildings or factories in accordance with the area plan, which will depend on the probable needs of future developments.

iii. *Rehousing in Satellite Towns or Dormitory Districts.* This method demands not only a detailed study of the whole population of Greater London and its occupations, and the demands of industry in different areas, but a proper analysis of transport needs such as orbital and arterial roads, and the zoning of areas for residential, industrial or municipal purposes, and as open spaces or green belts. This coherent plan can only be carried out through the co-operation of local authorities and its preparation must inevitably take years rather than months.

We are forced, therefore, to the conclusion that since action to reduce overcrowding must be taken immediately, it must be a " short-term " plan on the lines of methods i and ii, and that during this time a long-term plan for the whole of Greater London must be drawn up by the L.C.C. Until a long-term programme is drawn up, which will include a survey of Greater London, in regard to housing, transport and zoning, the rehousing of slum dwellers in dormitory districts or satellite towns can only lead to worse confusion.

THE SHORT-TERM PLAN

To illustrate the working of the " short-term " plan it is more convenient to take a

special sector such as the Southwark and Lambeth area, which epitomizes the complex planning needs of most London boroughs. This area, which lies south of the river between London Bridge and Westminster Bridge, has its focus at the Elephant and Castle junction. It should be the spearpoint of the reconstruction attack on the south bank of the Thames and should be zoned as a complete scheme, and London Bridge should be the western limit of riverside warehouses and wharves. This area is contained within the boroughs of Lambeth and Southwark where the following conditions exist (see THE ARCHITECTS' JOURNAL, October 26, 1933).

	Lambeth	*Southwark*
Population	296,147	171,695
People living over 3 per room	7,881	10,230
People living over 1½ per room	71,458	71,559
Rooms needed to abate overcrowding at over 1½ per room ..	16,500	18,000
Houses required ..	9,000	10,000

If we examine the area in detail we find that, while much can be done to renovate such parts as Trinity Square, there are many industrial districts which should be completely cleared. The borough is becoming increasingly commercialized with uncontrolled industrial growth, and everywhere there is an ugly sprawl of overhead railway lines, with London Bridge Station smothering Southwark Cathedral. Beyond St. George's Circus the roads converge on the Elephant and Castle, a traffic centre of great importance, which has suffered from congestion for many years, and is in urgent need of reconstruction.

REPLANNING THE SECTOR

The southward industrial growth in this sector has reduced the population, though the poorer workers still remain. The first step is to move the industries elsewhere in Greater London, preferably along the banks of the river to the east, where areas are already zoned for industry in existing regional planning reports. Cafés, hotels, theatres and flats should be constructed along the south side of the river, in alignment with the County Hall, leaving only a public footpath by the river—not a motor road. The motor road should come behind the riverside buildings, not in front of them, and the whole sector should be scheduled for commercial and residential development. This development would relieve congestion along the north side and in the city, and would tend to reduce the fantastic land values which make road widening schemes almost a financial impossibility.

The road plan on the south bank does not want material alteration, since it is already fixed by the dominating importance of the Elephant and Castle; and Southwark is fortunate in possessing many broad thoroughfares, wider and better planned than those on the north bank. Hence the question of Waterloo Bridge could, if necessary, be shelved pending the development of the area. It is a case where the development can come before the bridge. The whole of the south bank problem is, however, bound up with the Southern Railway's development policy. This line carries a maze of viaducts into six different stations, with additional cross viaducts in the Lambeth-Southwark centre, and some reorganization seems desirable. This may involve the transfer of Charing Cross to the south bank, the reconstruction of London Bridge and the removal of Cannon Street and its loop line to Charing Cross. The viaducts themselves also present a considerable difficulty and the system must be partly eliminated or put under ground and electrified.

This cursory survey of the Lambeth-Southwark area indicates there there is a definite urgent case for a scheme for "land already built upon, where public improvements are likely to be made" on the part of the L.C.C. This is urgent because, since the war, no less than 36 factories and workshops, employing 5,700 workers, have been set up in Southwark, and 35 factories employing 3,150 workers in Lambeth. These figures constitute a formidable indictment of our social neglect and indifference to town planning issues.

A CO-ORDINATING AUTHORITY

So far, schemes put forward to deal with the London housing problem have been inadequate because no co-ordinating authority exists. The establishment of this authority is essential if the economies of planned large-scale operations are to be obtained in building, and if town planning, including transport, public utilities and housing are to be adequately directed. In the past, we have had the L.C.C. Housing Committee surveying conditions to set up a housing programme, and the L.C.C. Town Planning Committee, apparently slightly associated with these activities. Housing associations are carrying out separate work, and various boroughs have their own particular programmes. Only through a central authoritative and co-ordinating body, not influenced by local or vested interests, can the great problem of London's rehousing be solved, and this vital region be zoned and reconstructed.

To handle the housing work before us with vision we need a reorientation of thought; it has been left to a mixture of private enterprise, municipal enterprise and public utility associations to furnish the housing needs of the country, and there has been no consistent guidance in policy from the Government. If we consider the provision of houses in the same light as the provision of essential public services we approach the problem from the same viewpoint of social responsibility as we are accustomed to consider the provision of education. Private enterprise does not set out to serve the community only; it has to carry out operations profitable to itself; this has meant higher costs of housing than necessary and neglect of the housing of the poorest levels of the population.

Greater London constitutes the most important region in England, but the multiplicity of local authorities in this region make any central, consistent policy impossible at present. It has been suggested in a recent work on London Housing* that a central building board could co-ordinate the London housing problems. If such a body were to be formed it would be formed only as a result of the policy of the L.C.C. Today we have a new London County Council which has expressed itself as determined to start the constructive replanning of London. On what this body is able to achieve depends to a great extent the future of London.

* *Housing and Slum Clearance in London*, by Hugh Quigley and Ismay Goldie. Methuen & Co., Ltd., reviewed on page 737.

"The fact that we have allowed the slum problem to reach its present immense proportions should be a sufficient warning against the folly of unregulated industrial and urban development. It is, indeed, a national problem and it can only be sanely approached on a national scale.

"Those who have seen something of the slum areas of this country will realise that to talk of clearing the slums in five years is sheer nonsense. Not in five, ten or fifteen years will the slums be cleared, and it is as well to face the fact that we have a huge and complex task before us—a task which can only be carried through if our housing policy has continuity and reasonable freedom from governmental changes and chances.

"I cannot see that there is any sound argument against the need for a National Housing Corporation, a central authority which will direct and control the campaign for better housing. From a practical point of view the establishment of such a corporation would have immediate advantages. It could regulate prices, and it could obtain the greatest economies from bulk purchases; it would operate on so large a scale that thousands of unemployed men would be permanently absorbed into the building industry, and the industry itself would inevitably undergo a much-needed reorganisation.

"A Housing Corporation would be able to deal with the numerous aspects of the problem which are inevitably neglected under our present haphazard policy. Industrial development, migration figures, population trends, new building methods, the possibilities of reducing costs by mass production—in these and other directions the work of the Corporation would be invaluable. A body of this kind could borrow large sums of money very cheaply; there would be no difficulty in raising a housing loan of any size, even at a small rate of interest, backed by a Government guarantee."—HOWARD MARSHALL, in *Church and Slum.*

THE NEED FOR A STRONG HOUSING AUTHORITY

[BY BASIL CLITHEROE]

DURING the past year particularly there has been very considerable discussion of rebuilding and replanning in London and various proposals have been put forward, all of which have some degree of merit. We do not propose in this article to put forward any cut and dried schemes, but merely to indicate certain elements which must necessarily enter into a policy which pretends to be inspired by scientific and economic, rather than empirical, motives.

THE SOUTH BANK

Perhaps the greatest source of weakness in the majority of the propositions put forward for the replanning of London has been the distortion of perspective. Certain writers, for example, have insisted that the rebuilding of Waterloo Bridge and the solution of the Charing Cross Bridge problem are necessary to the initiation of any plan for redesigning the south bank of the Thames. They insist that one of the main reasons why the south bank has been left in such a neglected condition has been the lack of adequate systems of approach from the north bank, as represented by broad streets and good bridges. As an argument this would appear impressive, but the replanning of the south side is not a matter which has any immediate and direct connection with the commercialization of the north side. There is a danger of treating the south side, not on its merits as an area to be planned in itself, but merely as an appendix to the much wealthier and much more successful north side. As we see it, the north side can be left indefinitely to its own devices, even with a dilapidated Waterloo Bridge and an appallingly ugly and unnecessary Charing Cross Bridge, while attention is concentrated on the entire south side, with its connections right out into south-west, south and south-east London.

There is a more intimate connection between the solution of the Elephant and Castle traffic circus problem and the industrialization of Croydon than there is between the improvement of the south bank and the clearing up of the chaos ruling in the vicinity of Holborn and Oxford Street. Of the two the south bank replanning is the more urgent and the more easily carried out.

MODERN TECHNIQUE

At the present time, there seems to be no standard practice in our location or architecture, and that again is due to lack of perspective. The architects who are designing the palatial service and residential flats along Park Lane or South Audley Street or Grosvenor Square, or in the vicinity of Regent's Park and Marble Arch, have obviously not studied the possibility of making this flat architecture something which would raise the tone of the whole neighbourhood. They have still certain excrescences inherited from the tinsel Victorian era and they have simplicities which have some association with modern ideas, but artistically the combination is almost valueless, and in this case the lack of perspective may be tantamount to inability to project a design into a period years ahead of actual construction.

It is extraordinarily difficult, in the whole of London today, to discover in recent building any real conception of what is meant by street façade, by orderly design and by functional adequacy. None of the new middle or high-class flats shows any perception of this, nor do the factories built in the middle of the town or along the by-passes, certainly none of the suburban housing schemes, and to that extent they are all definitely inferior to what has been achieved in the past. If one goes to slum areas like Stepney, one finds a whole series of streets which are notable for harmonious design and alignment, even if they have fallen to the condition of slums. The same observation can be made in districts near the centre of the town like St. Marylebone and in middle-class areas like Pimlico and Kensington.

In practically every case the new buildings which have been put up to replace those older buildings have none of the qualities which made the latter harmonize so well with the conception of London as a civilized centre.

If the architectural profession has been unable to evolve any real standards of form and design and mass which can be applied to very large housing schemes so that they can be fitted into a replanned capital as it emerges from the present, it will be impossible for any extensive planning scheme to be applied with any degree of success. It may be possible to provide for open spaces, for the construction of boulevards, for the definition of types of building, but if the buildings themselves are not harmonious and belong to all styles of architecture, if in their equipment they do not take the fullest possible advantage of the progress effected by modern science and technique, if they are merely a continuation of inherited styles and standards, then a great part of the increased amenities caused by replanning will have been lost. There is no point in making architectural atrocities more clearly visible in the future than they are now. The important thing is to eliminate the atrocity while providing for the substitution of something finer and better.

MINERS' WELFARE COMMITTEE

There is one example of a really deliberate policy which has the merits of perspective and of architectural quality, and which is worth examination as being probably unique in this country—the work of the Miners' Welfare Committee. This committee has been entrusted since 1922 with the task of erecting pithead baths all over the country, and up to the end of 1933 it has spent about £10 million in carrying out this function. This committee could have construed its duties in a very local and partisan fashion. They could have said: "All we need to do is to put up baths as cheaply as possible, which will comply with the requirements of the Act which created the Miners' Welfare Fund"—and no one would have found fault with them for doing so, because this policy would have been in the true *laisser-faire* tradition. But the committee construed its duties otherwise. We quote from the 1933 report:

"There are collieries—not only abroad, but also in this country—which have proved that ugliness and untidiness are not inevitable features of a successful coal mine. For our part we are convinced that an improvement in the general aspect of an unsightly and untidy colliery yard would have a psychological effect that would be beneficial to the employees as well as advantageous to the employers.

"The erection of pithead baths may offer an opportunity to make a contribution towards an improvement in this direction. We seek to do this, first, by utilizing a site that lends itself to the purpose. The bath installations are often large structures and add an important feature to the surface buildings, a feature competing with the

headgear and power houses. The site is therefore considered in its architectural relationship with the other buildings, and especially in respect of its potentiality for the greatest possible influence on the general aspect of the colliery. Particularly are we averse to the expenditure of large sums from the Baths Fund on sites with poor access to frontages, on sites enclosed by erections, perhaps temporary, built with little regard to design or siting, or on sites that will not, when developed, afford increased amenity.

"Secondly, we aim to secure effect from the external appearance of a building of distinctive note and of design suited to the natural setting or existing grouping. We do not feel justified in allowing expenditure on ornament and decoration, but our architects are able to achieve results of architectural worth relying solely upon line and well-proportioned surfaces. Indeed, it may be said that the more satisfactory modern industrial buildings have an extreme simplicity in elevational treatment with a marked absence of fuss. Economical building need not be mean, but building solely for cheapness without regard to design would be unworthy. A well-proportioned tower, a well-designed entrance, a balanced façade, are good things to look upon.

"The Government have undertaken a campaign to extirpate slum conditions in housing. Is there not also a slum condition in industry, especially in such an old-established industry as coal-mining—a condition which is the legacy of earlier times? There are those who would argue that the pithead cannot be other than a place of gloom by reason of the nature of its activities. This has already been disproved, independently of any action of ours, by the enterprise and enthusiasm of a few colliery owners and not only at the new pits of the Midlands. We conceive it to be our privilege and duty to assist or stimulate the movement to ameliorate pithead 'Slum' conditions by the manner in which grants for pit welfare are expended.

"Some colliery owners, we hasten to add, have not been slow to seize the occasion of the erection of baths to arrange for other improvements to be made at the same time at their own expense, but planned by our architects as part of comprehensive schemes including, for example, surface ambulance rooms, lamp rooms, colliery offices, access bridges, cycle stores and even accommodation for social welfare.

"Progress in this direction, however, has been relatively small and we feel it our duty to call attention here to the desirability of taking every opportunity to mitigate the dismal conditions created by the hurried and unplanned developments of the last century. We hope that, with the resuscitation of the industry, increasing consideration will be given to this important matter."

The work actually carried out by this committee, as we see it, in about 80 installations, contains some of the finest and most pleasing building in the country, and the building is harmonious in all its parts, and has already created a distinctive type of architecture which is not inferior to the best product of the most advanced continental countries. If we go from one pithead bath installation to another, we can see the same guiding influence at work with the same remarkable results.

A CENTRAL PLANNING BODY

Those who are interested in the replanning and rebuilding of London could do worse than study with the greatest care the policy which has gone to the achievement described by the Miners' Welfare Committee; no finer case could be made out for the creation of a central co-ordinating and central planning body for London, such as that which might evolve out of a more active and more powerful L.C.C.

What are the merits of this committee as we see them? They are as follows:—

I. Central control and central planning, coupled with the ownership of the necessary financial facilities and the necessary legislative sanctions.

II. Independence of local interests, coupled with the conception on the part of the committee of control of an æsthetic and architectural function.

III. Their exact and careful study of the essentials, engineering and hygienic and social, governing the new building activity, and with it a careful study of surrounding areas.

IV. A willingness to experiment in new models and to adhere as little as possible to stale uniformity in the actual design of the buildings, coupled with the maximum standardization of the essential equipment which must go into every installation irrespective of architectural appearance, and the careful adaptation of low cost materials to the purposes in hand.

London has already a definite example in front of it on which proposals for replanning and rebuilding can be modelled. It can be admitted at once that the size of the problem in front of a body like the Miners' Welfare Committee is very much less than that confronting a London Regional Planning Committee, but the principles at stake are very similar. A London Planning Committee must have the requisite statutory powers. It must be in possession of the necessary finance; it must have control over every element which goes to form the complex represented by London; it must have a clear conception in front of it of such things as street façades, harmonious arterial road development, the alignment of open spaces, the limitations of height and depth and mass as applied to all buildings, the relationship between industrial, commercial and domestic architecture; and it must, in addition, have some idea of perspective both towards the past and towards the future. In other words, a Regional Planning Committee must not content itself with creating green belts or scheduling areas for industrial activities or residential activities. It must not say only that schools should be built in this location and churches in another; it must have a voice in the actual design of the buildings themselves.

At the present time there is no such planning committee. All this work is vested in the L.C.C., which, as we know, has in the past made no effort to construe its functions in any but the most careless and legalistic fashion. It has created a number of rules and regulations governing the height of buildings, sanitation, illumination, ventilation, but, beyond that, it has made no effort to ensure that new buildings should be at least harmonious in themselves. Is it credible, for example, that an organization with a really enlightened view of its responsibility would have allowed new factories to go up indiscriminately in the Battersea and Southwark districts, or would have allowed a Government department to overshadow St. Paul's.

THREE STAGES IN THE REPLANNING OF LONDON

A policy of reconstruction and replanning would probably cover three stages:—

I. The L.C.C. should take over the whole of South London lying between Wandsworth Bridge and London Bridge, with an extension southward to include the Elephant and Castle area, and administer it as a single unified housing estate. It should not only arrange for the replanning of the area but should constitute itself the administrative and developing authority. In other words, it should not limit its activities to slum clearance or the replanning of houses; it should, in the replanned area, be responsible for the administration of hotels, licensed premises, theatres, concert halls, and baths; it should constitute itself the public utility authority in matters bearing on electricity, gas and water, and take over the distribution powers of existing organizations in those utilities; it should even go as far as to introduce the principle of the municipal bank in this new area.

This would appear a revolutionary doctrine, but there are sufficiently good models in existence. The Miners' Welfare Committee is a model of a type of central organization engaged in building construction with sufficient authority to do so. The State Management Districts, in Carlisle particularly, show how hotels and restaurants and licensed premises can be administered by a central authority which is not associated with the hotel and brewing industry. Birmingham provides the model for the municipal bank, and the L.C.C. itself, as part of its housing activities, has power to build such things as baths, libraries and concert halls.

It may not be possible to carry out this scheme all at once, but it should definitely form the centre of any progressive policy. A co-ordinating authority like the L.C.C. should be in a position to recover some of its excess expenditure on such things as slum clearance from other more profitable activities inseparable from the conduct of a great centre of population.

II. The L.C.C. should take over from all the local authorities their house building activities, in order that some uniformity of practice, design, construction and equipment can be established. The present system, whereby local authorities build certain sections of slum clearance schemes and the L.C.C. build other sections has neither logic nor economics to justify it.

If this is done, it should be possible for the L.C.C. to give us good architecture

and provide accommodation at very much lower rentals than are at present charged. In constructing the new schemes, the fullest possible attention should be given to technical developments in the equipment and in the supply of essential services. The new housing estates will last for at least 40 or 50 years if they are properly built and designed and it would be absurd for them to have antiquated equipment and services. This means very careful research into relative economies and a fairly careful study of social and amenity factors.

The L.C.C. should not be influenced, or allow itself to be influenced, directly or indirectly, by any special interests which conflict with its function of providing housing units at an economic price, and it should not be deterred by legislation which hinders it in carrying out this function. Restrictive and obstructive legislation calculated to protect special interests can always be repealed.

There should also be more exact supervision, not merely of the location of new commercial and industrial buildings, of new flat dwellings and housing schemes other than those carried out by local authorities, but very definite supervision over their design and equipment. An aggregation of industrial slum areas such as we have at Battersea or at Southwark or, for that matter, at Barking, should not be permitted in the future. There is no reason why new industrial buildings should not be decently designed.

III. The final development is obviously a building and a planning organization for the whole of London, which would absorb the activities of the L.C.C. and the local authorities and would have the power to sanction building of all kinds and, if necessary, carry out the functions for selected parts of London at least, such as we have outlined as proper to the L.C.C. in its control and administration of the South Bank estate.

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SUMMARY

It is only through control of actual building of all kinds, through the power to develop estates on its own authority, through the exact regulation of architectural types and through the specification of such things as essential services and equipment that the new organization can work properly. The experiences of the Greater London Regional Planning Committee, which has been wholly advisory, with no powers of compulsion whatever, shows that we cannot expect to have the problem of the replanning and rehousing of London carried out by consent. It can only be carried out by a central body powerful enough to have its wishes realized, and we have already in the public utilities a sufficient knowledge of this type of body to evolve a suitable organization.

PART III

LASTLY . . . .

THE BUILDING INDUSTRY

[BY A SPECIAL CONTRIBUTOR]

PROBABLY within the course of the next twelve or eighteen months, if the hopes of the housing reformers—to say nothing of the ambitions of the present Minister of Health—are realized, the building industry will be faced with the biggest housing task in its history. The building industry must not fail in this task, as the whole organization of the industry, as well as the principles underlying what is implied by that little understood term "free enterprise," is at stake. Nothing is more certain than that, in the event of failure, the judgment at the bar of public opinion will be that the extent of the failure to solve the slum-clearance-cum-housing problem is the measure of the failure of the building industry to do its proper job of work.

THE PROBLEM: PAST AND PRESENT

It is essential that the industry should not make the fatal error of tackling the problem of slum clearance and re-housing in an unorganized and piecemeal manner. Past efforts to solve the problem have failed because of the lack of a true conception by the building industry of the problem before it, namely, that it was essentially a national one, and not merely a series of disconnected local ones. In the past local sporadic and promiscuous efforts have consistently been made, whereas the dimensions and ramifications of the problem of housing requires an essentially national outlook, and calls for the nation-wide application of remedial measures. The circumstances, however, that have prevailed in the past with respect to housing and the failures that have followed, were not due to, nor were such as could be regarded as, entirely the fault of the building industry. The fault has consistently been that for some inexplicable reason, the particular government in power has not attempted to ascertain, or in any way to outline, the dimensions of the problem they were calling upon the building industry to solve. Governments in the past have, in effect, merely indicated comparatively few areas where, by some means, not necessarily the best organized means, it had become known that a certain number of houses were required upon the basis of alleged but undefined reasons. In no one instance has the government of the day set down in clear and concise form the outline or elementary dimensions of the problem it was asking the country, and in particular, the building industry to solve.

There are two aspects, therefore, of the present phase of the problem to be kept in mind, as calling for preparatory action. The first is that the Government must take steps—which should not present any administrative difficulties whatsoever—to ascertain clearly and upon lines that can be easily understood, the exact dimensions of the task before it, and at the same time to be able to give a concise quantitive statement of what is required from the building industry in the matter of constructional production, together with the assurance that the programme or scheme of requirements thus outlined will be the basic policy of the country for a stated period of say ten years.

THE DOMESTIC PROBLEM

Having thus briefly outlined the task of the Government in the matter, the second aspect becomes the domestic concern of the building industry. Whatever the requirements of the Government may be, the building industry must take steps to put itself in a position to meet them effectively, and within a reasonable time. There is no doubt in the minds of persons interested in large-scale housing development that the administratively conceived piecemeal procedure of Government Departments, which have had such a fatal effect in the past, must not be allowed to prevail as a substitute for long-term national administrative planning ; and, in effect, at the expense of the organizing powers of the building industry.

Assuming that the housing requirements of the country are formulated in such a manner that the building in-

> *"Probably the best solution would be found by creating a small body of Housing Commissioners who should be armed with the necessary authority to make their work effective. They could be responsible to the House of Commons through the Minister of Health, but given independence, as it is most desirable that the housing problem should not be made a political issue. The Commissioners should primarily be charged with the responsibility of planning and financing, but not with that of building. If their scope were limited to these functions authority could safely be centralized, but any attempt to centralize the actual building operations would prove fatal, as these are widespread and involve a large number of interlocking interests. Building operations should be decentralized and, where possible, local facilities availed of. The Building Commissioners should be invested with authority to acquire land at a fair price, compulsorily if need be, and be put in a position to cut away all red tape where it retards action.*
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> *"It would be their duty to survey the whole position, co-operate with councils in the formation of plans, or, where required, to initiate them. They should have at their command adequate finance provided by a Government guaranteed loan at a low rate of interest and would make advances only for approved schemes. In a word, their main duties would be to plan finance and exercise an overriding control, but not to build."*
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> MR. P. MALCOLM STEWART, *speaking at the annual meeting of the London Brick Company and Forders, Ltd. (March 1, 1934).*

dustry can appreciate them in terms of required production, the task of the building industry becomes more or less simple, and such as can be expressed in measures of planning and organized construction.

It does not matter very much on the essentially practical side of the problem when the planning is done, provided it is done as part of the essential architectural services involved in re-housing, and that it is done in time. In short, there is no need to hold up constructional work pending large-scale planning. Properly conceived, planning can always keep ahead of construction.

Provided, therefore, that a really effective architectural service is established, efficient planning can be assured. Moreover, given effective planning, and the assurances in the matter of long-term policy, organization on the constructional side of the industry is fully capable of dealing with, and producing, the output required.

SUMMARY

To sum up, therefore, the position so far as "working-class" housing in this country is concerned is that provided the Government do their part in the way of defining the requirements and remit the constructional demands of those requirements to the building industry in such a form that it can organize its efforts with the knowledge that stable conditions will be maintained and that continuity of employment will be provided as part of a definite policy, the housing problem can be solved well within the life-span of the majority of the people.

A word may be added on the present "fashion" of setting up all sorts of funny committees — interested and otherwise—to find solutions to what is popularly referred to as the "National Housing Problem." These committees—like the alchemists of old, and just as shaky, searching for the transmutation of the baser metals into gold—appear to base their deliberations on the assumption that there is some short and ready-made formula, if it can only be found, for transforming old slum sites and conditions into a series of seventh heavens, sometimes seven heavens to a floor, and ten whole floors of them. These good people were never more mistaken. Slums are the products of the frailties of human nature and whatever problems are thrown up by them they will be solved only by the application of traditional means—namely, evolution through the slow machine of education and the use of traditional materials, in the only place they can properly be used, namely, in the open country—on the horizontal axis. No real solution will be found by monstrosities of elevated Rowton House cubicles, or elevated termites' cheese palaces, often conceived and supported by hucksters of so-called new building methods and materials, which after all but prove to be the discarded methods and materials of past experience.

Real and lasting progress in the razing of the slums will be found in the use of the building industry's well-tried traditional materials and methods, and not by the cheap and nasty stuff that is now so widely peddled by those whose only interest in the building industry is to batten on it while they think that the urge developed by the public conscience and determination to clear the slums gives them the opportunity to do so.

LITERATURE

THE NEW SURVEY OF LONDON LIFE AND LABOUR

The New Survey of London Life and Labour. Volumes VI and VIII. Survey of Social Conditions. —II. The Western Area and Western Area Maps. P. S. King and Son. 17s. 6d. each.

THE essential purpose of this Survey is the study of poverty, the primary cause of almost all social evils. This, in the opinion of the reviewer, is not such a truism as it may appear to the initiated.

It should be emphasized that the Survey relates mainly to the years 1929-30. The former year saw the peak of the last trade boom and towards its conclusion there set in the "Great Depression." The proportion of persons below the poverty line in London now must, therefore, be considerably greater than that found at the time of the Survey.

The sixth volume contains comparisons between the East and West areas of the Survey, summaries relating to the whole Survey Area, five special studies, and very useful "Borough Summaries" by Mr. J. W. Verdier, the Secretary of the Survey.

The poverty standard used for the purposes of the Survey is low in relation to present ideas. But in order that comparisons could be made, it was necessary to take the standard used by Charles Booth in his Survey of forty years before.

490,000 Londoners (8·7 per cent.) live "in poverty," or rather lived in poverty in 1929-30, the proportion living in poverty having fallen by about 70 per cent. It appears necessary to emphasize that this does *not* mean that the people of London are, on average, 70 per cent. better off. It means just what it says—but the proportion falling below the Booth standard was in 1929-30 less than one-third of the proportion falling below this same standard in 1889. There is no necessary relationship between such a figure and a general average of real wages or family incomes.

Unemployment, rather than low wages for a full week's work, is now the most important factor in poverty. In 1929 the percentage of the working class in poverty in a week of full employment was 4·6, in the week of Survey 9·1. The latter figure would undoubtedly be higher now, the former would be little affected.

Poverty is less concentrated than in Booth's day. The maps in Volume VII bring out this point with great clarity. Every street is assigned a colour. In the Western Area the greatest concentrations of "black" and "blue" streets are in those areas which are more or less notorious for poverty and bad housing. North of the river there are the streets lying north of Pentonville Road, the part of Somers Town west of the new blocks of flats, Southam Street (Kensington) and the streets immediately behind it, and Clarendon Street (Paddington) and the surrounding streets. South of the river a large part of Southwark and North Lambeth and a small block of north-west Camberwell strike the eye. The Southwark-Lambeth concentration is much the largest.

The housing problem, which is related to the problem of poverty in many parts of the Survey, receives a special chapter to

itself covering nearly 70 pages. The deficiency of houses existing and the effect of the work that has been done are carefully appraised in this chapter, of which perhaps the most interesting section is devoted to "Types of Working Class Dwellings." The sketch plans accompanying the description of these typical dwellings, which range from the 90 year old two room cottage and the 110 year old Georgian house now in multiple working-class occupation, to the post war L.C.C. parlour cottage and block dwelling, have been selected in consultation with a number of housing experts.

On the question of "Block Dwellings v. Cottages," the conclusion is reached that the views expressed in Octavia Hill's special study in the Booth Survey need modification in the light of experience. It is recognized that the need for property management in these dwellings is imperative.

For the considered views of the Director of the Survey on the general problem of London housing we must turn back to the Introductory Chapter to Volume VI.

"The policy of reconditioning slum houses reduces but does not entirely avoid the difficulty of rehousing. Reconditioning, though sometimes unfairly regarded as a makeshift device which may stand in the light of more drastic measures, is in reality an essential supplement to slum clearance. In view of the great proportion of working-class families now living in tenement houses which have never been constructionally adapted to serve as multiple dwellings, it would seem that there must be a large number of cases in which some form of reconditioning is the proper remedy." *Rightly considered, the three methods, viz., new building, slum clearance, and reconditioning, are not mutually exclusive alternatives, but three acets of any coherent housing policy.* (Our italics.)

Nobody can talk about replanning London without a thorough knowledge of what is told in this Survey.

P. H. M.

> *"It is of the utmost importance that . . . each local authority should undertake the long-range planning of its existing built-up areas. In most cities, there are large areas containing slum property, which will have to be demolished under any scheme of clearance, not far from the central parts of the city, and others mixed up among areas which are largely industrial, and which ought never to be used for housing purposes at all. The clearance of these areas gives an opportunity, which must at all costs be utilized, for seeing that their redevelopment takes place on the proper lines, and that housing and industrial purposes are each relegated to their proper districts. The preparation of these plans will be a matter of considerable difficulty and the utmost importance, and all the available sources of skill—town-planners, architects, surveyors, economists and engineers—should be invited to co-operate in their production.*
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> *"A reliable estimate of the city's future population must be obtained, and the lay-out of the whole area arranged so as to provide conditions conducing to the greatest possible degree of health and convenience for its inhabitants. Detailed arrangements should be made for pulling down each year the largest possible number of the squalid and crowded houses that disfigure the central areas of our cities, and for rebuilding the vacant areas with the finest streets and buildings which it is possible to design. If we really mean it we could within fifty years provide for every family a good house in a healthy, convenient and beautiful city. Here is a task worthy of the best brains and energies of the nation."*
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> —SIR ERNEST SIMON,
> in *The Anti-Slum Campaign.*

HOUSING IN LONDON

Housing and Slum Clearance in London. By Hugh Quigley and Ismay Goldie. London: Methuen. Price 7s. 6d. net.

HOUSING in this country is looked upon as a business; houses are commodities to be bought and sold in the open market for profit. Despite a fine record of government controlled housing dating from the war, this viewpoint remains substantially unchanged, and dictates government policy. Always the expectation of profit from the building of houses has been followed by a conscious weakening of government control, because governments continue to look upon private enterprise as the natural and desirable agency for the provision of housing accommodation. Most housing literature has been forced by mental environment to adopt the same viewpoint, and not before has there been incorporated within the range of a single work a detailed history of 100 years of private housing enterprise in London, and, arising from this, the development of the idea of a planned community.

A few years ago even intelligent people saw no way out of the morass of bad urbanism, and ". . . it is probably only in recent years that the full economic and social significance of housing has been appreciated—an advance in public opinion which can be seen in many other sections and types of communal activity." We are beginning to believe in the possibility of a planned community, in measure as we get down to the technique of housing considered as a part of sociology and urbanism—as a *human need*, not a commodity. "In this period of transition, the scrutiny of motive and objective misses nothing in a desire to determine a clear mode of life and a proper social order and, out of the confusion which is the modern state in all its activities, functions and responsibilities, the provision of housing—the material surroundings and arrangement of communal life—rises into a position of critical importance." That is our mental attitude today. We are beginning to see daylight. Now we want an objective.

I know no better method of setting a new direction than that adopted by the authors. In the light of a rapidly broadening intelligence they analyse once more the history of the events that bring us to where we stand and they show us that what appears at first thought to run contrary to every accepted convention of society, is, in fact, the natural outcome of economic and social forces; this view is about to be accepted by a contemporary society educated by years of reformation.

London is the product of private enterprise. The nineteenth century produced no planned community; on a rising market and with wealth pouring into the country as never before, private enterprise, restricted in very little, provided the only housing for the teeming poor of London, and every other crowded centre in the land. "Never in its long progression has the human animal been housed in fouler pens than in the mid-nineteenth century, and undoubtedly the worst of these were to be found in London."

From this low level we have risen slowly, as Act upon Act has set limits to the degree of exploitation condoned by society. But progress has been in reverse, as it were, articulate law-making society, versus the system of profit-making enterprise: an advance by restriction of abuse: a negatively applied and largely unplanned advance. With declining markets and the confusion of unplanning, the profits of housing have declined except where overcrowding and lowered standards have extorted further margins of unholy profit. Since the war the system has shown every mark of failure, and if under urban conditions the failure is admittedly complete, elsewhere it is no less obvious. "Certain critics have looked on the planning of housing, as of a modern community in its entirety, as a fight between public control and private enterprise. We do not believe that it is so, because it is not a matter for private enterprise at all." There is the outcome accepted and boldly stated, and allowing for every good work to be set to the credit of private enterprise, there is no other way of reconciling the facts as they present themselves to us today. We have reached a position where control by restriction must give way to control through construction, and that is the way towards a planned community.

Nothing shows more clearly than Ismay Goldie's brilliant analysis of the miserable achievements of housing in London during the last hundred years how rapidly we have advanced in these few years of economic depression towards a new conception of communal responsibility. This national conscience is indeed "the spirit of the time" that will distinguish our period from others.

It is not possible to do justice in a few words to the mass of factual and analytical matter to be found between the covers of this book. I have indicated what I take to be its overriding argument, but there remains to support this a wealth of information and instruction. I cannot help feeling it to be the most important publication of recent years.

E. M. F.

BYZANTINE ARCHITECTURE

[*By H. G. Walton*]

Byzantine Architecture and Decoration. By J. Arnott Hamilton. London: Batsford. Price 18s.

A WORK which bears the stamp of scholarship together with a title of intense interest always raises the hope that here may be an exception to the almost universal rule that all architectural histories are quite unreadable and utterly useless, either to the pleasure lover or the practical man. But Doctor Arnott Hamilton's book on *Byzantine Architecture and Decoration* only goes to prove that a good subject and a sound knowledge of it are of no avail against this blight on architectural literature, if the science of considering the subject as a whole and of subjecting to the closest scrutiny the gradual change of goal which is the essential factor to the continuation of first-class achievement in any branch of art, is not given a definitely prior place to the consideration of individual works.

That Dr. Hamilton has failed to make this necessary subordination of the parts to the whole is not to say that he is oblivious to the evolutionary aspect of architecture. On the contrary, besides enlarging on the dual derivation of Byzantine work from Hellenistic and Syrian sources, he is careful in the consideration of each individual building to point out what previous works had been the guiding influence. What he does not attempt to answer is the inevitable question: "Why were the builders influenced by that particular work, and not by any other of the numerous possible prototypes?" Because it was the only one they had seen? Impossible! Because it was the only one they admired? Then what guided their taste? What led them to passionate predilections which their immediate successors, still builders in the Byzantine manner, did not share? If close study of the architecture of past generations does not give sufficient insight into their minds to enable such questions as these to be answered there seems to be little advantage in pursuing it.

Perhaps it is his lack of interest in these essential problems which has led the author to divide his book geographically rather than chronologically. There are much greater differences of architectural character between the various phases which make up the thousand years of Byzantine activity than between the characteristics of the style peculiar to the several provinces of the Empire, grouped for the most part around the eastern and central Mediterranean. Any confusion which division into epochs might involve with regard to the relative positions of the places concerned could be easily remedied by a map showing the principal centres of Byzantine culture.

To the credit of the book it may be said that it is well packed with carefully chosen illustrations. Those of the mosaics, lacking the prime factor of colour, strike the eye as more interesting than beautiful. The architectural photographs, though small in scale, are uniformly excellent as illustration, though not always as pictures.

The style of the book, moreover, is less arid than the matter, though it contains many of the cant phrases of modern theories of architecture, which sound even more meaningless applied to the historical styles than to the modernist. When it is set down that the Byzantine style is "Logical and free from superfluous features," it can only be concluded that "logical" and "superfluous" are here euphemisms for "well proportioned" and "ugly" respectively, the two latter words being at the moment *demodé*. No closer interpretation of the terms will make the statement anything but a definite untruth.

Even the greatest virtues of style, however, could not render the perusal of catalogues of buildings and their features anything but a useless drudgery. The lists of descriptive details are unprofitable both to those who have and have not seen the building in question; the latter can have no interest in it except as a possible expression of an idea, and the former have first-hand knowledge of the facts. These facts, it is true, form a more comprehensive list than it would be easy for those engaged in research to find elsewhere; but even in the realms of fact there are regrettable omissions. In eulogizing the mosaics of Ravenna, for instance, the author fails to mention that they are so hopelessly restored both in colour and design as to give practically no idea of those glories of sixth-century Byzantine art generally supposed to be found there. Perhaps he wishes to spare the feelings of the many pilgrims who for years have looked on Ravenna as the Mecca amongst the shrines of the greatest colourist movement the world has known.

TWO ANNUAL PUBLICATIONS

Laxton's and Lockwood's Builders' Price Book. 1934 Edition. London: Kelly's Directories, Ltd. Price 7s. 6d. net (post free).

The Municipal Year Book. 1934 Edition. London: Municipal Journals, Ltd. Price 30s. net.

"LAXWOOD'S" was first issued in 1817 and—like "Johnny Walker"—is still going strong. The present edition has been carefully revised to bring the prices up to date, and particulars of new products have been included.

The book is divided into trade sections and includes information on, and prices of, builders' and contractors' plant and specialists' work, e.g., lifts, heating, etc., and a number of useful tables and memoranda and there is a very full index which renders reference to any required information a simple matter. The most notable feature is the incorporation of the standard rates of wages for the building trades in England and Wales which came into force on February 1 last.

The Municipal Year Book, although a mere youth in comparison with "Laxwood's"—it was published in 1897—has nearly reached the weight and girth of *Webster's Dictionary*. The new edition has been extended from 37 sections to 45 and various improvements have been effected. While all previous features are retained, new sections deal with, among other subjects, digest of law cases affecting local government during the year; slum clearance; museums and art galleries, etc. The book gives particulars of all local authorities in England, Wales, Scotland and Ireland; names and addresses of members of councils; names of chief officers; population, rateable value, rates in 1933-34, and numerous information concerning county, borough, urban, and rural districts. The Rt. Hon. Sir Hilton Young, M.P., Minister of Health, contributes the preface, and the Hon. Oliver Stanley, M.P. (Minister of Transport), has written the foreword to the Roads and Transport Section.

Publications Received

The Principles of Heating and Ventilation. By H. M. Vernon. London: Edward Arrold & Co. Price 14s.

The Surrey Landscape. By W. Harding Thompson and Geoffrey Clark. London: A. C. Black, Ltd. Price 5s.

The Studio Year Book of Decorative Art, 1934. Edited by C. G. Holme. London: The Studio. Price 7s. 6d.

Carnegie United Kingdom Trust: *20th Annual Report.*

Ladenbau. By Adolf Schumacher. Stuttgart: Julius Hoffman. Price 7s. 6d.

Life and Adventure in Medieval Europe. By R. J. Mitchell. London: Longmans, Green & Co., Ltd. Price 3s.

English Romanesque Architecture after the Conquest. By A. W. Clapham, F.S.A. London: Oxford University Press. Price 30s.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I s. d.	II s. d.
A_1	ABERDARE	S. Wales & M.	1 5	1 0½
A_1	Abergavenny	S Wales & M.	1 5	1 0½
A_2	Abingdon	S. Counties	1 4	1 0
A	Accrington	N.W. Counties	1 5½	1 1½
A_2	Addlestone	S. Counties	1 4	1 0
A	Adlington	N.W. Counties	1 5½	1 1½
A	Airdrie	Scotland	*1 5½	1 1½
C	Aldeburgh	E. Counties	1 1½	10½
A	Altrincham	N.W. Counties	1 5½	1 1½
B_2	Appleby	N.W. Counties	1 2	10½
A	Ashton-under-Lyne	N.W. Counties	1 5½	1 1½
A_2	Atherstone	Mid. Counties	1 4	1 0
B_2	Aylesbury	S. Counties	1 2½	11
B_1	BANBURY	S. Counties	1 3	11½
B_1	Bangor	N.W. Counties	1 3	11½
A_2	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley	Yorkshire	1 5½	1 1½
B	Barnstaple	S.W. Counties	1 3½	11½
A	Barrow	N.W. Counties	1 5½	1 1½
A	Barry	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke	S.W. Counties	1 3	11½
A_2	Bath	S.W. Counties	1 4½	1 0½
A	Batley	Yorkshire	1 5½	1 1½
A_2	Bedford	E. Counties	1 4½	1 0½
A_2	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley	Mid. Counties	1 4½	1 0½
B_2	Bicester	S. Counties	1 2	10½
	Birkenhead	N.W. Counties	*1 7	1 2½
A	Birmingham	Mid. Counties	1 5½	1 1½
A_1	Bishop Auckland	N.E. Coast	1 5	1 0½
A	Blackburn	N.W. Counties	1 5½	1 1½
A	Blackpool	N.W. Counties	1 5½	1 1½
A	Blyth	N.E. Coast	1 5½	1 1½
B_1	Bognor	S. Counties	1 3	11½
A	Bolton	N.W. Counties	1 5½	1 1½
A_2	Boston	Mid. Counties	1 4	1 0
A_2	Bournemouth	S. Counties	1 4	1 0
B_2	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford	Yorkshire	1 5½	1 1½
A_1	Brentwood	E. Counties	1 5	1 0½
A	Bridgend	S. Wales & M.	1 5½	1 1½
B_1	Bridgwater	S.W. Counties	1 3	11½
A_1	Bridlington	Yorkshire	1 5	1 0½
A	Brighouse	Yorkshire	1 5½	1 1½
A_2	Brighton	S. Counties	1 4	1 0
A	Bristol	S.W. Counties	1 5½	1 1½
B_2	Brixham	S.W. Counties	1 2½	11
A_2	Bromsgrove	Mid. Counties	1 4½	1 0½
B_2	Bromyard	Mid. Counties	1 2	10½
A	Burnley	N.W. Counties	1 5½	1 1½
A	Burslem	Mid. Counties	1 5½	1 1½
A	Burton-on-Trent	Mid. Counties	1 5½	1 1½
A	Bury	N.W. Counties	1 5½	1 1½
A_1	Buxton	N.W. Counties	1 5	1 0½
A_1	CAMBRIDGE	E. Counties	1 5	1 0½
B_1	Canterbury	S. Counties	1 3	11½
A	Cardiff	S. Wales & M.	1 5½	1 1½
A	Carlisle	N.W. Counties	1 5½	1 1½
B	Carmarthen	S. Wales & M.	1 3½	11½
B	Carnarvon	N.W. Counties	1 3½	11½
A	Carnforth	N.W. Counties	1 5½	1 1½
A	Castleford	Yorkshire	1 5½	1 1½
B	Chatham	S. Counties	1 3½	11½
A_2	Chelmsford	E. Counties	1 4	1 0
A_2	Cheltenham	S.W. Counties	1 4	1 0
A	Chester	N.W. Counties	1 5½	1 1½
A	Chesterfield	Mid. Counties	1 5½	1 1½
B_1	Chichester	S. Counties	1 3	11½
A	Chorley	N.W. Counties	1 5½	1 1½
B_1	Cirencester	S. Counties	1 3	11½
A	Clitheroe	N.W. Counties	1 5½	1 1½
A	Clydebank	Scotland	1 5½	1 1½
A	Coalville	Mid. Counties	1 5½	1 1½
A_2	Colchester	E. Counties	1 4	1 0
A	Colne	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay	N.W. Counties	1 4½	1 0½
A_1	Consett	N.E. Coast	1 5	1 0½
A_2	Conway	N.W. Counties	1 4½	1 0½
A	Coventry	Mid. Counties	1 5½	1 1½
A_2	Crewe	N.W. Counties	1 4½	1 0½
A	Cumberland	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1½
A	Darwen	N.W. Counties	1 5½	1 1½
B_1	Deal	S. Counties	1 3	11½
A_2	Denbigh	N.W. Counties	1 4	1 0
A	Derby	Mid. Counties	1 5½	1 1½
A	Dewsbury	Yorkshire	1 5½	1 1½
B	Didcot	S. Counties	1 3½	11½
A	Doncaster	Yorkshire	1 5½	1 1½
B_2	Dorchester	S.W. Counties	1 2½	11
A	Driffield	Yorkshire	1 4	1 0
A_2	Droitwich	Mid. Counties	1 4½	1 0½
A	Dudley	Mid. Counties	1 5½	1 1½
A	Dundee	Scotland	1 5½	1 1½
A	Durham	N.E. Coast	1 5½	1 1½
A_2	EASTBOURNE	S. Counties	1 4	1 0
A_1	Ebbw Vale	S. Wales & M.	1 5	1 0½
A	Edinburgh	Scotland	1 5½	1 1½
A_1	E. Glamorgan-shire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter	S.W. Counties	*1 4½	1 0½
B	Exmouth	S.W. Counties	1 3½	11½
A_2	FELIXSTOWE	E. Counties	1 4	1 0
A_2	Filey	Yorkshire	1 4	1 0
A	Fleetwood	N.W. Counties	1 5½	1 1½
B_1	Folkestone	S. Counties	1 3	11½
A	Frodsham	N.W. Counties	1 5½	1 1½
B_2	Frome	S.W. Counties	1 2½	11
A	GATESHEAD	N.E. Coast	1 5½	1 1½
B	Gillingham	S. Counties	1 3½	11½
A_2	Gloucester	S.W. Counties	1 4½	1 0½
A_2	Goole	Yorkshire	1 4½	1 0½
A_2	Gosport	S. Counties	1 4½	1 0½
A_2	Grantham	Mid. Counties	1 4	1 0
A_1	Gravesend	S. Counties	1 5	1 0½
A	Greenock	Scotland	*1 5½	1 1½
A	Grimsby	Yorkshire	1 5½	1 1½
B	Guildford	S. Counties	1 3½	11½
A	HALIFAX	Yorkshire	1 5½	1 1½
A	Hanley	Mid. Counties	1 5½	1 1½
A	Harrogate	Yorkshire	1 5½	1 1½
A	Hartlepools	N.E. Coast	1 5½	1 1½
B	Harwich	E. Counties	1 3½	11½
B_1	Hastings	S. Counties	1 3	11½
A_2	Hatfield	S. Counties	1 4½	1 0½
B	Hereford	S.W. Counties	1 3½	11½
A_2	Hertford	E. Counties	1 4½	1 0½
A	Heysham	N.W. Counties	1 5½	1 1½
A	Howden	N.E. Coast	1 5½	1 1½
A	Huddersfield	Yorkshire	1 5½	1 1½
A	Hull	Yorkshire	1 5½	1 1½
A	ILKLEY	Yorkshire	1 5½	1 1½
A	Immingham	Mid. Counties	1 5½	1 1½
A_2	Ipswich	E. Counties	1 4½	1 0½
B_2	Isle of Wight	S. Counties	1 2	10½
A	JARROW	N.E. Coast	1 5½	1 1½
A	KEIGHLEY	Yorkshire	1 5½	1 1½
B	Kendal	N.W. Counties	1 3½	11½
B	Keswick	N.W. Counties	1 3½	11½
A_2	Kettering	Mid. Counties	1 4½	1 0½
A_2	Kidderminster	Mid. Counties	1 4½	1 0½
B_1	King's Lynn	E. Counties	1 3	11½
A	LANCASTER	N.W. Counties	1 5½	1 1½
A_1	Leamington	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester	Mid. Counties	1 5½	1 1½
A	Leigh	N.W. Counties	1 5½	1 1½
B_2	Lewes	S. Counties	1 2	10½
A_2	Lichfield	Mid. Counties	1 4½	1 0½
A	Lincoln	Mid. Counties	1 5½	1 1½
	Liverpool	N.W. Counties	*1 7	1 2½
A_2	Llandudno	N.W. Counties	1 4½	1 0½
A	Llanelly	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12-15 miles radius)		1 6½	1 2
A	Long Eaton	Mid. Counties	1 5½	1 1½
A	Loughborough	Mid. Counties	1 5½	1 1½
A_2	Luton	E. Counties	1 4	1 0
A	Lytham	N.W. Counties	1 5½	1 1½
A_1	MACCLESFIELD	N.W. Counties	1 5	1 0½
B	Maidstone	S. Counties	1 3½	11½
A_2	Malvern	Mid. Counties	1 4	1 0
A	Manchester	N.W. Counties	1 5½	1 1½
A	Mansfield	Mid. Counties	1 5½	1 1½
B_1	Margate	S. Counties	1 3	11½
A	Matlock	Mid. Counties	1 4	1 0
A_1	Merthyr	S. Wales & M.	1 5	1 0½
A	Middesbrough	N.E. Coast	1 5½	1 1½
A_2	Middlewich	N.W. Counties	1 4½	1 0½
B_2	Minehead	S.W. Counties	1 2½	11
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1 2½	11
A	Morecambe	N.W. Counties	1 5½	1 1½
A_2	NANTWICH	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson	N.W. Counties	1 5½	1 1½
A	Newcastle	N.E. Coast	1 5½	1 1½
A	Newport	S. Wales & M.	1 5½	1 1½
A	Normanton	Yorkshire	1 5½	1 1½
A	Northampton	Mid. Counties	1 5½	1 1½
A	North Staffs	Mid. Counties	1 5½	1 1½
A	North Shields	N.E. Coast	1 5½	1 1½
A_1	Norwich	E. Counties	1 5	1 0½
A	Nottingham	Mid. Counties	1 5½	1 1½
A	Nuneaton	Mid. Counties	1 5½	1 1½
A_2	OAKHAM	Mid. Counties	1 4	1 0
A	Oldham	N.W. Counties	1 5½	1 1½
A_2	Oswestry	N.W. Counties	1 4	1 0
A_2	Oxford	S. Counties	1 4½	1 0½
A	PAISLEY	Scotland	*1 5½	1 1½
B_2	Pembroke	S. Wales & M.	1 2	10½
A	Perth	Scotland	*1 5½	1 1½
A_2	Peterborough	E. Counties	1 4½	1 0½
A	Plymouth	S.W. Counties	*1 5½	1 1½
A	Pontefract	Yorkshire	1 5½	1 1½
A_1	Pontypridd	S. Wales & M.	1 5	1 0½
A_2	Portsmouth	S. Counties	1 4½	1 0½
A	Preston	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING	S. Counties	1 4½	1 0½
B	Reigate	S. Counties	1 3½	11½
A_2	Retford	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A_2	Ripon	Yorkshire	1 4	1 0
A	Rochdale	N.W. Counties	1 5½	1 1½
B	Rochester	S. Counties	1 3½	11½
A_1	Ruabon	N.W. Counties	1 5	1 0½
A	Rugby	Mid. Counties	1 5½	1 1½
A_2	Rugeley	Mid. Counties	1 4½	1 0½
A	Runcorn	N.W. Counties	1 5½	1 1½
A_1	ST. ALBANS	E. Counties	1 5	1 0½
A	St. Helens	N.W. Counties	1 5½	1 1½
B_2	Salisbury	S.W. Counties	1 2½	11
A_1	Scarborough	Yorkshire	1 5	1 0½
A	Scunthorpe	Mid. Counties	1 5½	1 1½
A	Sheffield	Yorkshire	1 5½	1 1½
A	Shipley	Yorkshire	1 5½	1 1½
A_2	Shrewsbury	Mid. Counties	1 4½	1 0½
A_2	Skipton	Yorkshire	1 4½	1 0½
A_2	Slough	S. Counties	1 4½	1 0½
A_1	Solihull	Mid. Counties	1 5	1 0½
A_2	Southampton	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport	N.W. Counties	1 5½	1 1½
A	S. Shields	N.E. Coast	1 5½	1 1½
A_1	Stafford	Mid. Counties	1 5	1 0½
A	Stockport	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud	S.W. Counties	1 3½	11½
A	Sunderland	N.E. Coast	1 5½	1 1½
A	Swadlincote	Mid. Counties	1 5½	1 1½
A	Swansea	S. Wales & M.	1 5½	1 1½
A_2	Swindon	S.W. Counties	1 4	1 0
A_1	TAMWORTH	N.W. Counties	1 5	1 0½
B	Taunton	S.W. Counties	1 3½	11½
A	Teesside Dist.	N.E. Counties	1 5½	1 1½
A_2	Teignmouth	S.W. Coast	1 4	1 0
A	Todmorden	Yorkshire	1 5½	1 1½
A_1	Torquay	S.W. Counties	1 5	1 0½
B_2	Truro	S.W. Counties	1 2½	11
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall	Mid. Counties	1 5½	1 1½
A	Tyne District	N.E. Coast	1 5½	1 1½
A	WAKEFIELD	Yorkshire	1 5½	1 1½
A	Walsall	Mid. Counties	1 5½	1 1½
A	Warrington	N.W. Counties	1 5½	1 1½
A_1	Warwick	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid. Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby	Yorkshire	1 4½	1 0½
A	Widnes	N.W. Counties	1 5½	1 1½
A	Wigan	N.W. Counties	1 5½	1 1½
B	Winchester	S. Counties	1 3½	11½
A_2	Windsor	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester	Mid. Counties	1 4½	1 0½
A_2	Worksop	Yorkshire	1 4	1 0
A_1	Wrexham	N.W. Counties	1 5	1 0½
A_2	Wycombe	S. Counties	1 4	1 0
B_2	YARMOUTH	E. Counties	1 3	11½
B_2	Yeovil	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	1 1½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request.

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR		£	s.	d.
Digging over surface n/e 12" deep and cart away	Y.S.		2	9
" to reduce levels n/e 5' 0" deep and cart away	Y.C.		8	6
" to form basement n/e 5' 0" deep and cart away	"		9	0
" " 10' 0" deep and cart away	"		9	6
" " 15' 0" deep and cart away	"		10	0
If in stiff clay	add "		2	6
If in underpinning	" "		4	0
Planking and strutting to sides of excavation	F.S.		1	0
" " to pier holes	"			5
" " to trenches	"			5
" " extra, only if left in	"			3
Hardcore, filled in and rammed	Y.C.		10	0
Portland cement concrete in foundations (6-1)	"	1	6	0
" " (4-2-1)	"	1	12	6
" " underpinning	"	1	16	0
Finishing surface of concrete, spade face	Y.S.			7

DRAINLAYER		4" s. d.	6" s. d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1 6	2 3
Extra, only for bends	Each	2 8	3 9
" junctions		3 9	4 6
Gullies and gratings	"	16 6	18 0
Cast iron drains, and laying and jointing	F.R.	4 9	6 9
Extra, only for bends	Each	10 6	15 6

BRICKLAYER		£	s.	d.
Brickwork, Flettons in lime mortar	Per Rod	27	10	0
" in cement	"	28	15	0
" Stocks in cement	"	35	0	0
" Blues in cement	"	52	0	0
Extra only for circular on plan	"	2	0	0
" backing to masonry	"	1	10	0
" raising on old walls	"	2	0	0
" underpinning	"	5	10	0
Fair Face and pointing internally	F.S.			1½
Extra over fletton brickwork for picked stock facings and pointing	"			8½
" " " red brick facings and pointing	"			11
" " " blue brick facings and pointing	"		1	4
" " " glazed brick facings and pointing	"		3	6
Tuck pointing	"			7
Weather pointing in cement	"			3½
Slate dampcourse	"			10
Vertical dampcourse	"		1	1

ASPHALTER		s.	d.
½" Horizontal dampcourse	Y.S.	4	6
½" Vertical dampcourse	"	6	9
½" paving or flat	"	4	0
1" paving or flat	"	5	6
1" × 6" skirting	F.R.	1	0
Angle fillet	"		2
Rounded angle	"		2
Cesspools	Each	5	0

MASON		s.	d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C.	17	9
Bath stone and do., all as last	"	13	6
Artificial stone and do.	"	13	0
York stone templates, fixed complete	"	10	6
" thresholds	"	13	6
" sills	"	1	0	6

SLATER AND TILER		£	s.	d.
Slating, Bangor or equal, laid to a 3" lap, and fixing with compo nails, 20" × 10"	Sqr.	3	10	0
Do., 18" × 9"	"	3	7	0
Do., 24" × 12"	"	3	17	0
Westmorland slating, laid with diminished courses	"	6	0	0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course	"	3	0	0
Do., all as last, but of machine-made tiles	"	2	16	0
20" × 10" medium Old Delabole slating, laid to a 3" lap (grey)	"	4	6	0
" " " " " (green)	"	4	15	0

CARPENTER AND JOINER		£	s.	d.
Flat boarded centering to concrete floors, including all strutting	Sqr.	2	5	0
Shuttering to sides and soffits of beams	F.S.			8
" to stanchions	"			8
" to staircases	"		1	8
Fir and fixing in wall plates, lintols, etc.	F.C.		3	9
Fir framed in floors	"		4	6
" " roofs	"		6	6
" " trusses	"		7	6
" " partitions	"		8	6
½" deal sawn boarding and fixing to joists	Sqr.	1	14	6
1" " " " "	"	1	17	6
1½" " " " "	"	2	3	0
1½" × 2" fir battening for Countess slating	"		9	6
Do. for 4" gauge tiling	"		12	0
Stout feather-edged tilting fillet	F.R.			4½
Patent inodorous felt, 1 ply	Y.S.		2	3
" " " 2 "	"		2	9
" " " 3 "	"		3	3
Stout herringbone strutting to 9" joists	F.R.			10½
1" deal gutter boards and bearers	F.S.		1	2
1½" " " " "	"		1	6
2" deal wrought rounded roll	F.R.			8
1" deal grooved and tongued flooring, laid complete, including cleaning off	Sqr.	2	1	0
1½" do.	"	2	10	0
1½" do.	"	2	17	0
1" deal moulded skirting, fixed on, and including grounds plugged to wall	F.S.		1	6
1½" do.	"		1	9

CARPENTER AND JOINER—*continued*		s.	d
1½" deal moulded sashes of average size	F.S.	1	9½
2" " " "	"	1	11½
1½" deal cased frames double hung, of 6" × 3" oak sills, 1½" pulley stiles, 1½" beads, 1" inside and outside linings, ½" parting beads, and with brass faced axle pulleys, etc., fixed complete	"	3	7
2" " " "	"	3	10
Extra only for moulded horns	Each		6
1½" deal four-panel square, both sides, door	F.S.	2	0
2" " " "	"	2	8
1½" " but moulded both sides	"	2	4
2" " " "	"	3	0
4" × 3" deal, rebated and moulded frames	F.R.	1	0
4½" × 3½" " " "	"	1	4
1½" deal tongued and moulded window board, on and including deal bearers	F.S.	1	9
1½" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	"	2	6
1½" deal moulded wall strings	"	2	1
1½" " outer strings	"	2	4
Ends of treads and risers housed to string	Each	1	9
3" × 2" deal moulded handrail	F.R.	1	3
1" × 1" deal balusters and housing each end	Each	2	0
1½" × 1½" " " "	"	2	9
3" × 3" deal wrought framed newels	F.R.	1	3
Extra only for newel caps	Each	6	0
Do., pendants	"	6	0

SMITH AND FOUNDER		£	s.	d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt.	15	6	
Riveted plate or compound girders, and hoisting and fixing in position	"	19	6	
Do. stanchions with riveted caps and bases and do.	"	19	0	
Mild steel bar reinforcement, ½" and up, bent and fixed complete	"	17	6	
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S.			11
Wrot-iron caulked and cambered chimney bars	Per cwt.	1	10	0

PLUMBER		£	s.	d.
Milled lead and labour in flats	cwt.	1	12	0
Do. in flashings	"	1	15	6
Do. in covering to turrets	"	2	3	0
Do. in soakers	"	1	7	6
Labour to welted edge	F.R.			3½
Open copper nailing	"			3
Close " "	"			4

		½" s. d.	¾" s. d.	1" s. d.	1½" s. d.	2" s. d.	4" s. d.
Lead service pipe and fixing with pipe hooks	F.R.	10	1 0	1 3	2 0	2 10	—
Do. soil pipe and fixing with cast lead tacks		—	—	—	—	—	5 6
Extra, only to bends	Each	—	—	—	—	2 0	6 9
Do. to stop ends	"	6½	8	9	11	1 0	—
Boiler screws and unions	"	3 3	3 9	5 0	8 0	—	—
Lead traps	"	—	—	—	6 3	8 9	—
Screw down bib valves	"	6 9	9 6	11 0	—	—	—
Do. stop cocks	"	7 0	9 6	12 6	—	—	—

		s.	d.
4" cast-iron ½-rd. gutter and fixing	F.R.	1	0
Extra, only stop ends	Each	1	0
Do. angles	"	1	6
Do. outlets	"	2	9
4" dia. cast-iron rain-water pipe and fixing with ears cast on	F.R.	1	2
Extra, only for shoes	Each	1	3
Do. for plain heads	"	5	6

PLASTERER AND TILING		s.	d.
Expanded metal lathing, small mesh	Y.S.	2	0
Do. in n/w to beams, stanchions, etc.	"	2	9
Lathing with sawn laths to ceilings	"	1	3
½" screeding in Portland cement and sand for tiling, wood block floor, etc.	"	1	5
Do. vertical	"	1	7
Rough render on walls	"	1	2½
Render, float and set in lime and hair	"	1	9
Render and set in Sirapite	"	1	11
Render, backing in cement and sand, and set in Keene's cement	"	2	9
Extra, only if on lathing	"		4
Keene's cement, angle and arris	F.R.		6
Arris	"		1½
Rounded angle, small	"		3
Plain cornices in plaster, including dubbing out, per 1" girth	"		1½
1" granolithic pavings	Y.S.	3	6
1½" "	"	4	6
6" × 6" white glazed wall tiling and fixing on prepared screed	"	17	6
9" × 3" " " " "	"	1	2	6
Extra, only for small quadrant angle	F.R.			8

GLAZIER		s.	d
21 oz. sheet glass and glazing with putty	F.S.		7½
26 oz. do. and do.	"		8½
Flemish, Arctic, Figured (white) and glazing with putty	"	1	1
Cathedral glass and do.	"	1	2
Glazing only, British polished plate	"		7
Extra, only if in beads	"		2
Washleather	F.R.		4

PAINTER		s.	d.
Clearcolle and whiten ceilings	Y.S.		6½
Do. and distemper walls	"		9
Do. with washable distemper	"	1	1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	"	3	3
Do. on woodwork	"	3	6
Do. on steelwork	"	3	0
Do. and brush grain and twice varnish	"	5	6
Stain and twice varnish woodwork	"	1	11
Stain and wax-polish woodwork	"	4	6
French polishing	F.S.	1	2
Stripping off old paper	Piece	2	0
Hanging ordinary paper	from "	2	9

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	£ s. d.
Bricklayer . . . . . per hour	1 7
Carpenter . . . . . ,,	1 7
Joiner . . . . . ,,	1 7
Machinist . . . . . ,,	1 8
Mason (Banker) . . . . . ,,	1 7
,, (Fixer) . . . . . ,,	1 8
Plumber . . . . . ,,	1 7
Painter . . . . . ,,	1 6
Paperhanger . . . . . ,,	1 6
Glazier . . . . . ,,	1 7
Slater . . . . . ,,	1 7
Scaffolder . . . . . ,,	1 3
Timberman . . . . . ,,	1 3
Navvy . . . . . ,,	1 2½
General Labourer . . . . . ,,	1 2½
Lorryman . . . . . ,,	1 5
Crane Driver . . . . . ,,	1 6
Watchman . . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£ s. d.
Grey Stone Lime . . . . . per ton	2 2 0
Blue Lias Lime . . . . . ,,	1 16 6
Hydrated Lime . . . . . ,,	3 0 9
Portland Cement, in 4 ton lots (d/d site, including Paper Bags) . . ,,	1 18 0
Rapid Hardening Cement, in 4 ton lots (d/d site, including Paper Bags) ,,	2 5 6
White Portland Cement, in 1 ton lots ,,	8 15 0
Thames Ballast . . . . . per Y.C.	6 3
¾" Crushed Ballast . . . . . ,,	6 9
Building Sand . . . . . ,,	7 3
Washed Sand . . . . . ,,	8 3
2" Broken Brick . . . . . ,,	8 0
¾" ,, ,, ... ,,	10 3
Pan Breeze . . . . . ,,	6 6
Coke Breeze . . . . . ,,	8 9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

	4" s. d.	6" s. d.
Straight Pipes . . per F.R	0 9	1 1
Bends . . . each	1 9	2 6
Taper Bends . . ,,	3 6	5 3
Rest Bends . . ,,	4 3	6 3
Single junctions . . ,,	3 6	5 3
Double . . ,,	4 9	6 6
Straight channels . per F.R.	1 6	2 6
¾" Channel bends . each	2 9	4 0
Channel junctions . ,,	4 6	6 6
Channel tapers . ,,	2 9	4 0
Yard gullies . ,,	6 9	8 9
Interceptors . ,,	16 0	19 6
IRON DRAINS:		
Iron drain pipe . per F.R.	1 6	2 6
Bends . . each	5 0	10 6
Inspection bends . ,,	9 0	15 0
Single junctions . ,,	8 9	18 0
Double junctions . ,,	13 6	30 0
Lead wool . . lb.	6	—
Gaskin . . ,,	5	—

BRICKLAYER

	£ s. d.
Flettons . . . . . per M.	2 18 0
Grooved do. . . . . ,,	3 0 0
Phorpres bricks . . . . . ,,	2 17 3
Phorpres Cellular bricks . . . ,,	2 17 3
Stocks, 1st quality . . . . ,,	4 11 0
,, 2nd ,, ... ,,	4 2 6
Blue Bricks, Pressed . . . ,,	8 17 6
,, Wirecuts . . . ,,	7 17 6
,, Bridles . . . ,,	7 0 0
,, Bullnose . . . ,,	9 0 0
Red Sand-faced Facings . . ,,	6 18 6
Red Rubbers for Arches . . ,,	12 0 0
Multicoloured Facings . . ,,	7 10 0
Luton Facings . . . . ,,	7 10 0
Phorpres White Facings . . ,,	3 17 3
Phorpres Rustic Facings . . ,,	3 12 3
Midhurst White Facings . . ,,	5 0 0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:	
Stretchers . . . . . ,,	21 0 0
Headers . . . . . ,,	20 10 0
Bullnose . . . . . ,,	27 10 0
Double Stretchers . . . ,,	29 10 0
Double Headers . . . ,,	26 10 0
Glazed Second Quality, *Less* . . ,,	1 0 0
,, Buffs and Creams, *Add* . ,,	2 0 0
,, Other Colours . . ,,	5 10 0
2" Breeze Partition Blocks . per Y.S.	1 7
2½" ,, ,, ,, . . ,,	1 10
3" ,, ,, ,, . . ,,	2 1
4" ,, ,, ,, . . ,,	2 6

MASON

	s. d.
The following d/d F.O.R. at Nine Elms:	
Portland stone, Whitbed . . F.C.	4 4½
,, ,, Basebed . . ,,	4 9
Bath stone . . . . . ,,	2 11
York stone . . . . . ,,	6 6
,, ,, Sawn templates . . ,,	7 6
,, ,, Paving, 2" . . . F.S.	1 8
,, ,, ,, 3" . . . ,,	2 6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£ s. d.
24" × 12" Duchesses . . per M.	28 17 6
22" × 12" Marchionesses . . ,,	24 10 0
20" × 10" Countesses . . ,,	19 5 0
18" × 10" Viscountesses . . ,,	15 10 0
18" × 9" Ladies . . . ,,	13 17 6
Westmorland green (random sizes) . per ton	8 10 0
Old Delabole slates d/d in full truck loads to Nine Elms Station:	
20" × 10" medium grey per 1,000 (actual)	21 11 6
,, green ,, ,,	24 7 4
Best machine roofing tiles . . ,,	4 10 0
Best hand-made do. . . . ,,	5 0 0
Hips and valleys . . . each	9½
,, hand-made . . . ,,	10
Nails, compo . . . . lb.	1 4
,, copper . . . ,,	1 6

CARPENTER AND JOINER

	s. d.
Good carcassing timber . . F.C.	2 2
Birch . . . . as 1" F.S.	9
Deal, Joiner's . . . ,, ,,	5
,, ,, 2nds . . ,, ,,	4
Mahogany, Honduras . . ,, ,,	1 3
,, African . . ,, ,,	1 1
,, Cuban . . ,, ,,	2 6
Oak, plain American . . ,, ,,	1 0
,, Figured ,, . . ,, ,,	1 3
,, Plain Japanese . . ,, ,,	1 2
,, Figured ,, . . ,, ,,	1 5
,, Austrian wainscot . . ,, ,,	1 6
,, English . . . ,, ,,	1 11
Pine, Yellow . . . ,, ,,	1 0
,, Oregon . . . ,, ,,	4
,, British Columbian . . ,, ,,	4
Teak, Moulmein . . . ,, ,,	1 3
,, Burma . . . ,, ,,	1 2
Walnut, American . . . ,, ,,	2 3
,, French . . . ,, ,,	2 3
Whitewood, American . . ,, ,,	1 1
Deal floorings, ¾" . . . Sq.	18 6
,, ⅞" . . . ,,	1 1 6
,, 1" . . . ,,	1 2 0
,, 1¼" . . . ,,	1 5 0
,, 1½" . . . ,,	1 10 0
Deal matchings ¾" . . . ,,	14 0
,, ⅞" . . . ,,	15 6
,, 1" . . . ,,	1 4 0
Rough boarding ¾" . . . ,,	16 0
,, 1" . . . ,,	18 0
,, 1¼" . . . ,,	1 6 0
Plywood, per ft. sup.	d. 8

Thickness	¼"			½"			¾"			¼"		
Qualities	AA.	A.	B.	AA.	A.	B.	AA.	A.	B.	AA.	A.	B.
	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.
Birch	4	3	2	5	4	3	7½	6	4½	8½	7	6
Alder	3½	3	2	5	4	3	6½	5½	4½	8	7	6
Gaboon Mahogany	4	3	3	6½	5½	4½	9½	7½	-	1/0½	10	-
Figured Oak 1 side	8½	7	-	10	8	-	11½	-	-	1/6	-	-
Plain Oak 1 side	6½	6	-	7½	7	-	9½	-	-	1/-	-	-
Oregon Pine	5	4	-	5½	5	-	6	-	-	-	-	-

Scotch glue . . . . . lb.	8

SMITH AND FOUNDER

Tubes and Fittings:

(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	¼"	⅜"	½"	¾"	1"	1¼"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10		
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9		
,, 3"-11½" long ,,	7	9	1/3	1/8	3/-		
Long screws, 12"-23½" long ,,	11	1/3	2/2	2/10	5/3		
,, ,, 3"M-1½" long ,,	8	10	1/5	1/11	3/6		
Bends . . . . . ,,	8	11	1/7½	2/7½	5/2		
Springs not socketed . ,,	5	7	1/1½	1/11½	3/11		
Socket unions . . ,,	2/-	3/-	5/6	6/9	10/-		
Elbows, square . . ,,	10	1/1	1/6	2/2	4/3		
Tees . . . . ,,	1/-	1/3	1/10	2/6	5/1		
Crosses . . . ,,	2/2	2/9	4/1	5/6	10/6		
Plain Sockets and nipples ,,	3	4	6	8	1/3		
Diminished sockets . ,,	4	6	9	1/-	2/-		
Flanges . . . . ,,	9	1/-	1/4	1/9	2/9		
Caps . . . . ,,	3½	5	8	1/-	2/-		
Backnuts . . . ,,	2	3	5	6	1/1		
Iron main cocks . . ,,	1/6	2/3	4/2	5/4	11/6		
,, ,, with brass plugs ,,	—	4/-	7/6	10/-	22/-		

Discounts:

TUBES.

Per cent.		Per cent.
Gas . . . 65	Galvanized gas .	52½
Water . . . 61½	,, water	47½
Steam . . . 57½	,, steam	42½

FITTINGS.

Gas . . . 57½	Galvanized gas . 47½
Water . . . 52½	,, water 42½
Steam . . . 47½	,, steam 37½

SMITH AND FOUNDER—*continued*

	s. d.
Rolled steel joists cut to length . . cwt.	10 9
Mild steel reinforcing rods, ¾" . . ,,	8 6
,, ,, ⅝" . . ,,	8 3
,, ,, ½" . . ,,	8 0
,, ,, ⅜" . . ,,	7 6
,, ,, ¼" . . ,,	7 6
,, ,, ⅞" . . ,,	7 6
,, ,, 1¼" . . ,,	7 6
,, ,, 1½" . . ,,	7 6

Cast-iron rain-water pipes of ordinary thickness metal .	3" s. d. F.R 8	4" s. d. 10
Shoes	each 2 0	3 0
Anti-splash shoes . .	,, 4 6	8 0
Boots	,, 3 0	4 0
Bends	,, 2 7	3 9
,, with access door . .	,, —	6 3
Heads	,, 4 0	5 0
Swan-necks up to 9" offsets .	,, 3 9	6 0
Plinth bends, 4½" to 6" . .	,, 3 9	5 3
Half-round rain-water gutters of ordinary thickness metal .	F.R. 5	6
Stop ends	each 6	6
Angles	,, 1 7	1 11
Obtuse angles . . .	,, 2 0	2 6
Outlets	,, 1 9	2 3

PLUMBER

	£ s. d.
Lead, milled sheets . . cwt.	18 6
,, drawn pipes . . ,,	17 0
,, soil pipe . . ,,	18 6
,, scrap . . ,,	10 6
Solder, plumbers' . . lb.	9½
,, fine do. . . ,,	1 0
Copper, sheet . . ,,	8½
,, tubes . . ,,	11

L.C.C soil and waste pipes:	3"	4"	6"
Plain cast . . F.R.	1 0	1 2	2 6
Coated . . ,,	1 1	1 3	2 8
Galvanized . . ,,	2 0	2 6	4 6
Holderbats . . each	3 10	4 0	4 9
Bends . . . ,,	3 9	5 3	10 3
Shoes . . . ,,	2 10	4 4	9 6
Heads . . . ,,	4 8	8 5	12 9

PLASTERER

	£ s. d.
Lime, chalk . . per ton	2 5 0
Plaster, coarse . . ,,	2 10 0
,, fine . . ,,	4 15 0
Hydrated lime . . ,,	3 0 9
Sirapite . . ,,	3 6 0
Keene's cement . . ,,	5 0 0
Sand, washed . . Y.C.	11 6
Hair . . . lb.	6
Laths, sawn . . bundle	2 4
,, rent . . ,,	3 9
Lath nails . . lb.	3½

GLAZIER

	s. d.	s. d.
Sheet glass, 21 oz., squares n/e 2 ft.	s. F.S.	2½
,, ,, 26 oz. ,, ,, ,,	,,	3½
Flemish, Arctic, Figured (white)*	,,	7
Blazoned glasses . . .	,,	2 6
Reeded; Cross Reeded	,,	11
Cathedrals: eleven varieties (white)*	,,	6½
Crown sheet glass (n/e 12 in. × 10 in)	,,	2 0
Flashed opals (white and coloured)	,, 1 0 and 2	0
¼" rough cast; rolled plate .	,,	7
¼" wired cast; wired rolled .	,,	10
¼" Georgian wired cast . .	,,	11
¼" Polished plate, n/e 1 ft. .	†10 to ‡1	1
,, ,, 2 . .	†1 2 ,, ‡1	4
,, ,, 4 . .	†2 3 ,, ‡2	6
,, ,, 8 . .	†2 9 ,, ‡3	2
,, ,, 20 . .	†3 7 ,, ‡4	2
,, ,, 45 . .	†3 11 ,, ‡4	7
,, ,, 100 . .	†5 0 ,, ‡5	7
Vita glass, sheet, n/e 2 ft. .		1 3
,, ,, ,, over 2 .		1 9
,, ,, plate, n/e 2 ft. .		3 0
,, ,, ,, 7 . .		5 0
,, ,, ,, 15 . .		6 0
,, ,, ,, over 15 . .		7 6
"Calorex" sheet 21 oz., and 32 oz.	2 6 and 3	6
,, rough cast ⅛" and ¼"	,, 8½ ,, 1	0
Putty, linseed oil . .	lb.	3

*Colours 1d. F.S. extra.

†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

	£ s. d.
White lead in 1 cwt. casks . . cwt.	2 6 0
Linseed oil . . . . . gall.	2 2½
Boiled oil . . . . . ,,	2 4½
Turpentine . . . . . ,,	4 1½
Patent knotting . . . . . ,,	14 0
Distemper, washable . . . cwt.	2 6 0
,, ordinary . . . ,,	2 0 0
Whitening . . . . . ,,	4 0
Size, double . . . . firkin	3 0
Copal varnish . . . . gall.	13 0
Flat varnish . . . . ,,	14 0
Outside varnish . . . ,,	16 0
White enamel . . . . ,,	1 15 0
Ready-mixed paint . . . ,,	13 6
Brunswick black . . . ,,	7 6

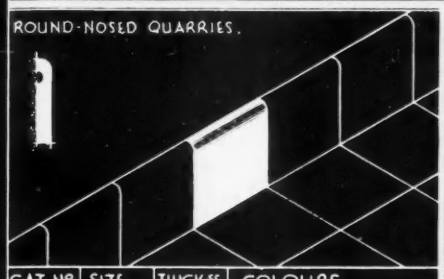
Changes from last week are set out in heavier type.

THE ARCHITECTS' JOURNAL LIBRARY OF PLANNED INFORMATION

The fittings given below are obtainable from stock in the sizes & colours given.
For stock sizes of quarry tiles etc. see back of this sheet.

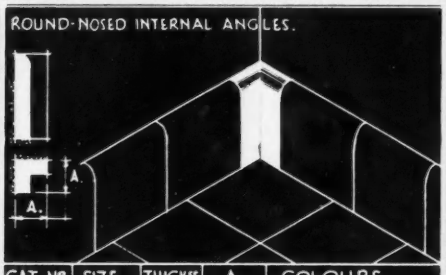
BCM/TRITON QUARRY TILE STOCK FITTINGS, SIZES & COLOURS.

ROUND-NOSED QUARRIES.



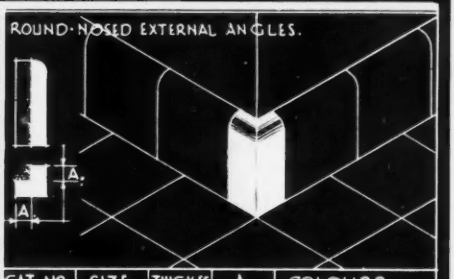
CAT. Nº	SIZE.	THICKNESS	COLOURS.
56.	4" x 4"	3/4"	Red.
57.	6" x 6"	5/8"	Red.
50.	6" x 6"	7/8"	Red, Blue, & Russet Brown.
54.	8" x 8"	1 1/8"	Red.
55.	9" x 9"	1 1/4"	Red.

ROUND-NOSED INTERNAL ANGLES.



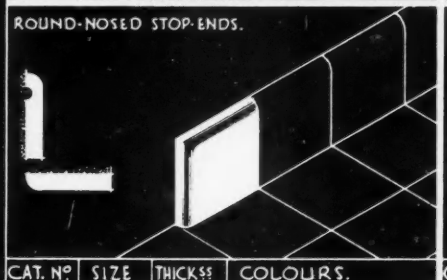
CAT. Nº	SIZE	THICKNESS	A.	COLOURS.
56 a.	4"	3/4"	1 1/2"	Red.
57 a.	6"	5/8"	1 1/2"	Red.
50 a.	6"	7/8"	1 1/2"	Red & Russet Brown.
54 b.	8"	1 1/8"	6 7/8"	Red. } Supplied mitred.
55 b.	9"	1 1/4"	7 3/4"	Red. } Supplied mitred.

ROUND-NOSED EXTERNAL ANGLES.



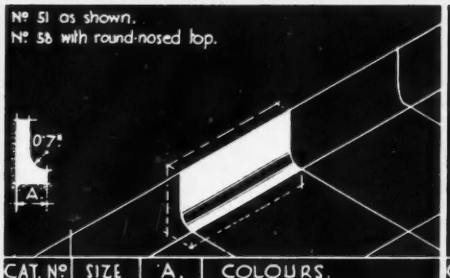
CAT. Nº	SIZE	THICKNESS	A.	COLOURS.
56 b.	4"	3/4"	3/4"	Red.
57 b.	6"	5/8"	7/8"	Red.
50 b.	6"	7/8"	5/8"	Red & Russet Brown
54 c.	8"	1 1/8"	6 7/8"	Red. } Supplied mitred.
55 c.	9"	1 1/4"	7 3/4"	Red. } Supplied mitred.

ROUND-NOSED STOP-ENDS.



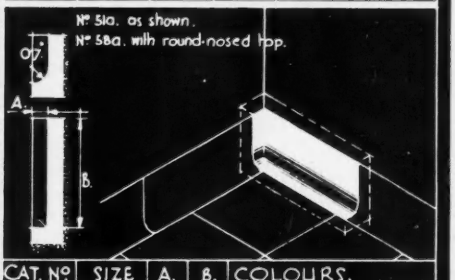
CAT. Nº	SIZE	THICKNESS	COLOURS.
56 c.	4" x 4"	3/4"	Red.
57 c.	6" x 6"	5/8"	Red.
50 c.	6" x 6"	7/8"	Red, Blue & Russet Brown.
54 a.	8" x 8"	1 1/8"	Red.
55 a.	9" x 9"	1 1/4"	Red.

Nº 51 as shown.
Nº 58 with round-nosed top.



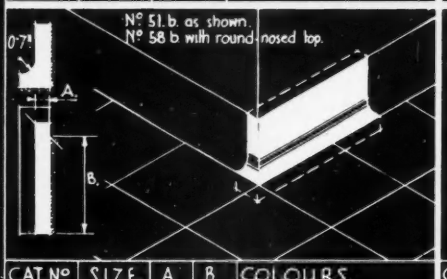
CAT. Nº	SIZE	A.	COLOURS.
51	6" x 3"	1 1/2"	Red.
58	6" x 3"	1 1/2"	Red.

Nº 51a. as shown.
Nº 58a. with round-nosed top.

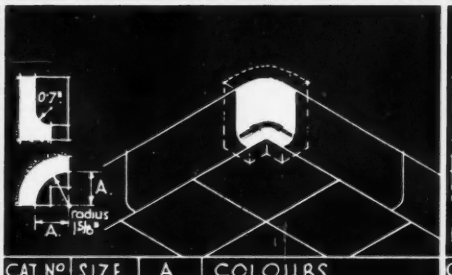


CAT. Nº	SIZE	A.	B.	COLOURS.
51 a.	6" x 3"	7/8"	5 1/8"	Red.
58 a.	6" x 3"	7/8"	5 1/8"	Red

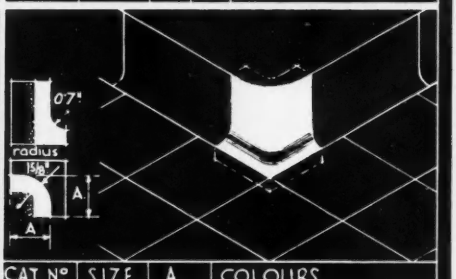
Nº 51 b. as shown.
Nº 58 b with round-nosed top.



CAT. Nº	SIZE	A.	B.	COLOURS.
51 b.	6" x 3"	7/8"	4 3/8"	Red.
58 b.	6" x 3"	7/8"	4 3/8"	Red

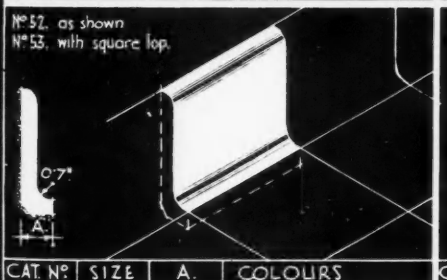


CAT. Nº	SIZE	A	COLOURS
51 c.	3"	1 1/4"	Red.



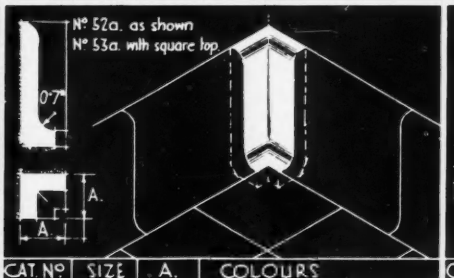
CAT. Nº	SIZE	A.	COLOURS.
51 d.	3"	2"	Red.

Nº 52. as shown
Nº 53. with square top.



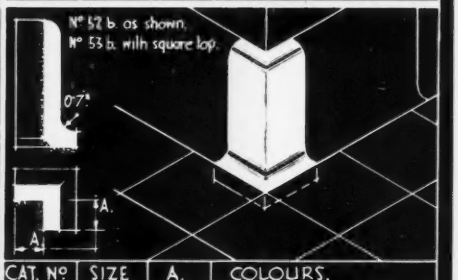
CAT. Nº	SIZE	A.	COLOURS
52.	6 1/2" x 6"	1 1/4"	Red, & Russet Brown
53.	6" x 6"	1 1/4"	Red, & Russet Brown.

Nº 52a. as shown
Nº 53a. with square top.



CAT. Nº	SIZE	A.	COLOURS
52 a.	6 1/2"	2 1/4"	Red & Russet Brown
53 a.	6"	2 1/4"	Red & Russet Brown.

Nº 52 b. as shown.
Nº 53 b. with square top.



CAT. Nº	SIZE	A.	COLOURS.
52 b.	6 1/2"	1 5/8"	Red & Russet Brown.
53 b.	6"	1 5/8"	Red & Russet Brown.

Information from Wheatly & Co. Springfield Tileries Newcastle Staffs (in association with The Silverdale Tileries Co. Ltd. Silverdale, Staffs.)

INFORMATION SHEET : FLOORING : BCM/TRITON FLOORING QUARRIES.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC.I

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

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FLOORING QUARRIES

Name of Product : BCM/Triton Quarries

Type Illustrated : General Fittings

Stock Sizes and Colours.

	Number of Quarries per superficial yard
4″ × 4″ × ¾″ Red, Blue, Russet Brown and Buff	81
6″ × 6″ × ⅝″ Red only. No other colour made in this size	36
6″ × 6″ × ⅞″ Red, Blue, Russet Brown and Buff	36
8″ × 8″ × 1¼″ Red	20¼
9″ × 9″ × 1¼″ Red, Blue and Russet Brown	16
9″ × 9″ × 1½″ Red	16
12″ × 12″ × 1½″ Red	9
6″ × 1½″ × ⅞″ Red	144
6″ × 2″ × ⅞″ Red	108
6″ × 3″ × ⅝″ Red only. No other colour made in this size	72
6″ × 3″ × ⅞″ Red, Blue and Russet Brown	72
6″ × 4″ × ⅞″ Red	54
9″ × 4½″ × 1¼″ Red	32

In addition to the above, various Octagon and Hexagon shapes are made in all colours for patterned floors, etc.

Diagonally cut Quarries are usually available from stock for working up to borders.

Special Sizes :

In addition to the sizes given, quarry tiles can be made in any colour and any size to order.

Laying :

1. Level up or grade to falls with 1 to 3 cement and sand. When partially set lay Quarries on a ¼″ bed of cement and sand. Quarries should be soaked in clean water before laying and a wooden beater should be used to level up each Quarry. Joints should be grouted up with cement and sand slurry and cleaned off immediately with sand or sawdust.

2. Lay Quarries on a bed of ashes which has been screeded over with mortar, truing up each tile as it is laid. This is not recommended, as lime in the mortar tends to blow, the Quarries work loose and scum frequently occurs.

3. Laying for wide joints : Lay as in (1), but point the joints in laying and point up or rake out afterwards.

Finish and Maintenance :

1. Apply linseed oil shortly after laying while Quarries are clean. This brings up the colour, tends to keep the Quarries clean and requires only washing with soft soap and water for maintenance.

2. For a highly polished surface, treat Quarries with a mixture of beeswax and turpentine applied as a dressing with a soft cloth and well polished.

The polish may be as follows :

Boil ⅞ pint of rainwater ; when off the boil add a dessertspoonful of soap flakes. Add ½ lb. of melted beeswax and ¼ lb. of white wax, to which a pint of turpentine has been added ; stir well and allow to cool.

Efflorescence :

The floor should be washed several times with plain rainwater, no soap or chemicals being used. If not sufficient, apply a weak solution of hydrochloric acid, or spirits of salts and water (say 1 in 10). A small section of the floor should be done at a time and immediately washed off with clean rainwater. When dry treat with paraffin and good clean engine oil.

Tests :

The following are summaries of tests made by recognised authorities :—

Abrasion :

Tested in accordance with B.S.S. No. 368-1929 for rate of wear on concrete flags, Quarries lost on the average only 60% of the allowable loss of weight.

Absorption :

Red Quarries—pieces boiled for five hours and soaked for twenty hours absorbed 8·74% of self weight.

Acid Corrosion :

Red Quarries soaked in 5% hydrochloric acid solution for one week—corrosion negligible.

Falling Weight Test :

Tiles tested—three 6″ × 6″ × ⅞″ Red Quarries. Each Quarry was embedded in a 1-1 sand-cement mortar ¾″ thick, backed with 5″ concrete, and both bedding and backing allowed to thoroughly set and harden before applying the test.

The Bohme Hammer Apparatus for compacting cement briquettes was used, in which a hinged hammer with a head of two kilos. (nearly 4½ lb.) weight falls a distance of 168 millimetres (6½″) ; each Quarry was given 240 blows with this hammer, the specimen under test being held firm so that the repeated blows of the hammer fell always on the same spot.

After this treatment none of the three specimens showed any signs of fracture, but the abrasion of the repeated blows of the slightly convex-shaped hammer head produced a shallow concave crater on specimens 2 and 3 about 15 mm. diameter and 2 mm. deep (·075″) ; the surface of No. 1 specimen was slightly marked by the hammer but was not abraded to any measurable extent.

Transverse or Strength Test.

The Quarries were supported on bearings 5½″ apart, and the load was applied along a line centrally between them. All bearings were rounded to ¼″ radius.

Sample	Dimensions Inches	Thickness	Load at which Fracture Occurred
1	5 1/16 × 5 1/16	0·774	755 lb.
2	6 × 6	0·775	885 ,,
3	6 × 6	0·750	820 ,,

Note.—The overall thickness of the Quarries was : No. 1, 0·850 in. to 0·828 in. ; No. 2, 0·844 in. ; No. 3, 0·822 in.

It will be seen that without base support of any kind each Quarry withstood an average weight of 820 lb. or 7 cwt. 36 lb. The test was all the more severe since the pressure was applied along a central line instead of over the whole surface of the Quarry.

Name of Manufacturers : Wheatly & Co. (In association with the Silverdale Tileries Co., Ltd., Silverdale, North Staffs

Address : Springfield Tileries, Newcastle, Staffs

Telephone : 6251 and 6252 Newcastle, Staffs

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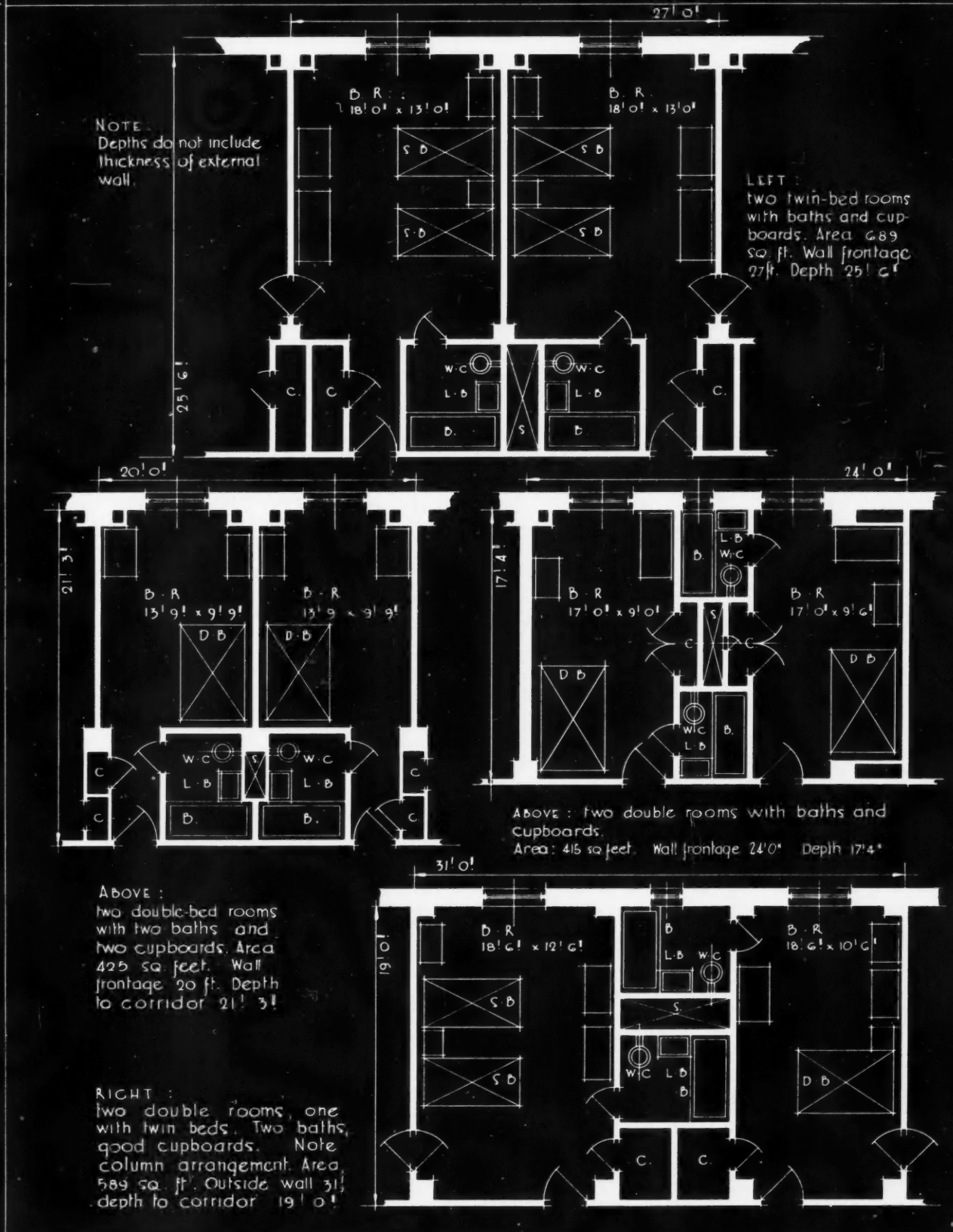

SCALE: ONE EIGHTH INCH EQUALS ONE FOOT.

INFORMATION SHEET: HOTELS 1: TYPES OF DOUBLE-BED GUEST ROOM UNITS.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.1.

INFORMATION SHEET • 110 • HOTELS: BEDROOM UNITS

Supplement to THE ARCHITECTS' JOURNAL for May 17, 1934

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

• 110 •

HOTELS I
BEDROOM UNITS

THIS Sheet illustrates various types of double-bedded hotel rooms of varying depths and wall frontages. As a rule, hotel room and bath units must be designed to meet definite requirements, and these plans are intended to give useful examples of lay-outs and proportions. It should be noted that all the units shown have a bathroom, w.c. and lavatory basin, which may now, in the L.C.C. area, be planned internally and artificially ventilated.

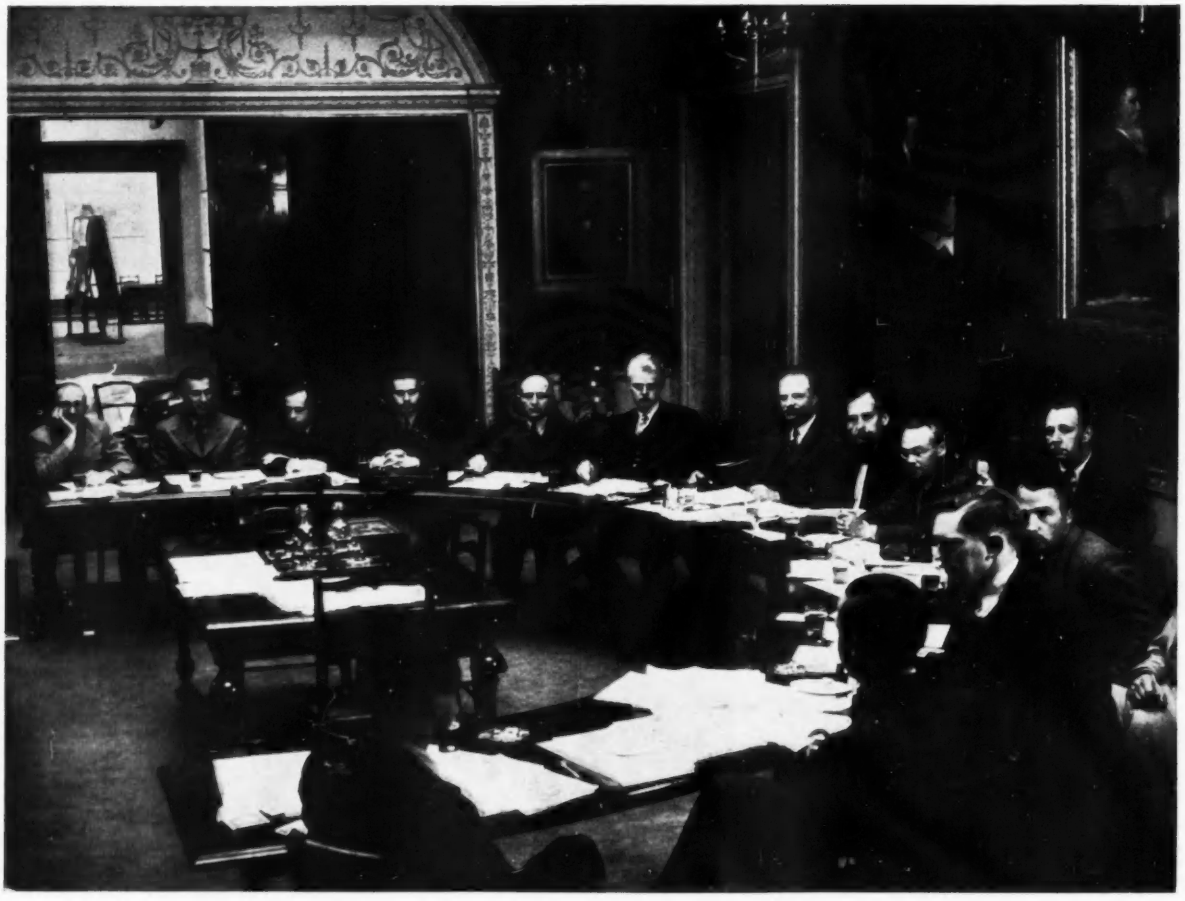
THE R.I.B.A. BUILDING

ELEVATION TO WEYMOUTH STREET

[S. W. NEWBERY

RAPID progress is being made on the construction of the new R.I.B.A. Building, which is to be officially opened in October next, when the Centenary celebrations of the Institute are to take place.

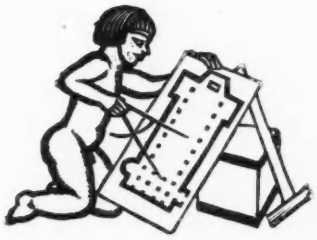
Above is a photograph, taken on Tuesday last, of the elevation to Weymouth Street.



[HOWARD COSTA

INTERNATIONAL CONGRESSES OF MODERN ARCHITECTURE (C.I.A.M.)

Some of the delegates in session at the R.I.B.A., where they met for a conference during Whitsun, as the guests of the MARS (Modern Architectural Research) Group which represents England at the congresses. The names, reading round the table from the far side, are : Le Corbusier (France), Weissmann (Yugo-Slavia), Sert (Spain), Wells Coates (England), Syrkus (Poland), Boeker (Holland), Bourgeois (Belgium), Gropius (Germany, vice-president of the Congress), Giedion (Switzerland, secretary of the Congress), Mme. Syrkus (Poland), P. Morton Shand (England), Steiger (Switzerland), Merkelbach (Holland), Samuel (England) and Torres (Spain). Besides those in the photograph others who attended were André Lurçat (France), Arthur Korn (Germany), Werner Moser (Switzerland), Chmelewski (Poland), Maxwell Fry and other members of the MARS Group representing England.



THE RUISLIP RESULT

A FORTNIGHT ago in our leading article we commented upon an alarming tendency that has recently become apparent to abuse the Architects' Panel system by making it a vehicle for the expression of personal likes and dislikes about design. We pointed out that this tendency not only endangered the usefulness of the Panel system but was actively harmful to the prestige of the profession.

This reactionary attitude on the part of Panel members made the position serious enough ; now it is far worse. A protest, made by the Ruislip Panel against a design by architects as fully qualified as those on the panel, has been upheld after arbitration proceedings (the arbitrator's award is printed on page 746) by an arbitrator appointed by the R.I.B.A. The R.I.B.A., that is to say, has indirectly been the means of public condemnation of one of its members on the recommendation of another.

The Panel system was not instituted as machinery for the public exhibition of private disagreement among architects on æsthetic questions, but in order to compel æsthetic consideration to be given to building enterprises in which the architect has no voice whatever ; nor was the Institute founded to arbitrate on æsthetic matters between different factions among its own membership. Its function is to represent the collective interests of its members, independently of their personal opinions, and translate those interests into terms of useful service to society.

It might be claimed that the existing Panel system and the present arbitration machinery compel the Institute thus to ventilate intra-professional disagreements and encourage obstructionist tendencies ; that it is only carrying out its responsibilities under the terms of the Town and Country Planning Act. But it must be remembered that it was the Institute that was largely responsible for the introduction of the Panel system, and it is the Institute's business, if it is to maintain its position of authority in the eyes of the public and the profession, to take the necessary steps to ensure that any such system fulfils its function properly. At present, clearly, its abuse is placing the architectural profession in a ridiculous position. There can be no question in panel administration of distinguishing between the work of one qualified architect and another.

It has recently been suggested that, with the coming of Registration, the supreme position of the Institute as the controlling organization at the head of the architectural profession is bound to come to an end ; membership of the R.I.B.A., being no longer the recognized professional qualification, will not be considered essential to the majority of practising architects. As a result the R.I.B.A. will relapse into its earlier status of a learned society and a London club. We do not believe this. We believe that the R.I.B.A. has more vital work to do than the purely academic. But it is necessary for the R.I.B.A. to realize its full responsibilities towards architecture to-day if it is to retain its great authority in the future.

If such troubles as this over the Panel administration continue to arise ; if one section of the profession gets at loggerheads with another, there can only be one result. Already the A.A.S.T.A. has felt compelled to sever its connection with the Institute and is seeking to build a separate organization among assistants ; other bodies have grown up as rival organizations, or at least as organizations with objects that the R.I.B.A. should itself be able to undertake. If the Institute allows its more reactionary members to obstruct the enterprise of its more progressive members, the next stage will be even more harmful to the Institute's authority. The younger men, the future backbone of the profession, will be forced to organize themselves into a defensive *bloc* ; and that *bloc*, if the same state of things continues, will eventually be forced to retreat from the R.I.B.A. altogether.

The R.I.B.A. has recently given admirable proof of its determination not to take sides as between one section and another by welcoming men of the modern camp in the same way as it welcomes the more conservative section. It has held, for example, an exhibition of the work of Walter Gropius and has allowed MARS and the C.I.A.M. (only last week-end) the use of its premises. We venture to congratulate the Institute on this liberal spirit, which is the only spirit which can maintain equilibrium among all factions (for factions in a healthy body there are bound to be).

The problem of the administration of the Panel system must be settled with the same liberal attitude of mind ; and it is urgent, and must be settled at once.

The Architects' Journal
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9212-7
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Buildable
Par
London

NOTES & TOPICS

THE C.I.A.M. CONFERENCE IN LONDON

WHILE you were all enjoying the Whit holiday in your various ways, the dignified committee rooms of the R.I.B.A. reverberated to the music of strange tongues. Delegates from ten foreign countries were meeting together for a conference of the International Congresses for Modern Architecture, and below the portraits of past-presidents one might have seen le Corbusier holding forth with words which would not have shocked these great men as much as some would believe.

*

But the young men of the Institute would like to have been there to see Gropius, le Corbusier, Bourgeois of Brussels, Moser, Steiger, Sert—men who in their several countries are establishing modern architecture on a firm basis.

*

And it would not be without interest to have seen this mixed party of architects and their wives, mingled with the MARS Group and its wives, clambering over the terraces of the Crystal Palace, our little prize pet for the advanced stranger.

*

With them, down the river to Greenwich, I was invited to go. I went, feeling strangely like Samuel Pepys. The delegates showed little enthusiasm for the river which I still think offers, below Blackfriars Bridge, one of the grandest panoramas in the world. They turned up their coat collars and sat bunched gloomily in the stern, speaking little, for it was a-blowing from the west, with black clouds.

*

Nor did Greenwich stir them greatly. But when they came to the Crystal Palace they were as men transformed. They turned down their collars. They stroked the steelwork. They made little purring noises as they breathed on the glass. I felt inexpressibly grateful to the great and good Prince Consort.

*

Of the rest of the journey to Kew, the less said the better. London is so inexpressibly horrible—not the slums, but the high roads with their trams and cheap shops and stunted brick-red villas—that one dare not let the mind dwell on it. Showing it to strangers is like confessing to an appalling secret sin.

A JUNKETING AT THE A.A.

Letitia, who knows Nos. 34 and 36 Bedford Square quite well by this time, remarked to me how very attractive the elegant Adam rooms appear as the background for a rout. She is right. And last week's eighty-sixth annual reception was a positive dream of fair women. The Victorian touch was much in evidence.

*

But the place *is* a labyrinth. Despite the plans printed on the back of the programme of proceedings—the front was graced by the President's own charming sketch of the Giralda, Seville—Letty and I narrowly escaped the fate of being announced twice over to an embarrassed President and Mrs. Lovett Gill.

*

This was because Letty, who, like most women, is of a conservative habit, wanted to return to the Library and argue again over Mr. William Walcot's scheme, drawings of which were hung there, for diverting the River Thames in London; and, in the doorway, the Voice was still busy.

*

Incidentally, these plans were thrown into higher relief by Mr. Yerbury's loaned set of Nash and David's fascinating coloured lithographs of a London that really was Victorian—to wit, the 1851 Exhibition in Hyde Park.

PRIVATE ARCHITECTS AND GOVERNMENT BUILDINGS

This little matter has received a certain amount of notice in this country. Now comes the April number of *The Journal of the Royal Architectural Institute of Canada*, in which appears a Brief submitted by the Saskatchewan architects to the Minister of Public Works at Ottawa.

*

In some small particulars the conditions vary between Canada and Great Britain, but fundamentally the cases put forward are the same. Unemployment amongst architects in private practice; economics of maintaining government architectural departments; possibilities of balancing booms and slumps for the benefit of the building industries; quality of designs produced—all the British arguments hold good in Canada; and probably all the replies too.

*

All the same the Brief puts the case strongly, and with a commendable brevity not yet achieved by the protagonists of this country.

DEATH IN THE SLUMS

I hear that there is now a certain amount of bickering going on in Liverpool between the medical and architectural students, all over a quip that contains enough truth to be worth arguing about.

*

Liverpool's Medical School was celebrating its centenary, and the University was conferring honorary degrees in

[LAFAYETTE

Vincent Kelly, B.Arch., F.R.I.B.A., who was elected President of the newly formed Association of Irish Architectural Graduates at a meeting held in Dublin last week. Mr. Kelly was the first graduate in architecture from the National University of Ireland.

St. George's Hall on innumerable doctors from all over the country. The only member of any other profession to be so honoured was Professor Reilly, and, at the instant of his presentation, a handful of his spiritual offspring let down from the gallery a large banner, which read : ARCHITECTURE IS THE CURE—NOT MEDICINE.

*

I haven't been able to discover whether it was the banner or its owners that got torn to shreds—perhaps the medical profession won't be so necessary if the slums are rebuilt.

P.E.P.

I wonder how many of my readers see the broadsheets issued periodically by P.E.P. I wonder, for that matter, how many have heard of the organization or know what the initials mean.

*

For the benefit of the uninformed I should explain that they signify " Political and Economic Planning." And it is not merely because the headquarters is opposite the offices of this JOURNAL that I take an interest in the doings of the Group.

*

Candidly, I am inclined to be a bit suspicious of " groups " ; so often they are composed of highbrow young people with beards instead of chins ; nearly always they have aims which normal people cannot begin to understand, and which will never be more than aims for that very reason.

*

P.E.P. is, I rather think, a possible exception. The aims are nothing if not ambitious, but they are more likely to be realized than most. It is not the expressed intention of P.E.P. to *do* anything revolutionary, to " take control," or itself to run education, health, manufacture, government or anything else.

*

The idea behind its activities lies in the consciousness that in each sphere of sociological life there are *some* people who are capable of clear thought, and that if they can be prevailed upon to think properly the world would ultimately be a much better place.

*

Behind each broadsheet is a team of specialists who work together, producing sometimes concrete suggestions, sometimes merely the basis for a train of thought.

*

I rarely agree altogether with what is said ; sometimes I disagree wholeheartedly. But I have never escaped stimulation, and I can recommend the broadsheets, which are published under the title *Planning*, from 16, Queen Anne's Gate, S.W.1.

*

Especially do I recommend, to those of my readers who are interested in the subject, broadsheet No. 26, which deals with " A New Model for Industries."

TRAINING THE DISABLED

A short time ago I was taken over a factory staffed by men disabled in the Great War. With wonderful patience they had, despite their mutilations, acquired skill. With implements adapted to their condition they had become joiners and cabinet-makers, painters and decorators and metal-workers.

*

They were happy in their conquest of disablement. They were proud of the tools they manipulated. They were proud of their skill. But their pride was, necessarily, confined to processes. Nobody could have taken pride in the design of the work they were turning out.

*

Design in that organization suffered from permanent disablement. And there was no reason at all why it should have suffered. But nobody had thought of the true starting point in production. Design was left out, but " art " was brought in for decorative purposes, after the worst had happened to form in the factory.

*

A lady interested in water-colours was in charge of " art." From her I learned that " Tudor patterns " were now considered " very artistic."

*

She didn't know what I meant by the word design. But, then, she had been to an " art " school fifty or sixty years ago, so it was too much to expect, perhaps.

TRUE STORY

This story was told me by someone just returned from France : he was sitting in one of those noble squares at Nancy which, planted in the middle of a French provincial town, provide such a magnificent object-lesson on the virtues of civic design, when there swept round the corner a very dusty French regiment on the march ; and he heard the major in command give the order : " Saluez la Place Stanislas, gloire de l'architecture française."

*

I wonder which this episode would have shocked most, No. 9 Conduit Street or Sandhurst.

ASTRAGAL

POINTS FROM THIS ISSUE

Delegates to the International Congresses of Modern Architecture (C.I.A.M.) in session at the R.I.B.A. 742

The Panel system was not instituted as machinery for the public exhibition of private disagreement among architects on æsthetic questions 743

Careful technical and financial calculations have already been worked out for the mean height of city office blocks which best correspond to European requirements. According to these the 11-storey type approximates to the ideal 747

A summary of the reasons for retaining Waterloo Bridge by strengthening.. 767

THE ARCHITECTS' DIARY

Thursday, May 24

INSTITUTION OF STRUCTURAL ENGINEERS. *Charter luncheon. At the May Fair Hotel, W.1. (12.45 for 1 p.m.) Annual general meeting. At 1 p.m. 10, Upper Belgrave Street, S.W.1.* 6.30 *p.m.*

Friday, May 25

TOWN PLANNING INSTITUTE. *At Caxton Hall, Westminster, S.W.1. "Height and Bulk of Buildings in Relation to their Requirements and Surroundings." By H. V. Lanchester, F.R.I.B.A.* 6 *p.m.*

Saturday, May 26

R.I.B.A. *At 9 Conduit Street, W.1. Exhibition of the Works of Professor Walter Gropius. Last day.*

Monday, May 28

R.I.B.A. *At 9 Conduit Street, W.1. "The Planning of the Public School." By Professor W. G. Newton, F.R.I.B.A.* 8 *p.m.*

Tuesday, May 29

ARCHITECTURAL ASSOCIATION. *At 36 Bedford Square, W.C. "Buildings at Hilversum." By W. M. Dudok.* 8 *p.m. Exhibition. "The Work of W. M. Dudok." Until June 9.*

THE MANSION HOUSE COUNCIL ON HEALTH AND HOUSING. *At the Carpenters' Hall, Throgmorton Avenue, E.C.4. Annual Meeting. The chair will be taken by the Rt. Rev. the Lord Bishop of Winchester, D.D. who will deliver his annual address. Other speakers: Sir Raymond Unwin, PP.R.I.B.A., E. Maxwell Fry, A.R.I.B.A.* 5 *p.m.*

C. I. A. M. IN LONDON

GUESTS OF MARS GROUP

A MEETING of the delegates committee of the International Congress for Modern Architecture was held in London during the week-end. M. Victor Bourgeois, of Belgium, was elected President for the meetings. The following delegates were able to attend :—

Professor Gropius (Germany).
Herr Korn (Germany).
M. le Corbusier (France).
Herr Merkelbach (Holland).
M. Syrkus (Poland).
M. Chmelewski (Poland).
Señor Sert (Spain).
Señor Torres (Spain).
M. Weissmann (Yugo-Slavia).
M. Giedion (Switzerland).
M. Moser (Switzerland).
M. Steiger (Switzerland).
Mr. Wells Coates (England).
Mr. Godfrey Samuel (England).

Most of the work done was an examination of the programme on the functional town.

The Swiss group is compiling a book, setting out very clearly and graphically the whole history of the growth of urbanism. The material used for this has been collected from the facts collected by the Congresses in the various countries, including England, where the MARS group has produced a map on London. A committee is sitting to arrange for publication of this book.

The Spanish and Polish groups have both produced an extraordinarily fine piece of work, one an analysis and new plan for Barcelona, and the other for Warsaw. These two are the last reports of their kind to be submitted. The Polish group have also begun a really exhaustive work on the development in wall construction, with particular reference to the unsupported wall; and this includes a questionnaire, which has to be translated and circulated to each country.

It is proposed to hold the next Congress in 1935.

The meetings throughout the week-end were held at the R.I.B.A., who very kindly allowed the conference to make its headquarters at 9 Conduit Street.

The proceedings opened on Saturday night (May 19) with a dinner given by MARS to the foreign delegates. Amongst those present were :—

Herr Boeken; M. Victor Bourgeois; M. Chmelewski; M. le Corbusier; Mr. and Mrs. Wells Coates; Mr. Joseph Emberton; Mr. and Mrs. E. Maxwell Fry; M. S. Giedion; Mr. Frederick Gibberd; Mr. and Mrs. Walter Goodesmith; Professor Gropius; Herr Arthur Korn; Mr. and Mrs. Berthold Lubetkin; Mr. Raymond McGrath; M. and Mme. Werner Moser; Herr and Frau Merkelbach; Mr. and Mrs. J. Craven Pritchard; Mr. Godfrey Samuel; Señor Luis Sert; Mr. and Mrs. P. Morton Shand; Mr. Hazen Sise; Mr. Skinner; M. R. Steiger; M. and Mme. S. Syrkus; Señor R. Torres; Mr. Robert Townsend; and Herr E. Weissman.

On Sunday there was a meeting at the R.I.B.A. in the morning, after which delegates were taken down the river by motor boat to Greenwich Hospital, and thence by car to the Crystal Palace, Bushy Park, Richmond and Kew, ending up at the Café Royal at 8.30 p.m.

On Monday there was an all-day session at the R.I.B.A., and in the evening there was a garden party at Morton House, Chiswick Mall. The delegates left on Tuesday morning for their respective countries.

The Ruislip Case

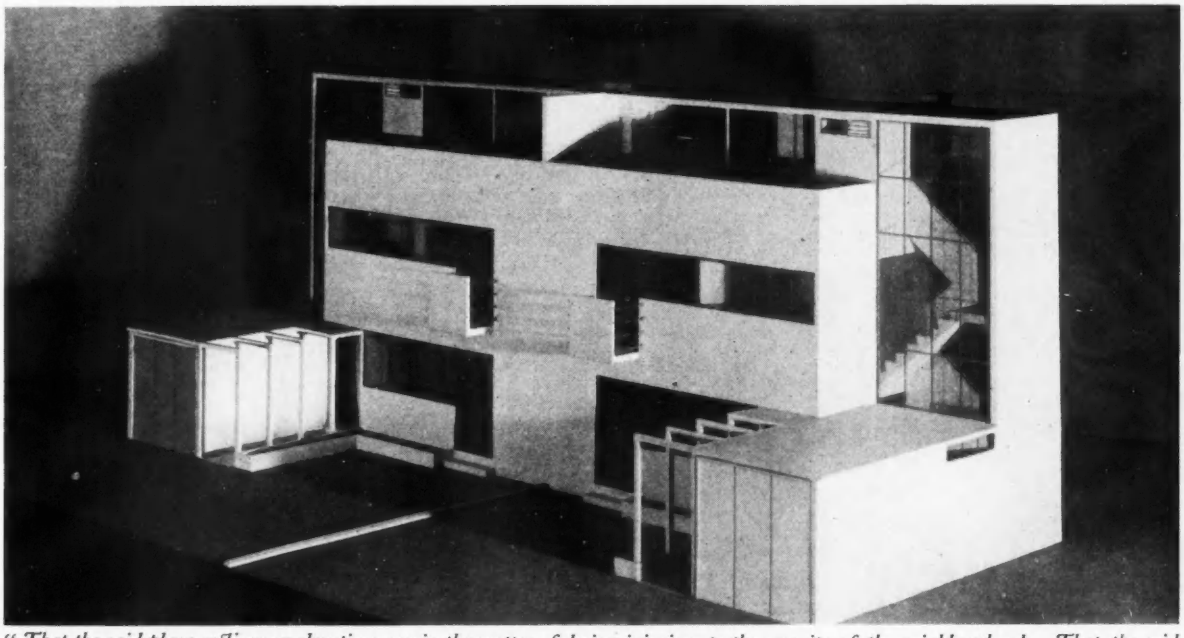
An award in favour of the Urban Council is announced in the case recently under arbitation in which appeal was made against the decision of the Ruislip-Northwood Urban Council, under advice of the local architects' panel, not to sanction the plans of some houses designed for the neighbourhood by Messrs. Connel and Ward. The implications of the case are discussed in this week's leading article.

The terms of the award are as follows :—

This is the Award of me Ernest Gladstone Allen of 11 Arundel Street Strand in the County of London, Fellow of the Royal Institute of British Architects made this fourteenth day of May One thousand Nine hundred and thirty four whereas by an Agreement dated the Twenty eighth day of March One thousand Nine hundred and thirty four and made between the Ruislip-Northwood Urban District Council of the one part and Walter Taylor (Builders) Limited whose registered office is at 130 Butler Road Harrow in the County of Middlesex of the other part after reciting that disputes and differences were then pending between the parties thereto respecting plans sections and elevations of certain buildings proposed to be erected by Walter Taylor (Builders) Limited at Ruislip in the County of Middlesex within the Urban District of Ruislip-Northwood and upon certain land within the purview of the Ruislip-Northwood Town Planning Scheme which bears date the seventh day of September One thousand Nine hundred and fourteen and as to other matters connected therewith and the rights and obligations of the parties thereto it was agreed that the several questions and matters therein particularized and detailed should be referred to the award and final determination of me the said Ernest Gladstone Allen so that I should make my award within twenty one days of the hearing of the parties upon the questions in difference between them and that I should have all the powers given to Arbitrators by the Arbitration Act 1889 and whereas on the twenty fourth day of April One thousand Nine hundred and thirty four the said Ruislip-Northwood Urban District Council by their Clerk and Solicitor Mr. Gordon H. Taylor and the said Walter Taylor (Builders) Limited by Mr. W. A. Fearnley-Whittingstall of Counsel attended before me and produced the witnesses by whom they desired to support their respective contentions whose evidence was heard by me and whereas on the twenty fourth day of April One thousand Nine hundred and thirty four I heard also the arguments of the Solicitor and Counsel respectively representing the said Ruislip-Northwood Urban District Council and the said Walter Taylor (Builders) Limited and I visited and viewed the site of the intended building the plans sections and elevations whereof and other matters connected therewith form the subject matter of the said dispute now be it known that I the said Ernest Gladstone Allen hereby make and publish this my award on the matters so referred to me in manner following that is to say :—

1. That the Ruislip-Northwood Urban District Council were within the powers given to them under the said Town Planning Scheme in refusing to sanction the plans sections and elevations deposited with

THE REJECTED DESIGN IN THE RUISLIP CASE



" That the said plans sections or elevations are in the matter of design injurious to the amenity of the neighbourhood. That the said plans sections or elevations ought not to have been approved by the said Urban District Council." From the arbitrator's award.

them by Walter Taylor (Builders) Limited for approval.

2. That no evidence was presented to me upon which I can decide whether the said plans sections and elevations did or did not in all respects conform to the requirements of the said Town Planning Scheme.

3. That the said Ruislip-Northwood Urban District Council while they were acting within their powers in refusing to sanction the said plans sections and elevations and were acting reasonably fairly and justly had not power to unconditionally reject the said plans sections and elevations but should have required alterations thereto and that the plans should be amended in accordance with the alterations required.

4. That the said plans sections or elevations are in the matter of design injurious to the amenity of the neighbourhood.

5. That the said plans sections or elevations ought not to have been approved by the said Urban District Council.

6. That the question whether the said plans sections or elevations ought when modified to be approved by the Council depends upon the extent and character of the modifications as to which there is no evidence before me upon which I can adjudicate.

7. That in accordance with the power conferred upon me by clause 3 of the said agreement of the Twenty eighth day of March One thousand Nine hundred and thirty four and of all other powers me thereunto enabling I order and direct that the Ruislip-Northwood Urban District Council within twenty eight days of the date hereof give notice in writing to Walter Taylor (Builders) Limited of all reasonable alterations which they require to be made in the plans sections and elevations submitted to them in regard to the design or materials as they may think fit and any amendments in the plans which they require accordingly under and in pursuance of and in manner indicated by section fifty six of the said Town Planning Scheme.

8. That I tax and settle my costs of this my Award at the sum of Thirty One pounds ten shillings of which Ten pounds Ten shillings shall be borne and paid by the Ruislip-Northwood Urban District Council and Twenty One pounds shall be borne and paid by Walter Taylor (Builders) Limited.

9. That the Ruislip-Northwood Urban District Council and Walter Taylor (Builders) Limited shall each respectively bear and pay its own costs of and incidental to the reference. I further direct that if the aforesaid costs of my Award shall in the first instance have been paid in full by either party to the submission on taking up this my Award then the other party shall pay to the party so taking up the Award and paying the costs thereof in full the proportion of the said costs hereinbefore ordered to be paid by that other party within fourteen days of a demand therefor.

In witness whereof I have hereunto set my hand to this my Award the day and year first above written.

Signed by the above named Ernest Gladstone Allen.

Lecture by Professor Gropius

Following are some extracts from a paper entitled " The Formal and Technical Problems of Modern Architecture," given by Professor Walter Gropius at a meeting of the Design and Industries Association on May 16.

Perhaps I may be allowed to illustrate my views on the work of the architect in the province of technical and formal design by a few examples.

Among the various technical possibilities available the constructor seeks those which satisfy the classical formula of " maximum efficiency at lowest expenditure." This was, therefore, my aim in the investigation I made at the invitation of the German Research Institute into the most economical form of minimum dwelling for small four-storied blocks.

The constructional scheme which I produced was the result of a prolonged series of experiments undertaken in conjunction with an engineer. There were two determining factors :

(1) Maximum saving in weight.

(2) Simplification and reduction in cost of assembly.

Under (1) we were able to reduce the weight of the steel framework from the usual figure of about 15 kgs. per cubic metre of enclosed space to 10.8 kgs. Under (2) we succeeded in considerably reducing the cost of assembly by adopting railway-sleeper sole-plates for front-wall supports, and avoiding cutting the flanges.

The lay-out of a home for old people which I designed in Kassel, illustrates the logical inevitability of good planning. The governing conditions from which the necessary cubic volume resulted were a three-cornered site, its particular orientation, and the given number of rooms stipulated. I started by enumerating the essential requirements ; the position to get the most sunshine and give the most unrestricted views ; short communicating corridors for the inmates and attendants ; properly articulated and fully utilizable grounds ; harmonious relations to neighbouring buildings. Having done this I passed my various solutions in review. The most satisfactory, because it fully met all these conditions, was the fourth : a compact ten-storied building, which had to be rejected because the local building regulations did not allow more than six floors. In consequence, I had to adopt a solution in which all the living rooms had a south-west aspect and enjoyed quiet, and an unrestricted view. Here the passages are still relatively short ; the garden remains properly related to the lay-out of the building ; and the junction with the tall neighbouring buildings is a harmonious one in terms of volume. The other solutions only partially satisfied the conditions I had postulated as essentials.

I shall now pass to the consideration of town-planning problems which I feel are of cardinal importance at the present time. Although I shall take my point of departure from German conditions, as those I am most familiar with, I shall confine myself to questions of universal interest, which do not depend on the local peculiarities of any particular country.

The appalling housing shortage in Germany after the war stimulated every branch of the building industry—architects, engineers, contractors, and public authorities—into re-exploring the problem of providing homes from the social, technical and economic point of view. Far-reaching departures from the old methods ensued, with the result that by the end of the first post-war decade the position

had radically changed ; and, above all, our attitude to housing.

The rapid increase in means of locomotion and the resultant interaction of time and space has begun to banish the frontier between town and country. The modern man needs contrast both as a stimulus and a recreation. The leading minds in Germany and Europe generally are now insistent in their demand for more spacious and open-planned, and above all greener and sunnier cities ; and the separation of industrial and commercial from residential districts by means of properly co-ordinated transport services. Thus the goal of the modern town-planner should be to strive to bring those opposite poles which we call town and country ever closer together.

Opinion is still very widely divided as to what is the ideal form of dwelling for the bulk of the population : separate houses with their own gardens, tenement blocks of medium height (2-5 floors) or 8-15 storied buildings. The bitterness of the controversy is a direct reflection of the limited extent to which this clamorous longing for town or country, as the case may be, has hitherto been satisfied.

The tenement block has come into ill odour because in its original 3-4 storied form it could claim few advantages. The interval between the separate block was generally far too small, the degree of sunlight allowed for wholly insufficient ; while in so far as intermediate gardens were provided at all they were entirely inadequate. If, on the other hand, what has since become the much reduced legally permissible maximum number of separate dwellings to the acre within a given area be concentrated in widely spaced 8-10 instead of 3-5 storied blocks all these manifest disadvantages are turned into as many advantages.

When conscientiously planned with broad stretches of verdure between them skyscraper collective dwellings satisfy all requirements in regard to light, air, tranquillity and rapid egress ; besides offering their inhabitants innumerable other advantages. In 10-12 storied tenements of this kind ground-floor tenants are assured of a clear view of the sky ; instead of looking on to blank walls, or into narrow wells or corridors, they have an uninterrupted view over expanse of grass and trees, a hundred yards in breadth, which provides playgrounds for the children. By this means Nature is able to reassert herself in the bosom of the city, and if the flat roofs of these buildings are transformed into gardens, all the terrors of the tenement block disappear, and the tenant finds he has become the citizen of a green city where contact with nature is a daily experience instead of an occasional Sunday excursion.

Thus, spreading outwards is not a sovereign specific, for if it were the logical consequence would be such a disintegration of the town as would spell its negation. The aim should be open planning with horizontal and vertical building side by side, the horizontal construction being restricted as far as possible to one-storied houses in outer urban zones with a very low density per acre ; and the vertical building following the rational form of 10-12 storied blocks with full communal conveniences in all parts of the city where its practical utility has been proved, more especially in zones with an inevitably high density per acre. Blocks of intermediate height have the advantages neither of small houses nor of multiple-storied flats ; and their disappearance should be considered as a step in the right direction.

The third conference of the Congrès Internationaux d'Architecture Moderne passed a resolution that all countries should be urged to investigate the skyscraper tenement block from a sociological and an economic point of view because so little practical experience is available as to its relative suitability. By what means can the defects of urban buildings—their lack of light and air, their noisiness and their paucity of rooms—be combated ? If the city is to be confined to the smallest superficial area in order that minimum distances from one business centre to another may be maintained then there is only one rational solution of securing better light and air and, paradoxical as it may sound, an increase in space : the multiplication of floors. Let us assume that a site of approximately 100 by 250 metres is to be built over with open-standing blocks arranged on a north-south axis. Now if we compare the possibilities in regard to space utilisation and lighting in the case of 2-3-4 and 5-10 storied buildings, the following surprising results will be obtained.

(1) Given an equal area of site (100 by 250 metres) and an equal angle of light between the blocks (30 degs.), the amount of utilizable area *increases* with the number of stories. In comparison with the 2-storied blocks the 10-storied blocks have over 60 per cent. more utilizable superficial area, in spite of the fact that they enjoy an identical amount of light and air.

(2) If we convert utilization into terms of economy in building land, that is to say, assuming an equal angle of light for each of the blocks with different numbers of floors—and divide the same amount of utilizable floor space—we find that there is a saving of about 40 per cent. of land with the 10-storied blocks in comparison to the 2-storied ones—again in spite of each enjoying an identical amount of light and air.

(3) If, on the other hand, we want to estimate the utilization obtained purely in terms of light and air—that is to say if we neither reduce the amount of building land nor increase the utilizable superficial area—we find that the angle of light between the blocks falls from 30 degs. in the case of the 2-storied blocks to 17.50 degs. in the case of the 10-storied blocks. That is to say, we gain the immense advantage of a much more generous amount of light, sun and air through an almost 10 times as wide interval between the blocks as in the case of 2-storied buildings, without any practical drawbacks. There also results valuable space for car parking between the blocks at the side of the street, and the possibility of building shops along both fronts of the blocks—that is to say, along their rear elevations as well. It follows from this that the maximum height of buildings hitherto allowed is a restriction inspired by quite irrational premises which has hampered normal development. Restriction in the density of dwellings by public authorities is, of course, very necessary and efficacious, but this has nothing to do with the height of the buildings concerned. The density of habitation can be far more effectively controlled by reducing the mass of the buildings, or their superficial area, in relation to their site areas. That is what we ought to strive for ! If the lessons of the data we have just cited were systematically applied it would even be possible to raise the density within the business—not the residential—areas and, at the same time, assure improved lighting and ventilation, reduction of noise, and a considerable increase in the space available for traffic between the blocks of buildings. In the struggle for and against the skycraper, which is now raging, American conditions are a perpetual red herring. It can be taken as definitely proved, however, that the planless chaos of the skyscraper districts of New York and Chicago is no argument against the practical utility of a many-storied office building. The problem as a whole can only be solved by definite control of the building density in relation to possibilities in the way of transport, and by curbing the evil of speculation in land values ; the very things which America has neglected to do. It is a great advantage for us in Europe to be facing the beginning of an era of multiple-storied buildings with a truer appreciation of the issues involved. Their advent is inevitable, but that is all the more reason why we should be prepared for it, and not allow it to be blindly thrust on us. Conditions in New York—artificial light throughout the day in all floors up to the fifteenth, the investment of hundreds of millions in tube railways which cannot pay their way because, owing to lack of foresight, they were built too late—are cautionary examples of what *not* to allow. Careful technical and financial calculation have already been worked out—notably by the city of Hamburg—for the mean height of city office blocks which best correspond to European requirements. According to these the 11-storey type approximates to the ideal, because it combines the most favourable average value in relation to building costs, traffic facilities, and rentals based on a return of 10.7 per cent. Only practical experience, however, can hope to provide a definite data as to what are the most suitable heights.

There is, unfortunately, no time for me to enter more fully into those changed social conditions on which developments in the new architecture naturally largely depend. Let us glance for a moment at that important chapter of economic history, " Changes in the structure of the family," which deals with the social entity on which the town-planner has to base his calculations. The family of the pre-industrial era—the patriarchal family as we might call it—was still a self-contained economic unit which undertook the education of the children, care of the sick and aged, nearly all of what it needed, and even to a considerable extent its own food, whereas in our machine age what were formerly the family's responsibilities have been more and more assumed by the State. In addition to the regulation of work in factories and offices, and the correlated right of the workman to choose the nature and place of his work, in addition also to the continually increasing independence of women, who participate in wage-earning, the State has undertaken the education of children in kindergartens, schools and technical institutes, as also the care of the sick and aged. Evolution evinces a progressive growth of the nationalization of what were formerly family functions in the spheres of authority, education and domestic economy; transferences which are naturally reflected in the type and form of the buildings devoted to family life. The shelter required for the now diminished and otherwise transformed family unit has changed its nature in accordance with its changed functions. The size of the dwelling has diminished, the mechanical labour-saving devices installed in it are continually increasing.

These historical and evolutionary changes have been entirely independent of the changing political structures of the different nations, and there is no civilized people to which this observation does not apply in greater or lesser degree. The architect must thoroughly understand these fundamentals—I only emphasize one single factor here by way of example—if he aspires to plan a proper type of dwelling or develop a town as an organic entity. The town is the all embracing embodiment of the life and organization of society ; from its feature we can read its age and character, its cultural and its hygienic condition. Preoccupation with urban problems will show us more clearly than anything else where the creative impulse of the new architecture takes root.

R. I. B. A.

ELECTION OF MEMBERS

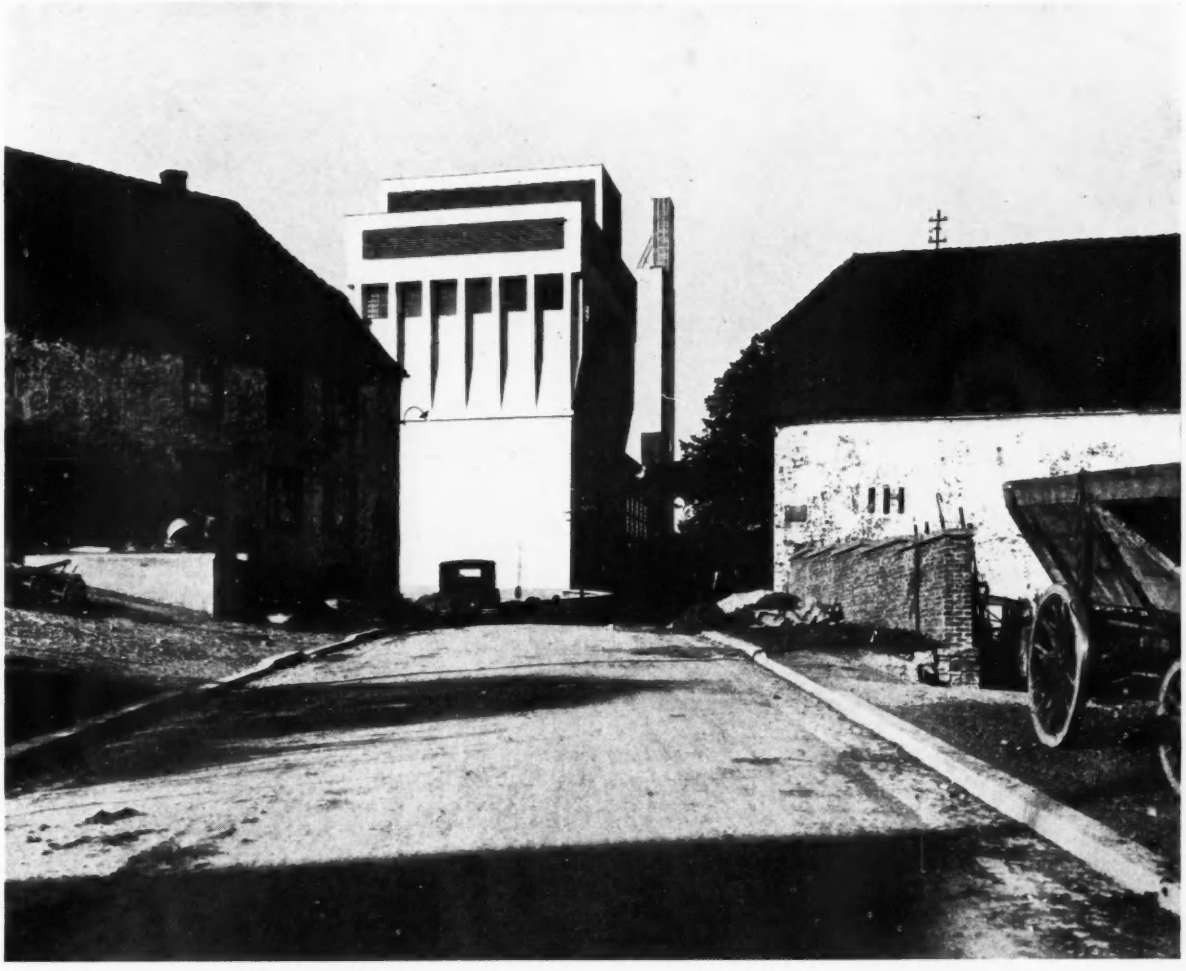
At a recent meeting of the Institute, the following members were elected :

As FELLOWS (5) : Messrs. A. H. Ley, A. Mather, C. M. Scott, J. G. West and J. C. Teather.

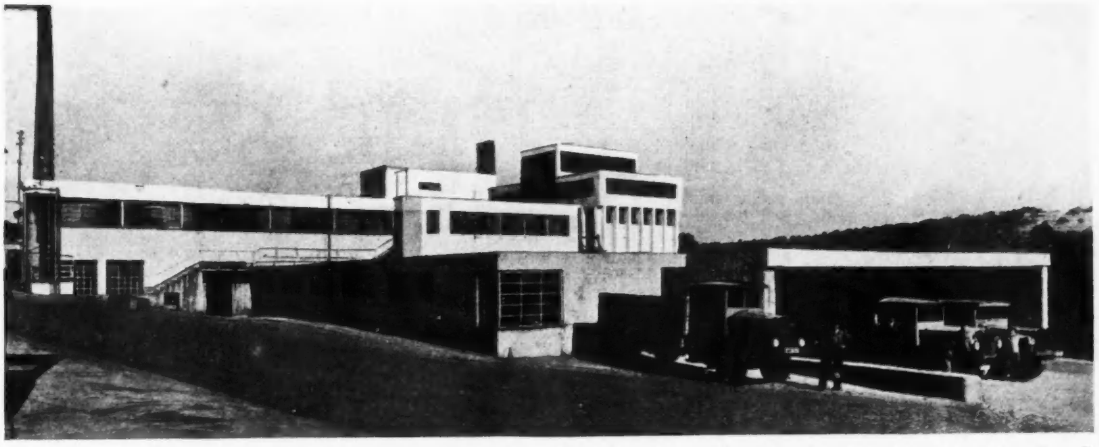
As ASSOCIATES (9) : Messrs. J. H. Alleyn, A. O. Ashton, H. S. Davison, J. C. Edgar, V. Harding, J. A. Pinckheard, M. H. Rylance, A. W. Soden and H. B. Van der Riet.

As LICENTIATES (13) : Messrs. G. P. Banyard, A. J. Biddulph, R. S. Cave, P. V. Davison, F. O. Eaton, W. A. Ford, H. M. Hedges, M. P. Holmberg, J. E. Hopcraft, J. S. Johnston, E. L. Scriven, H. Seabright and J. A. Weatherley.

BREWERY IN THE SARRE TERRITORY

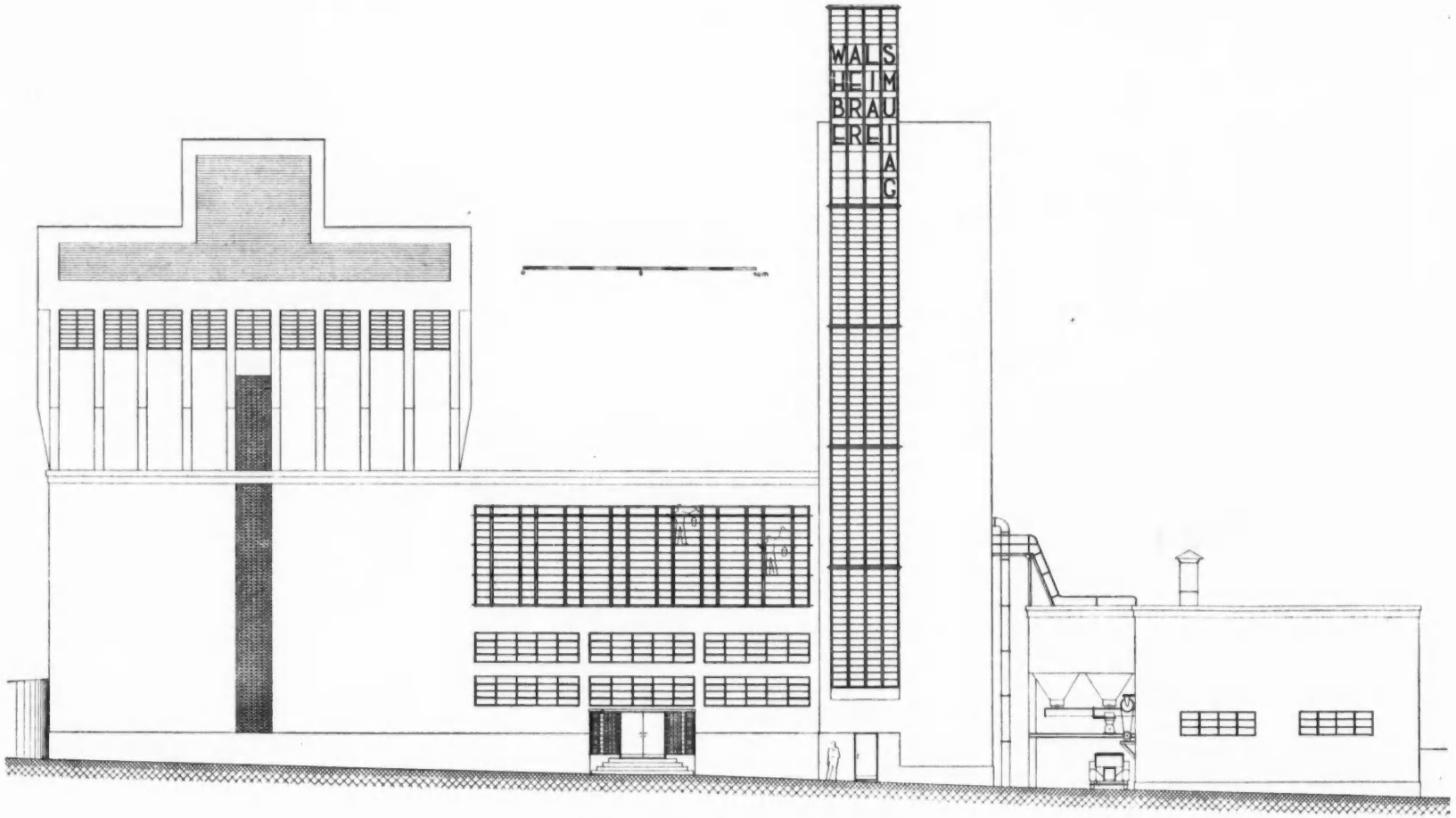


The Walsheim Brewery, which supplies a large part of France with lager beer, has recently been extended, and the photographs on this page show (above) the rectangular storage tower housing the maturing vats; and (below) a general view of the new buildings.



DESIGNED BY OTTO ZOLLINGER

EXTENSIONS TO A BREWERY IN THE SARRE TERRITORY



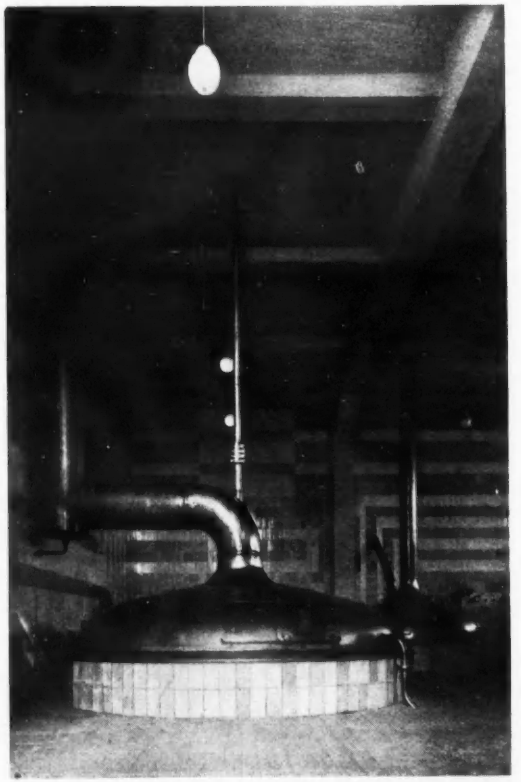
ELEVATION TO THE STREET

On the left is the storage tower, containing forty tanks, each of 6,600 gallons capacity; the lantern at the top of the tower serves to extract the steam from the cooling room immediately below it. In the centre is the brewing house with the malt silos to the right of it. On the extreme right is the drying house for the malt husks.

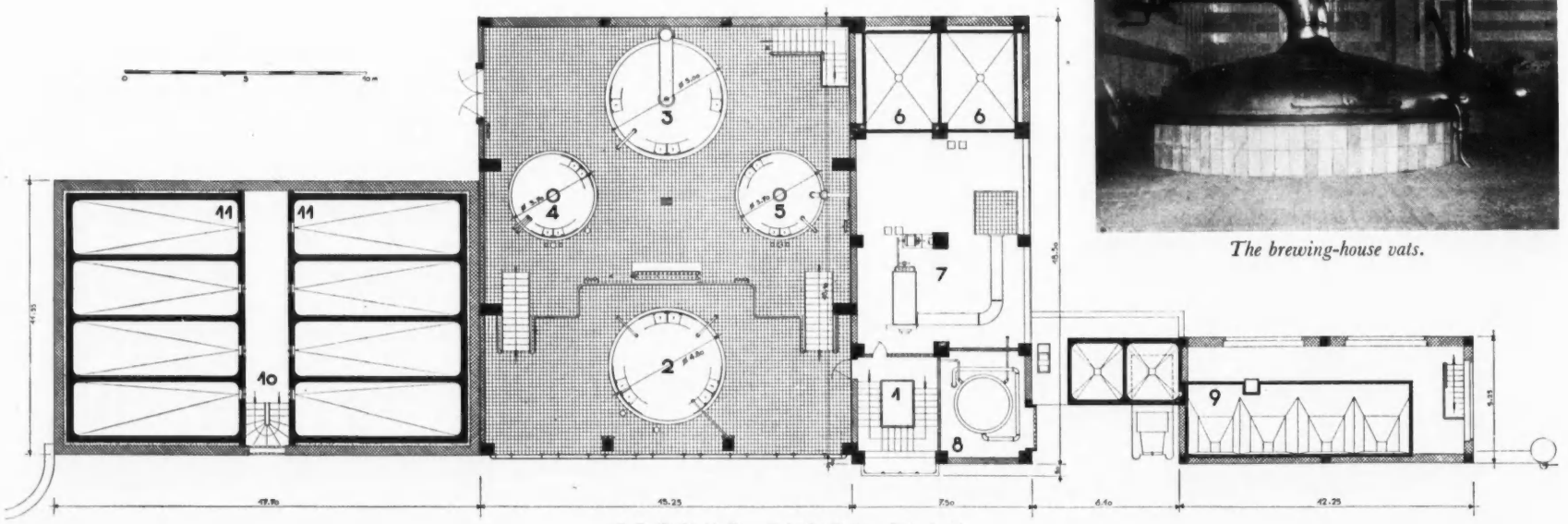
In the storage tower the tanks are arranged in separate five-storied units; all controls for the beer, water and cooling air being operated from the service passage between each block. The tanks, which have to withstand a gas pressure of about 12 lb. per square inch, are lined by the Rostock process, in which an 8 mm. coating of a porous and absorbent plaster is applied direct to the concrete. It is then chemically heated, and impregnated with a patent preparation giving a hard, glossy black surface, that is absolutely neutral and impermeable.

Key to the accommodation:

1: Staircase.
2: Clarifying Vat.
3: Warts Pan.
4: Mash Vat.
5: Mash Vat
6: Mash Vats.
7: Air-conditioning Plant.
8: Water Tank.
9: Malt Silos.
10: Access Gangway.
11: Storage Tanks.



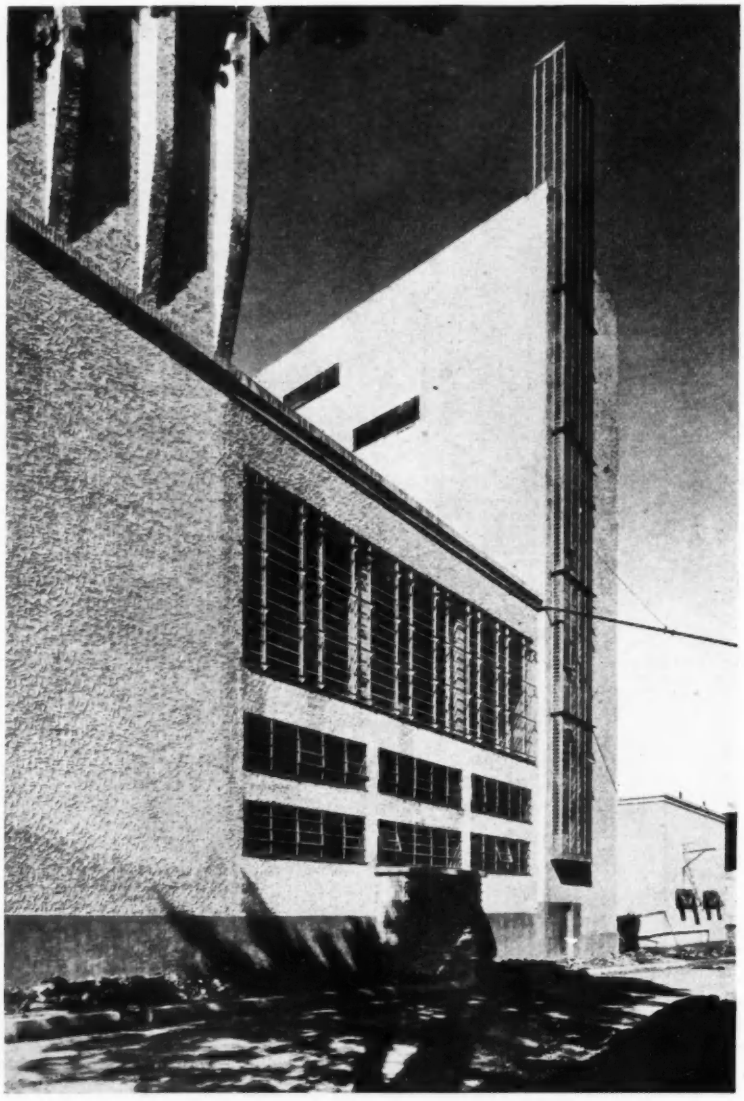
The brewing-house vats.

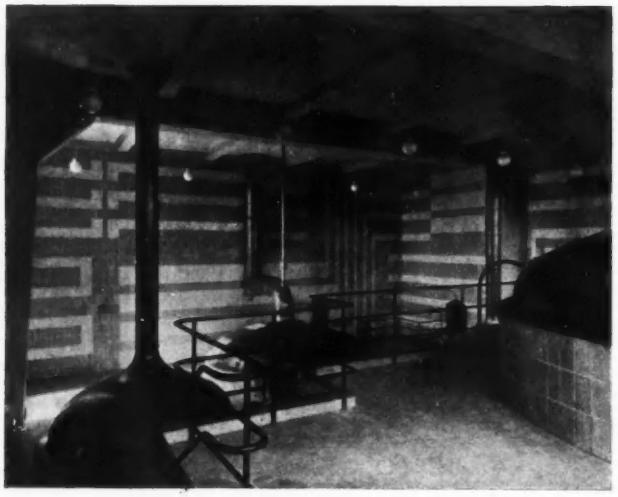


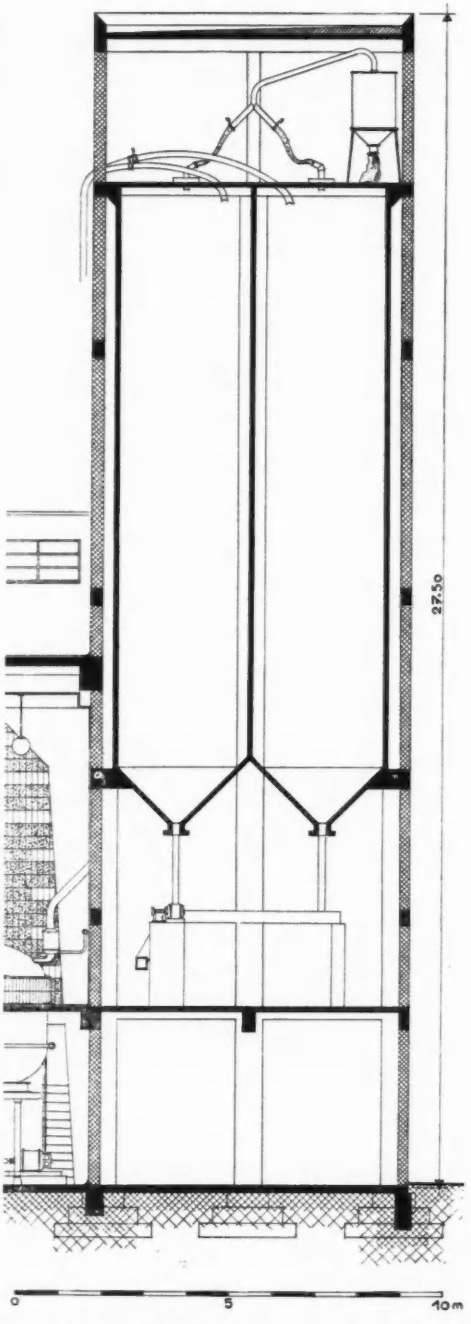
GROUND FLOOR PLAN

DESIGNED BY OTTO ZOLLINGER

EXTENSIONS TO THE WALSHEIM



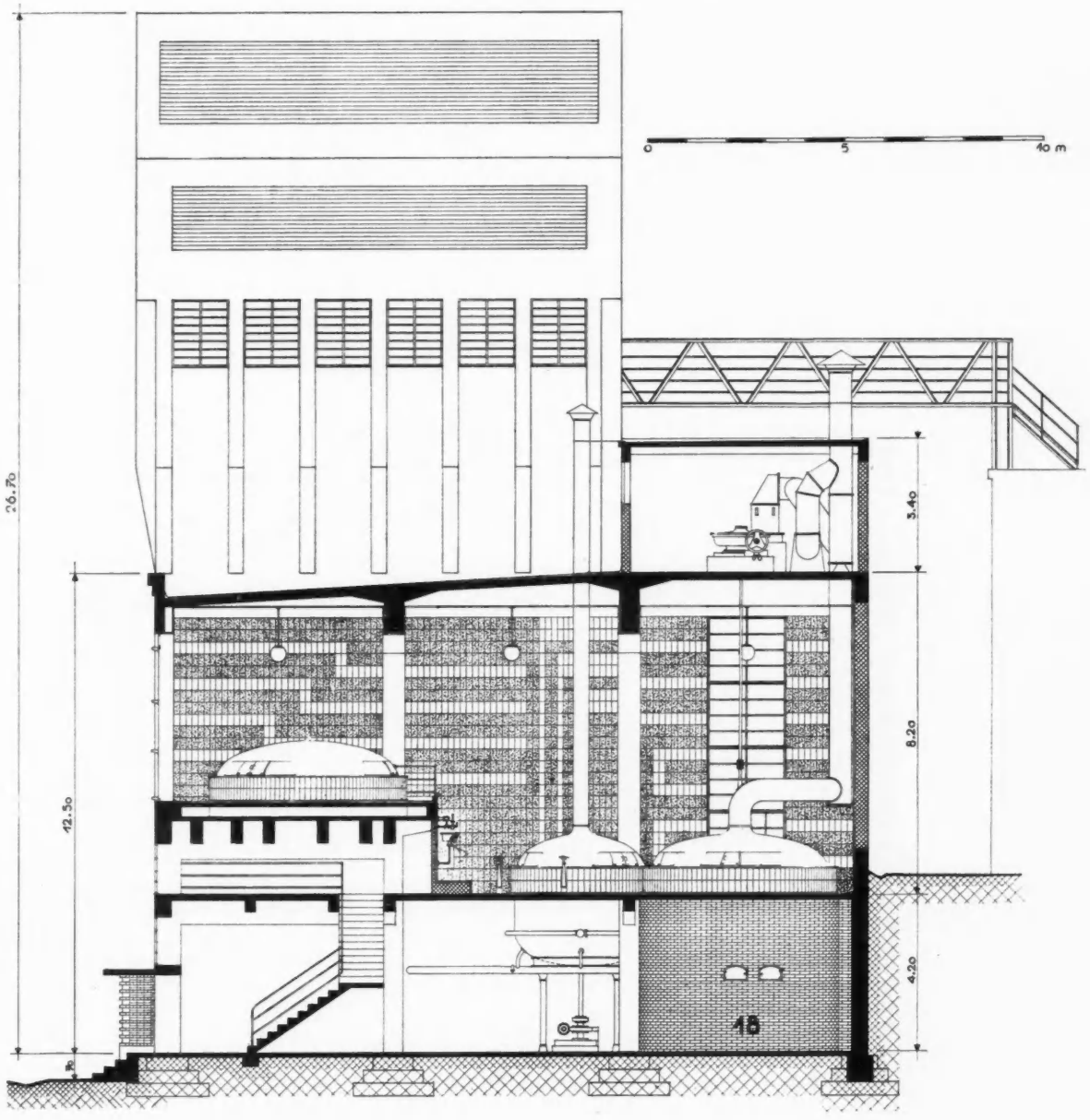




SECTION THROUGH THE MALT SILOS

The photographs on this page show: above, the street elevation finished in roughcast; the vertical staircase window has been extended above roof level to form an illuminated sky sign. Below, a view looking down from the upper level of the brewing house.

BREWERY IN THE SARRE TERRITORY



SECTION THROUGH THE BREWING HOUSE

Above is a section through the brewing house, with the storage tower in the background. The iron bridge on the right leads to the older part of the brewery.

DESIGNED BY OTTO ZOLLINGER

LETTERS FROM READERS

PATRICK ABERCROMBIE, F.R.I.B.A.

THOMAS RAYSON, F.R.I.B.A.

JAMES BURFORD, A.R.I.B.A.
(Member of the British Union of Fascists)

T. ALWYN LLOYD, F.R.I.B.A.

The Panels

SIR,—Mr. Martin-Kaye in his article on this subject makes a concrete suggestion for the control of the external appearance of buildings: he proposes a whole-time officer elected by special examination, and given presumably a permanent post, with old-age retirement. There would be, of course, an appeal from his decisions.

Personally, I prefer a body elected by the architectural profession, any member of which is removable annually if he displays prejudice or incapacity. This seems to promise a more flexible and well-tempered control.

There appear to me four courses open: to leave control in the hands of the engineer or surveyor officer of the local authority; to attempt to work the Panel system; to set up salaried Amenity Officers; to abandon all control and trust to the improvement of national tastes and architectural education.

Personally I would prefer the last if it could arrive before England, and chiefly rural England, were finally defaced; in the meantime the Panel system seems the least prejudiced or tyrannical. You, Sir, seem from your leading article to plump for complete and absolute individualism.

I differ also from Mr. Martin-Kaye's remark that "the rejection of the thoroughly bad only goes a small way to preserve the amenities"; 90 per cent. of the houses of this country are built without an architect; here is the bulk of the work upon which panel members are labouring and doing splendid voluntary work. Nor do panels always function together; more usually a single member is deputed to work with the authorities' officer. Mr. Martin-Kaye's article is an attempt to create prejudice and to set up a strangle-hold architectural tyranny.

PATRICK ABERCROMBIE
(LIVERPOOL)

SIR,—The article by Mr. Martin-Kaye will be welcomed only by those who have no sympathy with the great purpose which prompts the invention of the Panel Advisory system. Those who understand the subject and have had experience in the work of architectural Advisory Panels will question Mr. Martin-Kaye's qualification to express any opinion.

He discusses the matter on a very low and vulgar plane. His article has, however, the merit of suggesting a proposal in place of one he decries. He seems to be unable to realize that the country is being ruined at an alarming rate, that it is not a question of antipathy to modernism or any "form" of architecture, that the effort is directed almost entirely against those who build undesigned buildings, and that those who by gift and training have become qualified in æsthetic matters are best fitted to control them.

To regard the subject of amenities as a question of "property" and "rights," and to expect the lumbersome machinery of Parliament to defend the beauties of this wonderful country from the sweeping hand of the speculative builder, is more foolish than optimistic. This defence is so urgent and so important that not only must we become very active immediately but we cannot afford such hindrances as are generated by an article such as that of Mr. Martin-Kaye's. I beg of him to bend his energies along the path which has been taken by the greatest effort of the day, and if he disagrees with it, to bend it in the direction in which he thinks it ought to go.

I speak with the authority of an Advisor who has been acting since 1929, probably longer than anyone else in the country.

THOMAS RAYSON
(OXFORD)

Fascist Architecture

SIR,—The letters from Mr. Bayes and Mr. Welford in THE ARCHITECTS' JOURNAL for April 26 and May 3 raise interesting points regarding Fascist policy. Their criticisms seem to arise in part from a misunderstanding of Fascist aims. Both writers appear to regard Fascism as the complete suppression of the individual. But Fascism does not propose anything of the kind. If we understand Mr. Bayes correctly he is confused between the claims of the State and the claims of the individual. He finds this confusion intolerable.

It is just this confusion that Fascism resolves. Fascism is not absolute in the sense of the "complete freedom of the individual," or of "complete control by the State." Reduced to such simple terms the extremes appear ridiculous. Either is a simple proposition, but one is chaos and the other stagnation.

Fascism holds that the individual cannot exist without the State, nor the State without the individual. It seeks to create a balance, a harmony, between the two. Thus Fascism is not an easy creed, but it is a living creed, and living does not mean existence by rote, but living by intelligence.

Mr. Bayes seems to recognize that a planned economic Britain would be an immense asset to architecture. Architecture more than any other art needs finance for its realization. Fascism, by securing to Britain this economic prosperity, would consequently provide this necessary basis for architectural achievement.

But the attainment of such economic prosperity is not a mere matter of mechanism. Nor is Fascism a mere question of economics. Whilst spiritual prosperity is not possible without economic prosperity, economic prosperity alone would make of us no more than industrious ants. Neither one nor the other, and both are necessary, is possible without the corporate will to have them and the corporate effort to achieve them. To achieve both is the aim of Fascism. Is it not inevitable that such a corporate will and effort should create a common basis for architectural endeavour? In this way the State will serve the individual and the individual the State.

JAMES BURFORD
(LONDON)

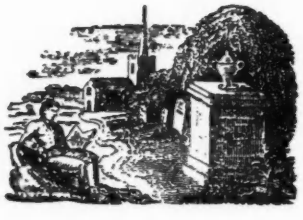
"Re-Housing London"

SIR,—I must write to congratulate you on another issue of the JOURNAL devoted so admirably to a special purpose. Your presentation, by articles and illustrations, of what has been done and what remains to be done was very striking, and quite in line with your previous special numbers on related subjects.

A great responsibility falls on architects as a body to make their appropriate contribution for dealing with these very difficult problems in regard to re-planning and re-housing.

All good luck to your further efforts, and may these produce the results which we all so much desire.

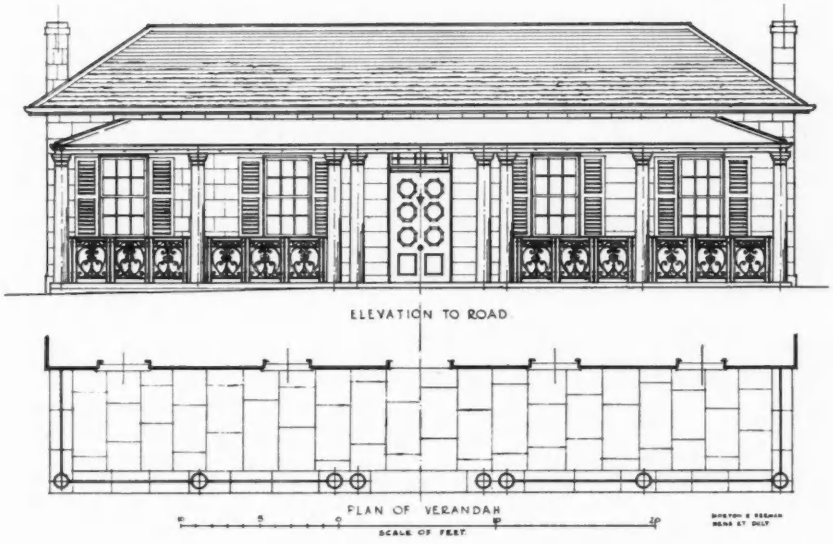
T. ALWYN LLOYD
(CARDIFF)



AUSTRALIAN COLONIAL ARCHITECTURE

A SERIES OF MEASURED DRAWINGS

2 : A House at Hartley, N.S.W.



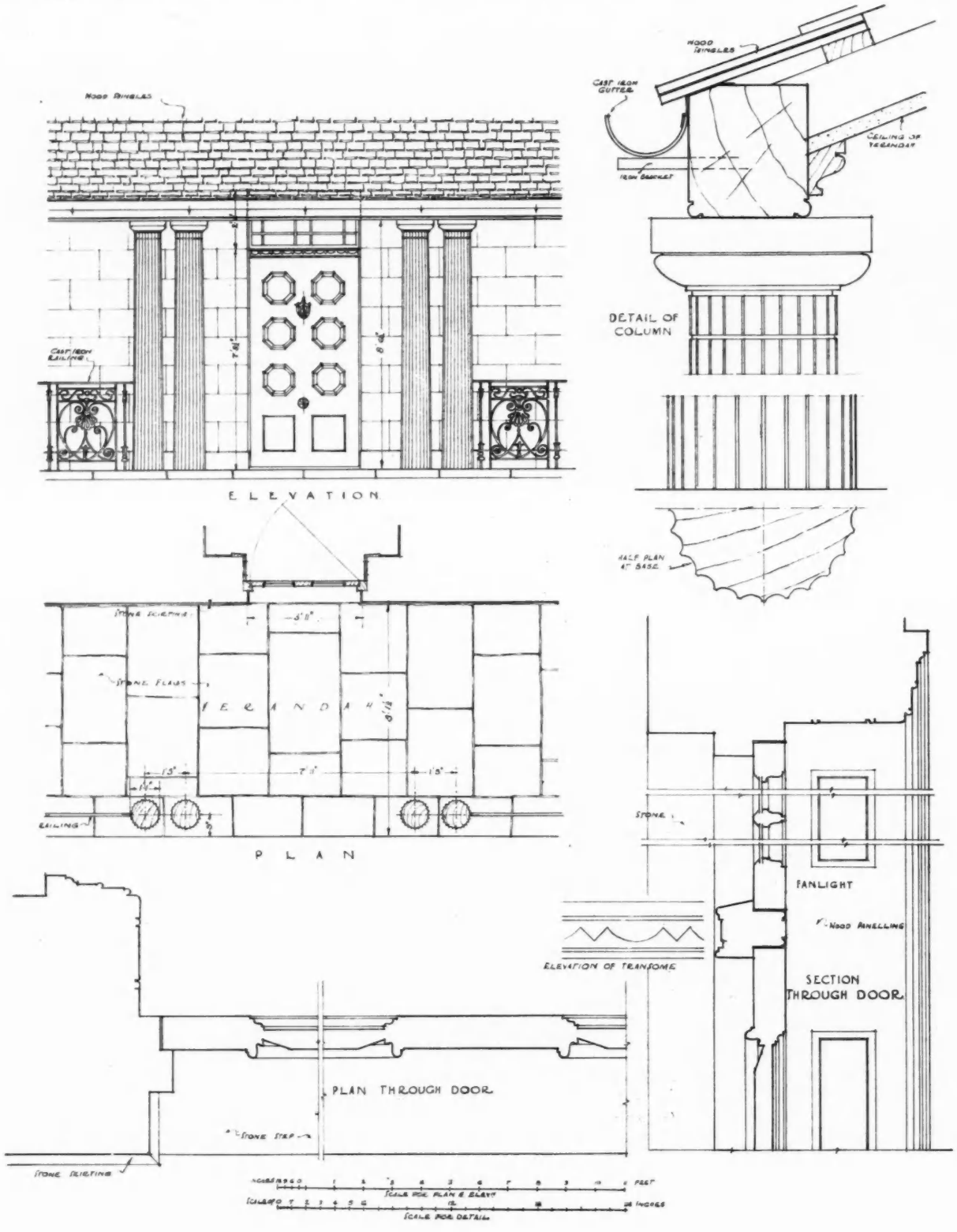
THIS is the second of a short series of measured drawings of examples of Australian Colonial Architecture. A large number of interesting buildings of the eighteenth and early nineteenth centuries are in existence in Australia that have many of the qualities of English building of the same period, though they are far less known than the corresponding examples in South Africa and the United States.

The first building illustrated was the Old Barracks at Liverpool, New South Wales. On the next page are drawings of a house near Hartley, also in New South Wales.

This house was built about 1820, and is an example of the one-storied type which was found particularly suitable to the warm, dry climate of the neighbourhood. The verandah serves both as a shelter from the sun and as a general outside room.

In this case the verandah takes the form of a light roof carried on a colonnade of Greek Doric columns. These are of very good proportions and are carved from solid ironbark. The railing filling in the bays is of cast iron. The walls are of a pleasant golden sandstone, and the roofs are of wood shingles.

HOUSE AT HARTLEY, N. S. W.



Measured and drawn by M. E. Herman

R.M.I.G. SCHOOL AT RICKMANSWORTH

[EVERARD

This school, which has just been completed to provide accommodation for 400 girls and a staff of approximately 100, was illustrated generally in our issue for May 10. In that issue the lay-out of the whole group was described and the administrative building and the standard boarding houses, of which there are eight arranged in a semi-circle, were illustrated in detail.

In this issue three other buildings contained in the group are illustrated: namely, the school building, comprising classrooms, etc., and the main assembly hall, the chapel and the block containing the gymnasium and swimming bath. The lay-out plan is repeated overleaf.

The external treatment of the buildings generally is in multi-coloured facing bricks with cream joints relieved with Clipsham stone bands, copings and panels; cream-painted windows and pantile or lombardic tile roofings are used throughout.

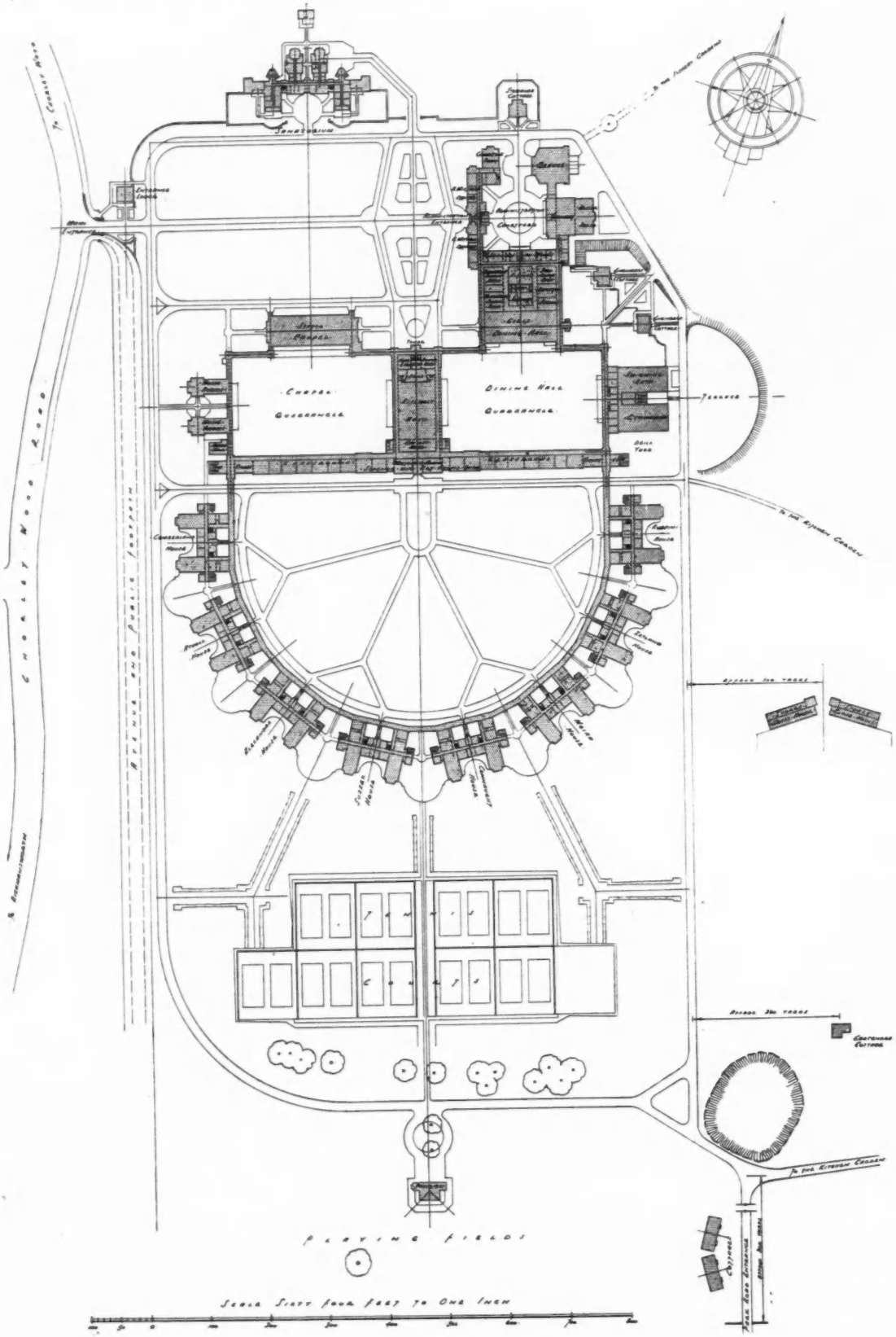
The photographs on this page show: above, a general view of the administrative building and the chapel; right, the tower at the north-west end of the assembly hall.

DESIGNED BY

DENMAN AND SON

[EVERARD

ROYAL MASONIC INSTITUTION

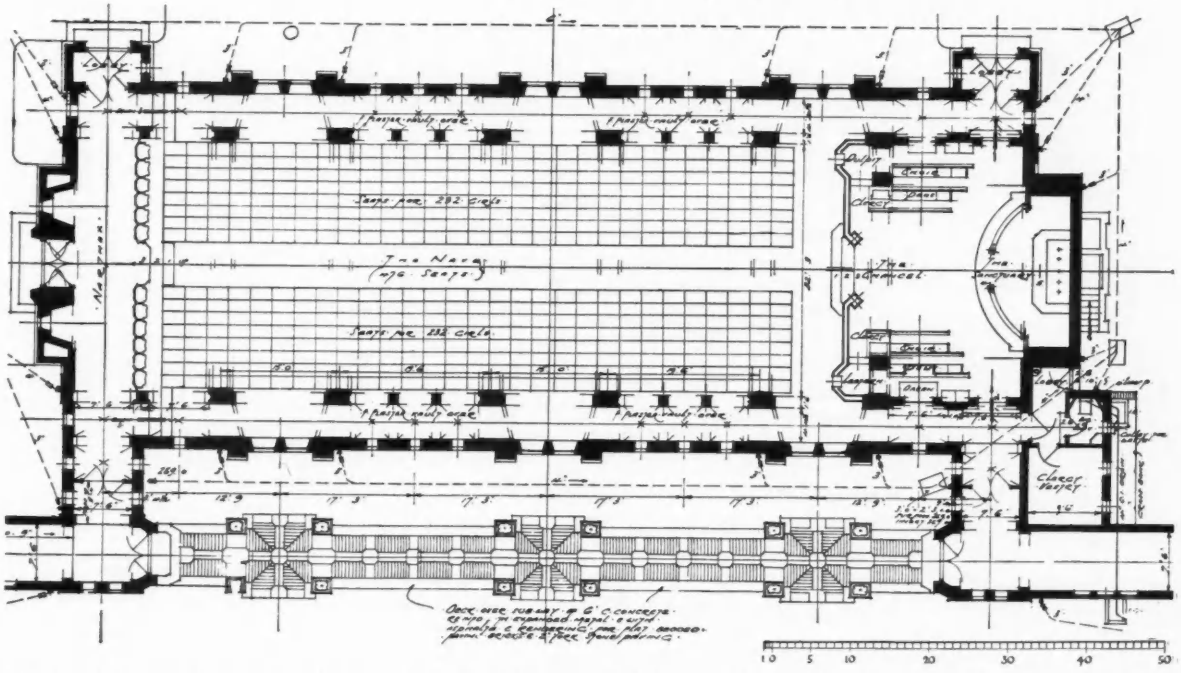


LAY-OUT PLAN

FOR GIRLS: THE CHAPEL

[EVERARD

Above: the north-west wall of the chapel, with the central tower behind, which serves as a clock and bell tower and for water storage; below, the plan of the chapel.

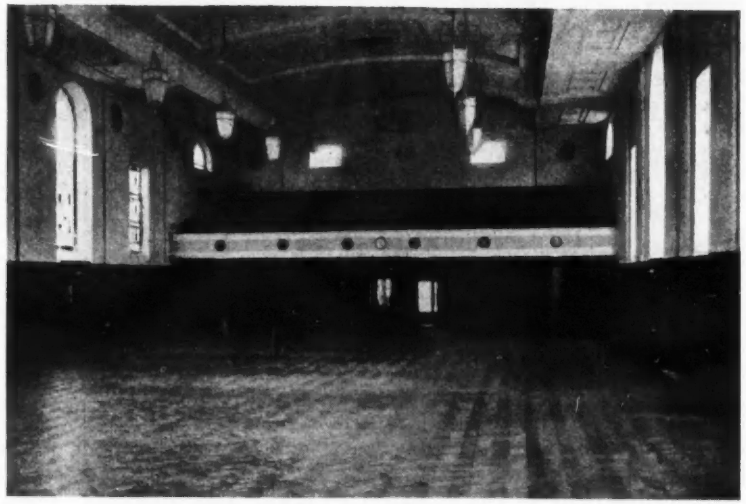


The chapel has a seating capacity for 500. It is treated internally with stone piers and arches to the low groined aisles, with brick walls and arched brick ribs over the main semi-circular barrel vault ceiling. The heating is by means of hot water pipes beneath the floor. The stalls, reredos, altar and sanctuary panelling are executed in oak with portions relieved in colour and gilt. The windows are filled with stained glass and two of the spandrels over the triple arch bays between nave and aisles have been filled with mural paintings. Artificial lighting is concealed in the form of recessed wall panels having painted and gilded wrought iron grilles on the face of each.

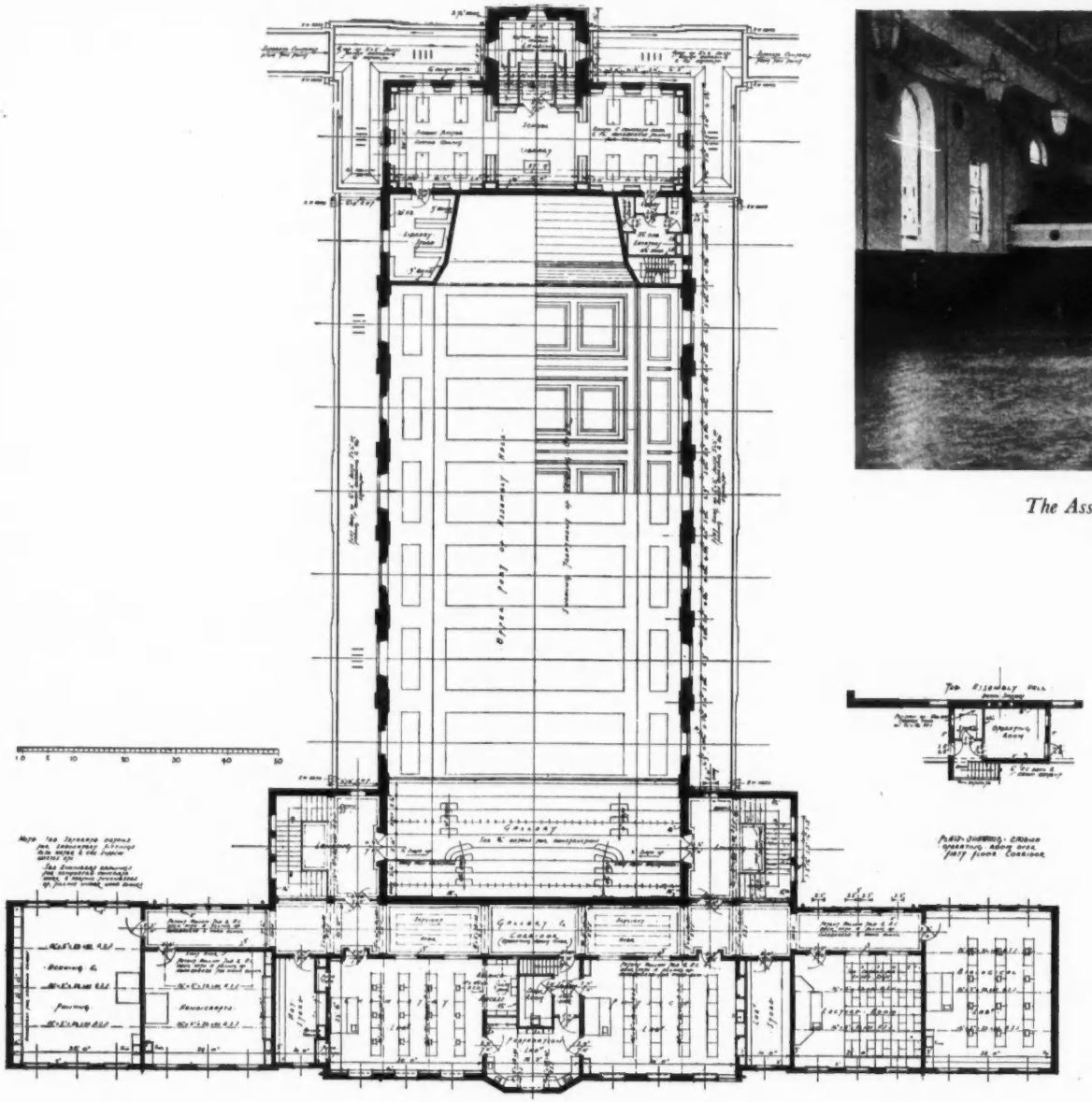
The roof construction of the chapel is illustrated as one of this week's WORKING DETAILS *on page* 764.

DESIGNED BY DENMAN AND SON

R. M. I. G. SCHOOL AT RICKMANSWORTH: THE ASSEMBLY HALL



The Assembly Hall, looking towards the gallery.



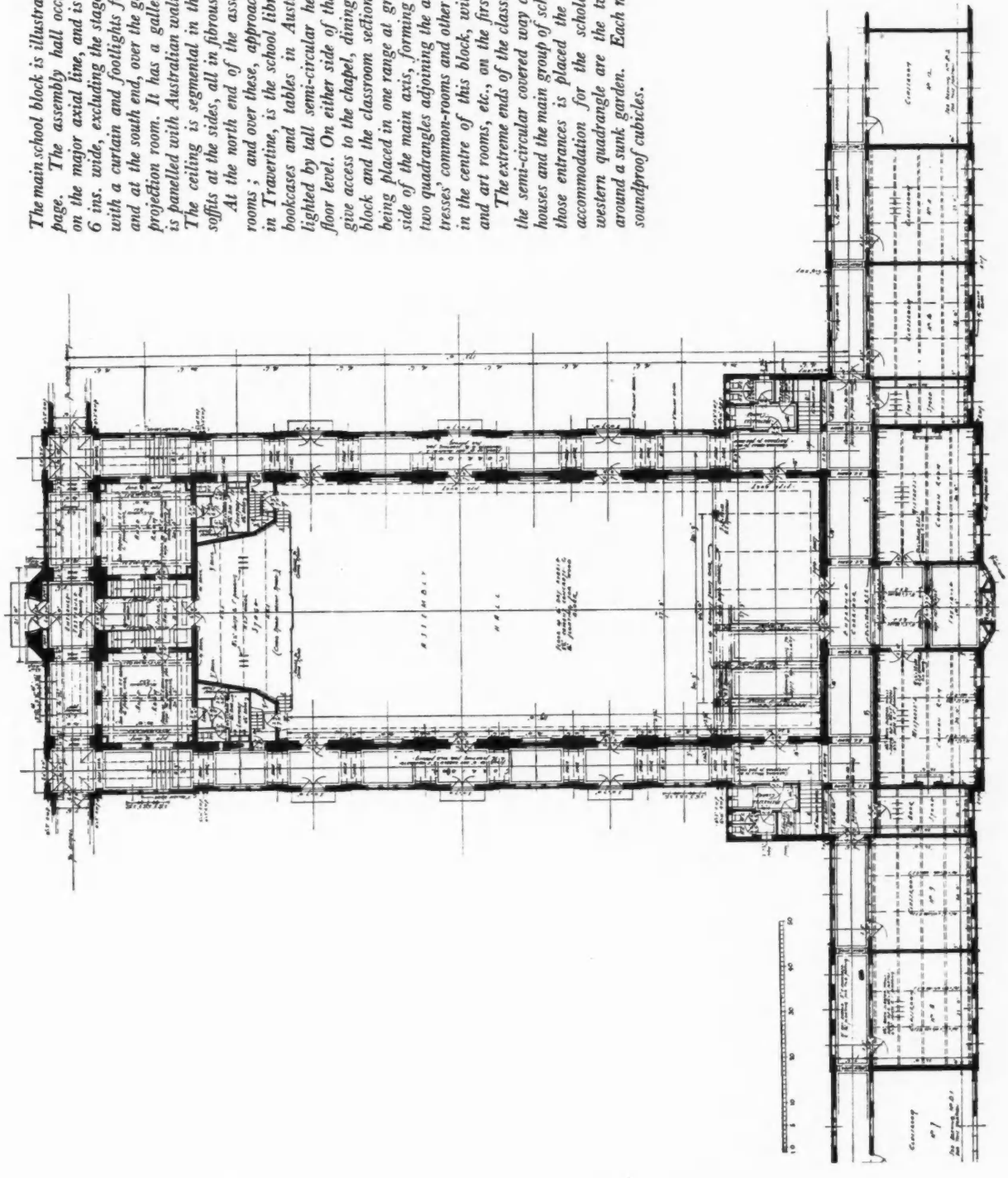
DESIGNED BY DENMAN AND SON

FIRST FLOOR PLAN

The main school block is illustrated on this and the facing page. The assembly hall occupies the central position on the major axial line, and is 120 feet long and 57 feet 6 ins. wide, excluding the stage. The stage is provided with a curtain and footlights for dramatic performances, and at the south end, over the gallery, is a cinematograph projection room. It has a gallery which seats 275, and is panelled with Australian walnut to a height of 10 feet. The ceiling is segmental in the centre portion with flat soffits at the sides, all in fibrous plaster.

At the north end of the assembly hall are two anterooms; and over these, approached by a dual staircase in Travertine, is the school library. This is fitted with bookcases and tables in Australian silky oak, and is lighted by tall semi-circular headed windows from the floor level. On either side of the assembly hall corridors give access to the chapel, dining hall and administrative block and the classroom section, the eighteen classrooms being placed in one range at ground floor level on either side of the main axis, forming the southern side of the two quadrangles adjoining the assembly hall. Two mistresses' common-rooms and other accommodation are placed in the centre of this block, with the science laboratories and art rooms, etc., on the first floor.

The extreme ends of the classroom wings is linked with the semi-circular covered way connecting the eight school houses and the main group of school buildings. Adjoining those entrances is placed the cloakroom and lavatory accommodation for the scholars and, completing the western quadrangle are the two music rooms, grouped around a sunk garden. Each music room contains twenty soundproof cubicles.

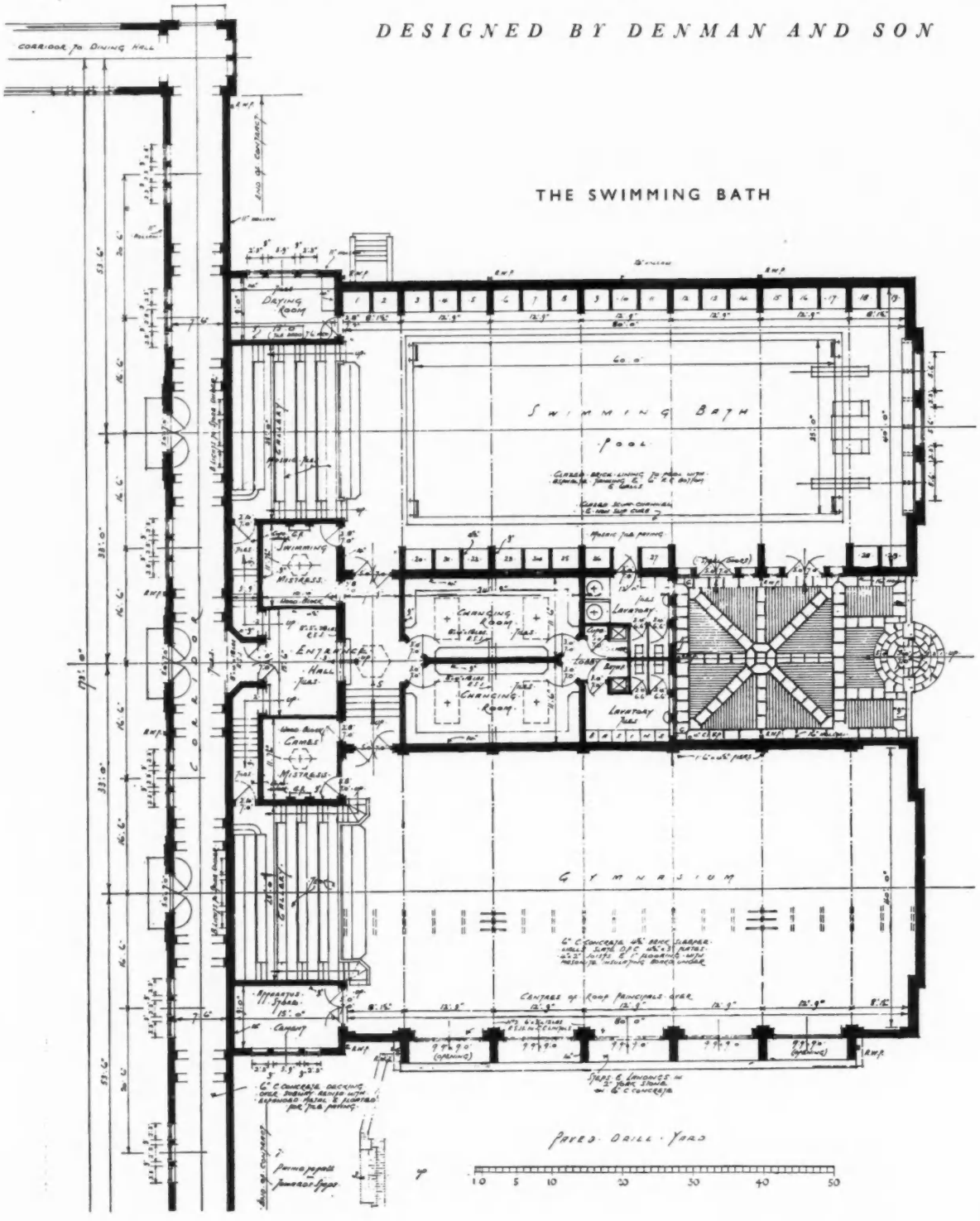


GROUND FLOOR PLAN

R.M.I.G. SCHOOL AT RICKMANSWORTH

DESIGNED BY DENMAN AND SON

THE SWIMMING BATH



Above is a plan of the swimming-bath and gymnasium block at the eastern end of the eastern quadrangle. The bath and gymnasium have changing rooms and lavatories between, and staircases approaching galleries to each from the central entrance vestibule. The swimming bath is paved and lined with mosaic, with a non-slip faience curb, and the walls are faced with glazed bricks. The seating in the gallery in both cases is in teak. From both the swimming bath and the gymnasium doors give access to open courtyards on the south side, that to the swimming bath being enclosed and that to the gymnasium being paved as a drill yard. A complete filtration and warming plant is provided for the water in the swimming bath.

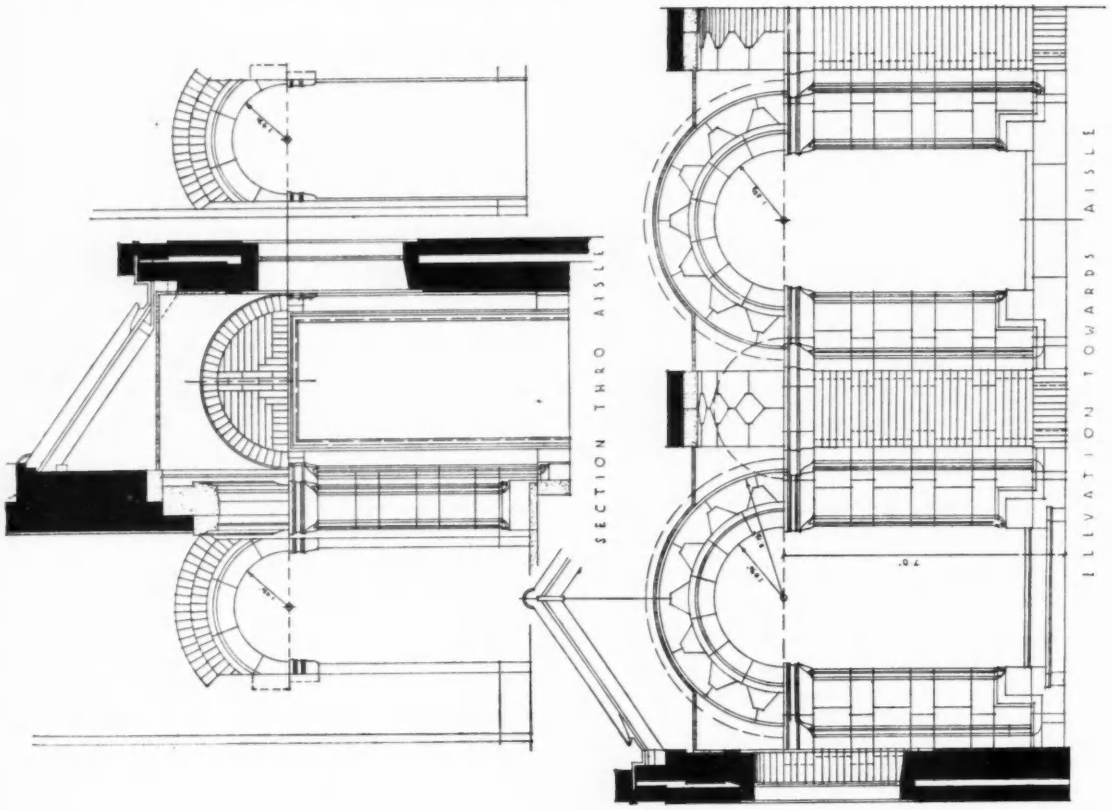
WORKING DETAILS : 53

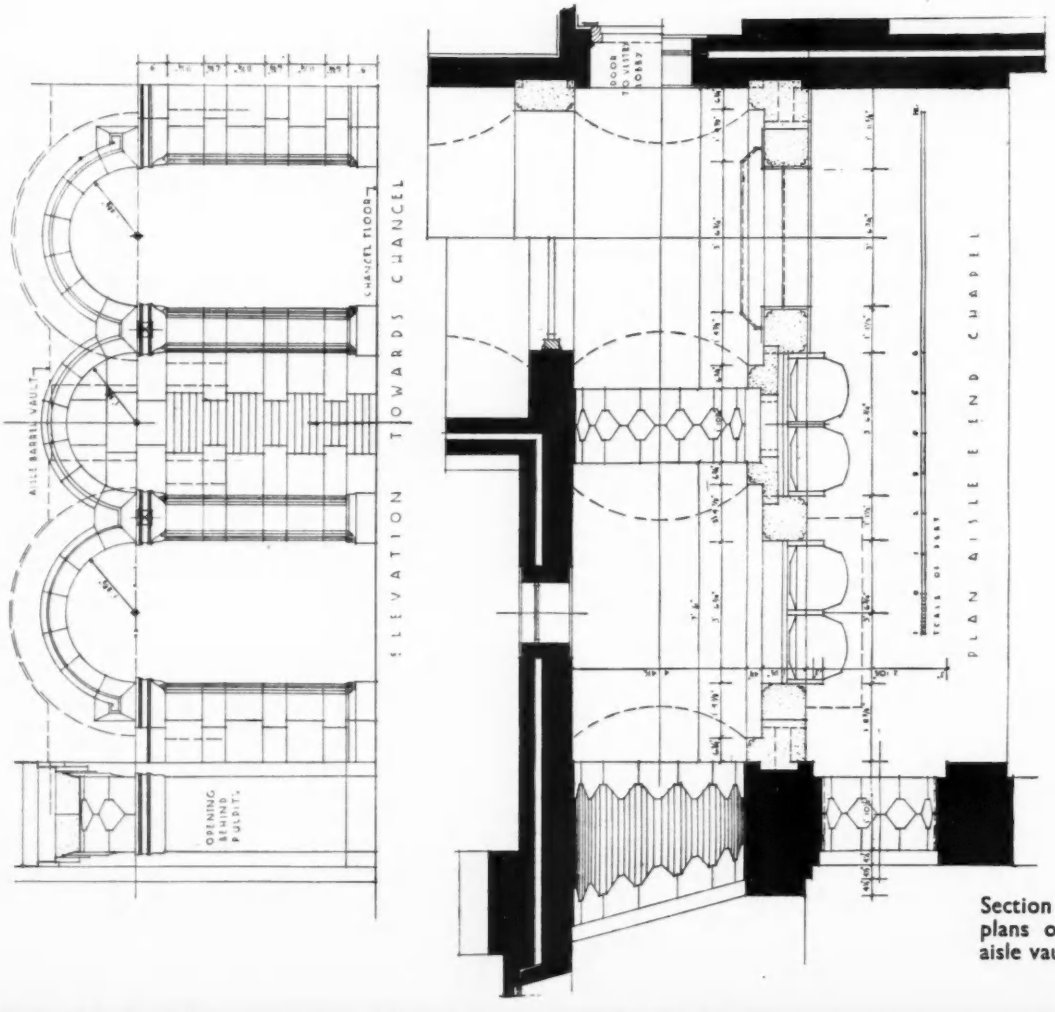
VAULTING • R.M.I.G. SCHOOL AT RICKMANSWORTH • DENMAN AND SON

The photograph above and the drawing overleaf show the stone-jointing and constructional details of the vault intersections in the chapel aisles.

WORKING DETAILS : 54

VAULTING • R.M.I.G. SCHOOL AT RICKMANSWORTH • DENMAN AND SON

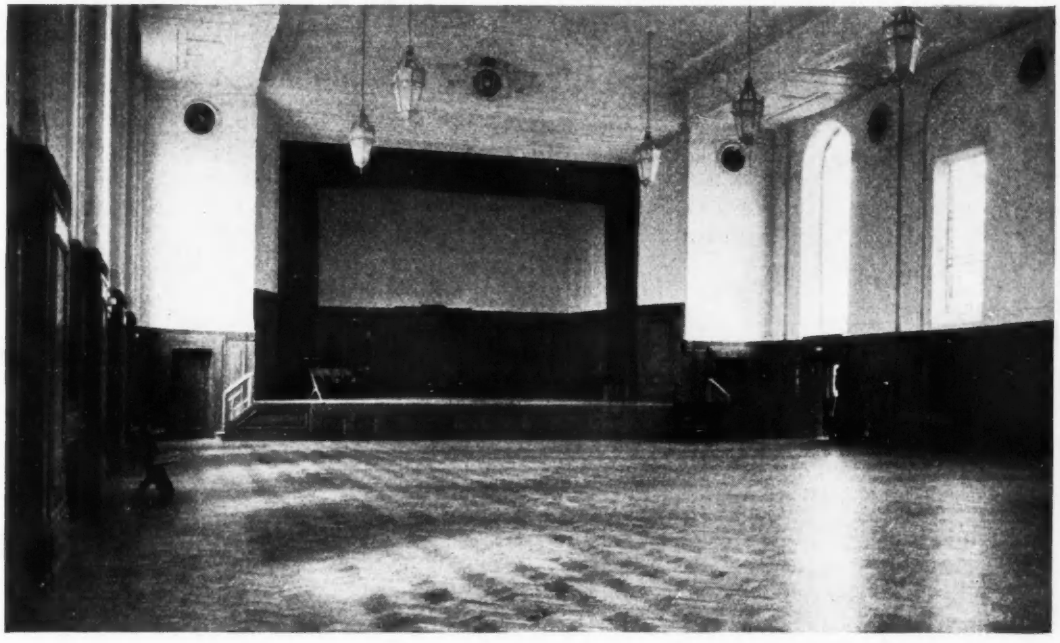




Section and plans of the aisle vaulting.

WORKING DETAILS : 55

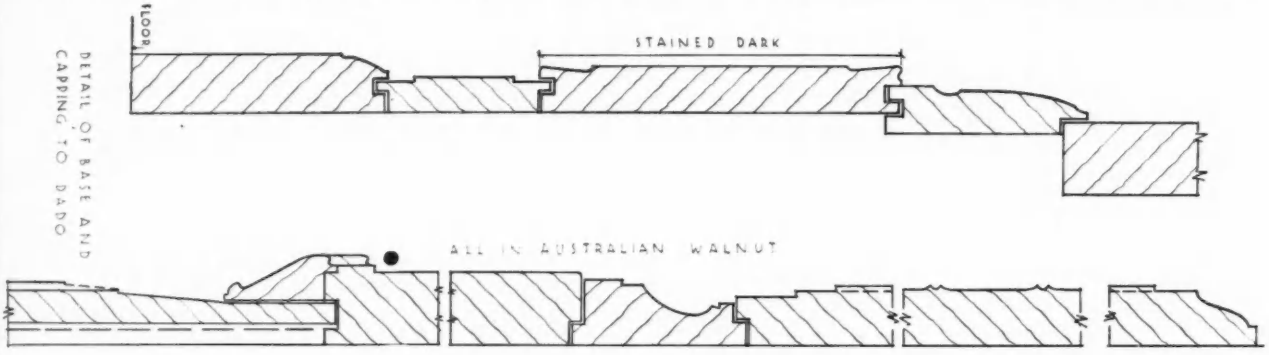
PLASTERWORK AND PANELLING • R.M.I.G. SCHOOL AT RICKMANSWORTH • DENMAN AND SON

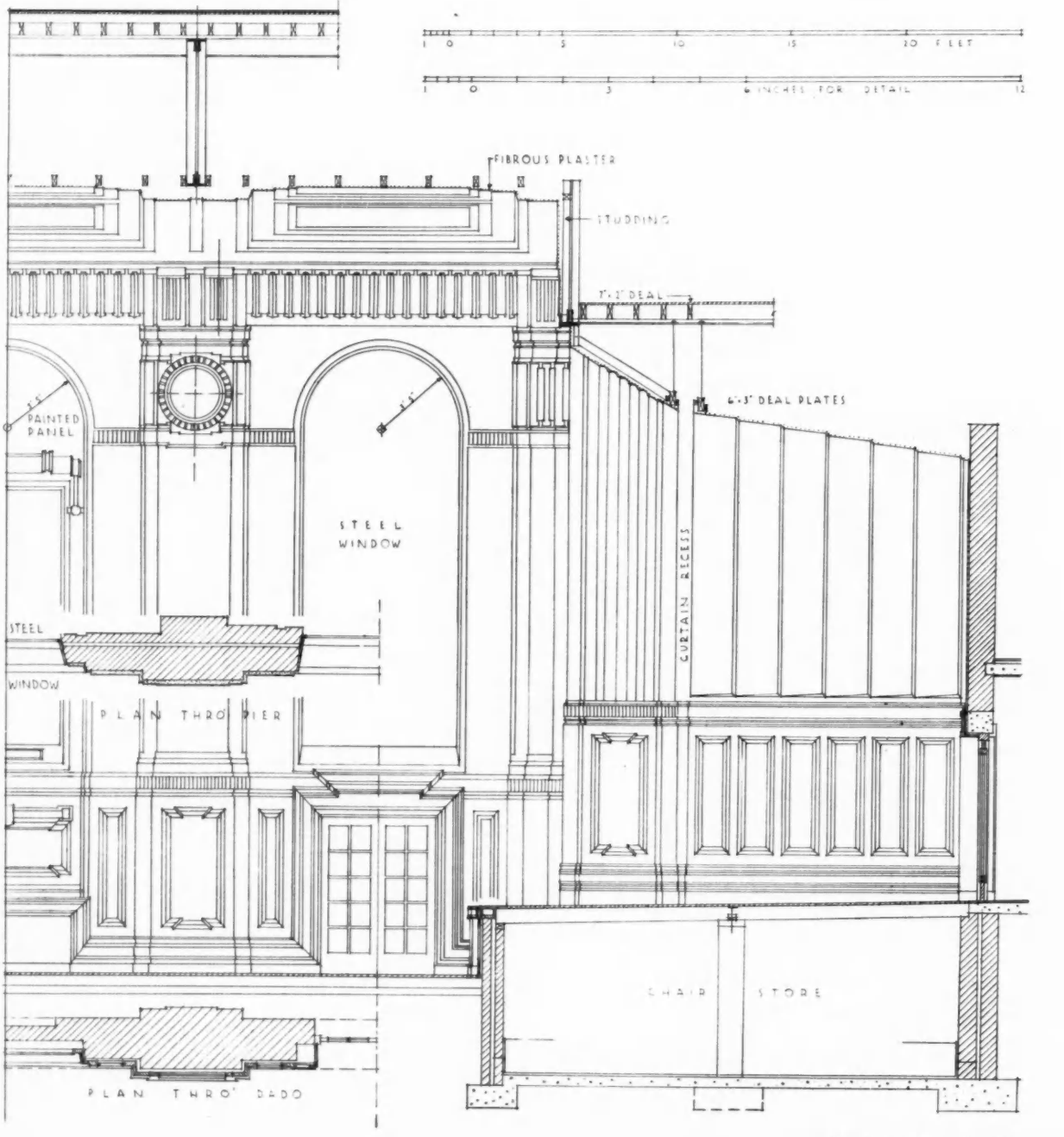


This school assembly hall has at one end a platform and stage, properly equipped with a curtain, and provided with a chair store. All panelling is in Australian mahogany, stained and wax polished. The drawing overleaf shows a section through the stage, and full size details of the base and capping mouldings for the dado panelling.

WORKING DETAILS : 56

PLASTERWORK AND PANELLING • R.M.I.G. SCHOOL AT RICKMANSWORTH • DENMAN AND SON





Section through the stage and full-size mouldings of the assembly hall.

WATERLOO BRIDGE

The Society for the Protection of Ancient Buildings and the London Society, under the advice of a specially convened committee, have just issued a report entitled "A Summary of the Reasons for Retaining Waterloo Bridge by Strengthening." The S.P.A.B. states that it has, "readily available in typescript, full tabulated evidence on the various aspects of the case, which will be sent immediately to any who desire it."

Extracts from the report are printed below.

GENERAL.—When the new London County Council Money Bill is before the House of Commons, an attempt will be made to persuade Parliament to reverse its previous decision to preserve Waterloo Bridge.

It is therefore necessary for the societies interested in the preservation of ancient monuments to put forward arguments to show that Parliament decided rightly in 1932, and that the case for the preservation of Waterloo Bridge is unanswerable.

WEAKNESS IN THE BRIDGE.—In October, 1923, pier No. 4, counting from the Lambeth end, was found to have settled to the extent of 16·60 inches. The sinking continued slowly until March 17, 1924, when an attempt to stabilize the pier by injecting cement into the foundations was started, with the result that the sinking then increased rapidly by about 8·50 inches to a total of 28·34. Centering was erected under the arches as a precautionary measure. Further sinking has been negligible, and there is no evidence that either the masonry or the timber piles are in process of decay. The settlement of the bridge was due to changes in the river bed ; the increased scour having washed gravel away from the foundations.

THE FIRST L.C.C. PROPOSAL.—In 1924 it was proposed by the L.C.C. to widen the entire bridge while preserving its architectural design : the Port of London Authority objected on grounds of navigation.

THE SECOND L.C.C. PROPOSAL.—In 1925 the L.C.C. decided for a new bridge with not more than 5 arches and for 6 lines of traffic, subject to the provision of a subway beneath the Strand (which latter proved impracticable).

On this, the Society for the Protection of Ancient Buildings put forward a proposal to preserve the bridge by underpinning.

ACTION BY INTERESTED BODIES.—In view of the threatened loss to the Metropolis of so famous a monument, the Royal Fine Art Commission in 1925 made representations to the L.C.C. in favour of maintaining the present structure.

In 1926, a number of distinguished laymen and artists signed a memorial to the Prime Minister asking that an enquiry should be granted into the question of London bridges before the fate of Waterloo Bridge was finally determined.

In the same year the Prime Minister announced that, having regard to the public anxiety which the question had aroused, the Government had decided to appoint a Royal Commission to enquire into the whole subject of bridges over the Thames in the London area.

AS TO ROAD TRAFFIC.—As regards the traffic over Waterloo Bridge, Sir Henry Maybury gave evidence before the Parliamentary Committee, and in April, 1926, made a report on the London bridges on instructions from the Minister of Transport. He stated : "If you built Waterloo Bridge and made it a six-line bridge, you have done nothing to relieve the traffic in the Strand at all, and it will have the effect of bunching up at Wellington Street crossing more than we have today. Widen Waterloo Bridge if you like, but that will not solve the traffic difficulties."

A careful examination of vehicular traffic statistics goes to show that it has not increased appreciably in the last thirty years.

APPOINTMENT OF A ROYAL COMMISSION ON CROSS RIVER TRAFFIC.—In 1926, as a result of a widely supported memorial to the Prime Minister, a Royal Commission on Cross River Traffic was appointed, and reported that a six-line bridge at Waterloo was neither necessary nor desirable, that a road bridge at Charing Cross should be built forthwith, and recommended accordingly that Waterloo Bridge should not be demolished, but that some piers should be rebuilt, others underpinned, and that the roadway should be widened to take four lines of traffic.

L.C.C. REAFFIRMS ITS SECOND PROPOSAL, AND PARLIAMENT'S VOTE.—Agreement not having been reached upon various projects for Charing Cross Bridge, the L.C.C. reverted to the plan of a new six-line bridge of five arches in place of Waterloo Bridge, and a design was prepared by Sir Giles Scott ; this proposal was brought before Parliament on June 1, 1932, in a Money Bill promoted by the L.C.C., and after discussion, the motion to leave out the provision of money for the demolition of Waterloo Bridge and the erection of a new bridge was carried by 222 votes to 154. In the course of the discussion the estimate of £656,400 for repair and widening was compared with an estimate of £1,300,000 for pulling down and replacing, but it was asserted that this figure was inadequate and should be not less than £2,000,000.

L.C.C. INVITES TENDERS FOR RECONDITIONING.—Thereupon the L.C.C. being advised that "His Majesty's Government have come to the conclusion that there is no alternative but to proceed to recondition the existing bridge" invited tenders for the work, including the widening of the roadway by the method approved by the Royal Fine Art Commission and the L.C.C. Tenders were delivered on April 9, 1934.

THE THIRD RETURN BY THE L.C.C. TO THE NEW 6-LINE BRIDGE PROPOSAL.—In spite of this, on March 23, 1934, the Highways Committee of the newly elected Council recommended the demolition of the old bridge and the construction of a new one, and this was adopted by the Council on March 27, provided that a contribution of 60 per cent. of the cost should be obtained from the Road Fund.

LARGE MINORITY VOTE IN THE L.C.C.—It should be noted here that this decision of the L.C.C., far from being unanimous, was carried by 77 votes to 53, a majority of 24 only for a new bridge.

REPLY BY MINISTER OF TRANSPORT (1934).—In April, 1934, the Minister of Transport addressed a reply to the Highways Committee on their inquiry as to the Government's attitude, and the following occurs in it :

"The Government cannot make a grant to any scheme running contrary to the expressed opinion of Parliament and would not be prepared themselves to take any steps with a view to urging Parliament to alter a decision so recently arrived at."

AS TO RIVER TRAFFIC.—The project for a new bridge, now revived, is spoken of as a five-arch bridge in place of the old bridge of nine arches, but actually the five arches replace seven only over the river, and the longer tunnels of a bridge 75 ft. wide would largely annul the advantages that might arise to river traffic from the increased span. The objection to Waterloo Bridge on the score of river traffic applies to all the arched bridges above "The Pool," including the new one at Lambeth, and would involve their replacement also.

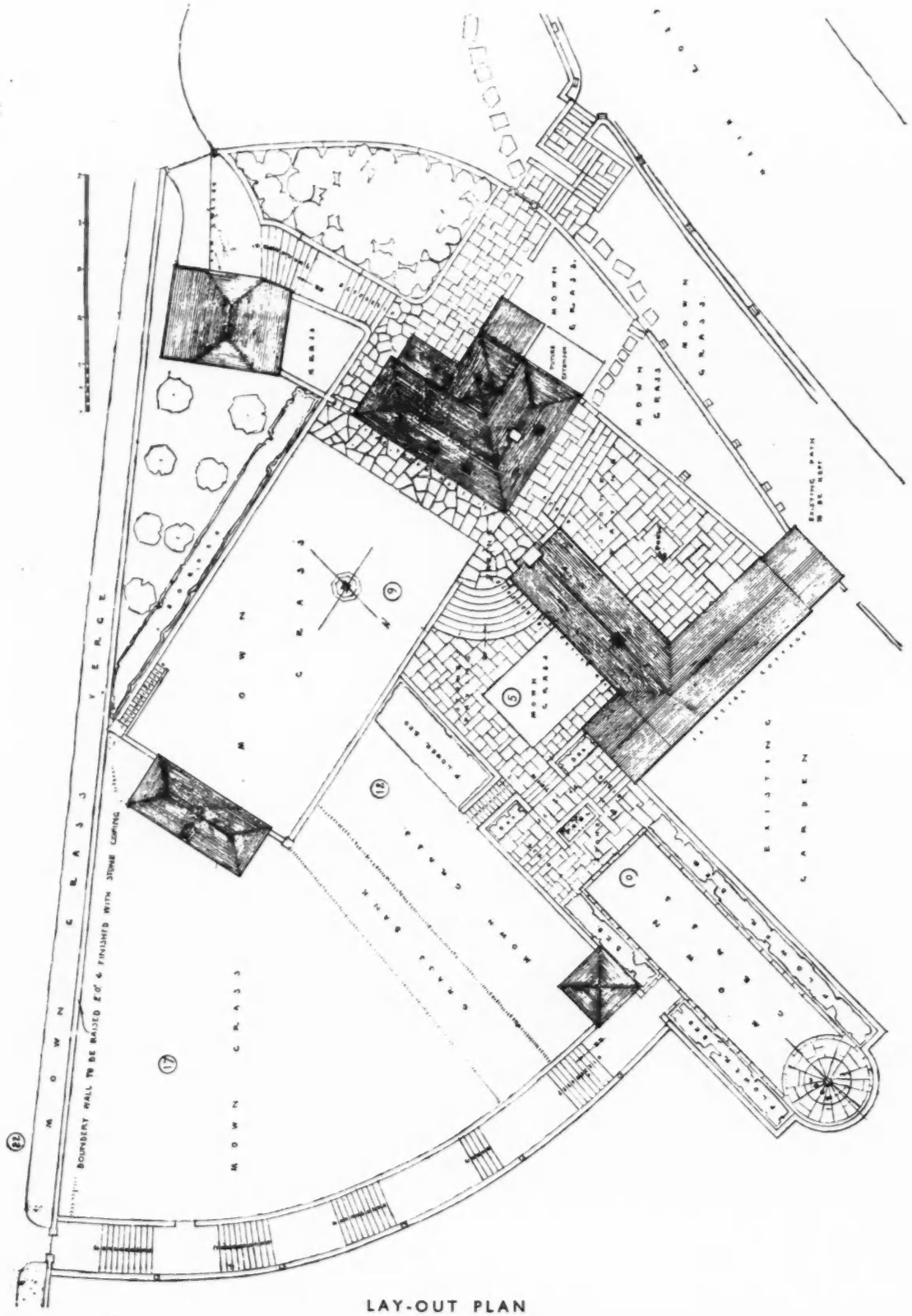
AS TO THE READINESS TO BEGIN BUILDING A NEW BRIDGE.—It was asserted in the discussion at the County Hall that a new bridge could be put in hand without any delay, the design having already been prepared, but Sir Percy Simmons announced that there was an arrangement with the Government by which the L.C.C. agreed to submit the design for the approval of the Royal Fine Art Commission. This had been done and the design was not approved.

THE EFFECT ON ROAD AND RIVER TRAFFIC DURING THE BUILDING OF THE NEW BRIDGE AT THIS CROSSING.—It is not generally realized that "the construction of a new bridge would mean the closing of all road traffic over the bridge at this point for a period of about six years as, before the building of a new bridge could be started, two years or more would be required to remove the present bridge. Not only would road traffic cease for a period of about six years, but river traffic would of necessity be interfered with for a lengthy period."

THE URGENCY OF CHARING CROSS BRIDGE.—As recently as April, 1926, the Traffic Advisory Committee stated it regarded the project as one of urgent necessity, although it did not definitely press for it, mainly on the ground of the heavy expenditure involved.

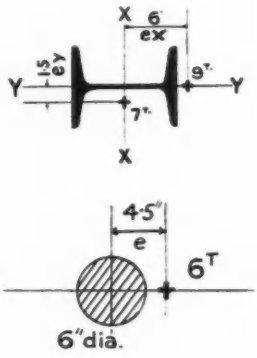
A SHORT RESTATEMENT.—The main contentions of this statement are : that the sinking of some piers has been due to river scour washing out gravel, for which the Embankment and dredging are responsible ; that the stone and timber are sound ; that all the piers can, for about £660,000 be underpinned with but little more hindrance to navigation than today ; that until navigation was confined to two arches no accident had been recorded ; and that also two arches can be rebuilt while allowing one line of road traffic to pass ; that the temporary bridge can be removed after three and a half years ; that more than four lines of traffic are useless in view of the Strand crossing ; and that the true and urgent need for the near future is a bridge at Charing Cross which, with approaches, can be built, without disturbing the railway, for a little over two million pounds.

FORD MANOR, GLOUCESTERSHIRE:


MOWN GRASS VERGE
BOUNDARY WALL TO BE RAISED 6" & FINISHED WITH STONE COPING
MOWN GRASS
EXISTING PATH TO BE KEPT
EXISTING CARRIAGE
NEW TERRACE
NEW POND
NEW STEPS
NEW GRASS SLOPE
NEW GRASS SLOPE
NEW GRASS SLOPE

DESIGNED BY R. FURNEAUX JORDAN

This job consisted mainly of restoration and the making of the garden, which had not grown up at the time the photographs were taken. The work shown is nearly all new, with the exception of the house itself, and was largely built from materials quarried on the site. The photographs show: above, a view from the south; below, the main entrance.



TRADE NOTES

[*BY F. R. S. YORKE, A.R.I.B.A.*]

Asbestos

I WENT, last week, to Bell's Asbestos Works at Slough, to see a demonstration of the value of asbestos in safeguarding life and property from fire.

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A brick tunnel, in the shape of an L, was specially constructed for the purpose of the demonstration; its dimensions approximated to those of the alley-way of a ship—4 ft. 6 in. wide by 9 ft. high. A heap of wood-wool and wood, soaked in oil and paraffin, was laid at one end of the tunnel and ignited.

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By means of electric suction fans, flames were drawn through the tunnel and round the bend of the L. When the fire was at its height, a door in the wall of the tunnel was removed, allowing the flames to shoot into the air. Then a man, clothed in an asbestos suit and helmet, walked into the fire, emerging after a minute or so, unscathed.

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At the conclusion of this demonstration, the door was replaced, and the fire allowed to grow in intensity. At a given signal, an asbestos curtain was dropped near the seat of the fire, and doors were opened in other parts of the tunnel, enabling spectators to walk right up to the curtain, on the other side of which the fire continued to blaze fiercely. It seemed almost impossible that a fire of such intensity could be isolated instantaneously by so simple a device. In actual practice, an asbestos curtain of this type could be operated by adjacent or remote control, or it could be linked with some thermostatic device, which would release the curtain automatically immediately a certain temperature were reached. The curtain hangs loosely, and is in two overlapping halves, so there is no danger of a person being trapped in the flames by an immovable screen.

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The fire, now confined to a small portion of the tunnel, could only expend its energy in an upward direction, but here it was frustrated by asbestos roofing. A wood structure, intended to represent two rooms of an upper floor, had been erected on the roof, immediately above the seat of the fire, and a section of asbestos material, forming the floor of one of the rooms, was withdrawn, so exposing the normal flooring material of this room to the flames. In a few minutes the room was entirely gutted, whilst its asbestos protected neighbour remained undamaged.

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The statistics for 1932 show the number of fatalities due to fire to be 1,313, and nearly all were due to panic and lack of time following a sudden outbreak. It is difficult to think coherently when flames are approaching swiftly, or licking one's clothes.

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Used in the construction of ceilings, asbestos would effectively check the spreading flames; whilst a single asbestos-curtain would isolate the fire in a short run of corridor, and provide that valuable element—time.

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Asbestos is one of the oldest known minerals in the world, but, although ancients knew of it, and used it to form shrouds for their dead, and to perform "miracles," its use in modern commercial life is comparatively recent. It was not until 1868 in U.S.A., and 1871 in this country, that its peculiar property of incombustibility brought it prominently to the notice of engineers.

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Asbestos is a non-metallic mineral, mined in almost every part of the world; but the countries principally concerned with its production in a raw state are Canada, Africa, Italy and Russia, the bulk of supplies coming from Africa and Canada.

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The principal properties of asbestos are indestructibility, and almost complete immunity from the effects of fire and damp. It is used for packing to steam engines, and linings for friction surfaces where heat is generated and where a substance impervious to heat is essential. In building work it is used for fire-curtains in theatres, and blankets in cinema-theatre operating rooms. It is interesting to note that the Home Office has sanctioned the use of these blankets as a substitute for the hitherto exclusively used wet blanket. The disadvantage of the latter was the need for constant sprinkling with water.

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By virtue of its heat-resisting qualities, asbestos is an important constituent of materials designed for heat-insulation. As covering for boilers and pipes, such a material prevents excessive heat losses.

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Asbestos is composed of magnesia, silica, oxide of iron, potash and soda, the percentage of these materials varying in asbestos mined in different parts of the world. As a rule, the proportions are 30-40 per cent. magnesia, and 40-50 per cent. silica; with a small percentage—about 4 per cent.—of oxide of iron. It is, however, interesting to note that in South African asbestos, oxide of iron is present to the extent of 40 per cent., taking the place of magnesia.

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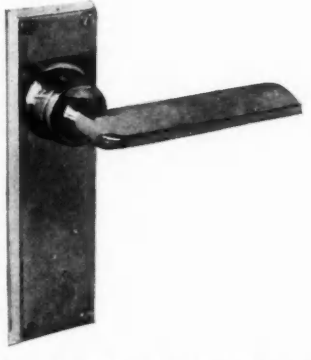
I understand the association of Bell's Asbestos Company with asbestos, and the modern exploitation of the material, began, indirectly when, in the year 1866, an Italian named Albonico approached "a very shrewd Florentine cleric," Canon Del Corona, and the Marquis di Baviera. As a result of their association, concessions were obtained from the various "communes" to mine for the material; experiments in spinning and weaving, and the production of asbestos cloth and paper, were successfully conducted; and at one time the Italian Government considered the use of asbestos for the manufacture of indestructible bank-notes.

Lever Handles

The Dryad Metal Works have just introduced a new lever handle—K17—to sell at a moderate price. The back-plate is made as a hot-pressing, and the lever itself as a casting. A really good coil spring is fitted to the handle, and the stop motion is entirely concealed. The price is 9s. 6d. per pair, chromium plated, or 8s. 6d. per pair in bronze. The price includes escutcheon holes if the handles are used with upright mortice cocks. The price of a pair of handles complete with mortice latch is 12s. 6d.

Steelwork Calculations

Messrs. John Lysaght have recently issued an Information Sheet giving data for the



Chromium plated lever handle, K.17, made by the Dryad Metal Works.

calculation of constructional steelwork. This includes tables showing safe loads on girders, bending moment and shear force diagrams, roof trusses carrying galvanized corrugated sheets and protected steel, permissible floor loads under the 1932 L.C.C. Code of Practice, pressures on concrete and brick foundations, safe loads on stanchions, safe loads on round steel columns, methods of using eccentricity coefficients and permissible loads on various sub-soils. The drawings at the head of these notes are reproduced from the sheet.

Central Heating

In a note concerning a brochure issued by Messrs. Crane, that appeared in the JOURNAL for April 26, I said the plans reproduced "show pipe lines, boiler and radiator positions, etc." Messrs. Crane tell me that pipe lines are not shown on these plans.

LITERATURE

REPORT OF THE STEEL STRUCTURES RESEARCH COMMITTEE

[*By W. E. J. Budgeon*]

Second Report of the Steel Structures Research Committee. London: H.M. Stationery Office. Price 7s. 6d. net.

THE Second Report of the Steel Structures Research Committee reviews the work of the committee since publication of its First Report in 1931 up to the beginning of the present year. This work has been directed, to quote the preface to the report, "to the steady compilation of scientific data to establish a national basis of advance."

Dr. Stradling, in a general review of the progress of the research on steel structures, says: "The recommendations for a code of practice for the use of structural steel in buildings, issued as an appendix to the First Report, have been widely adopted and have resulted in considerable economies. It will be remembered that these recommendations were drawn up by a Panel of the Committee largely comprised of practising engineers. Certain experimental work was carried out to obtain data on a few disputed points, but in general the Panel attempted to put into effect, in a 'safe' form, existing knowledge on structural design. While no very serious departures from established methods of design were introduced, a successful effort was made towards laying down, on the basis of practical experience, rules that were more up to date and more economical than were commonly accepted under building regulations and the like." The methods of design put forward were, however, largely empirical, particularly in the treatment of the bending moments introduced in columns by the beam connections and thus "the major work of the Committee has been the attempt to unravel the very tangled skeins of this fundamental problem and to present the results in such a manner that they can be applied in the drawing office. This practical end has not yet been reached, but real progress has been made and the objective is apparently in sight."

The Report therefore contains no recommendations by the committee as a whole, but consists of "notes" by various individual members on the particular pieces of research which they have undertaken. These include: A note on the effective length of a pillar forming part of a continuous member in a building frame; Report on the observed stresses in the steel frame structure at the museum of Practical Geology, South Kensington; investigation of beam and stanchion connections; investigations of bolts and bolted joints; the analysis of the moments in the members of a frame having rigid or semi-rigid connections; the stress analysis of steel building frames; welding of steel structures.

The majority of the notes, which, to be read with advantage, need a knowledge of the somewhat complicated methods used in the analysis of rigid frames, compare the stresses found by actual tests with those obtained by mathematical analysis. They show that, although a certain amount of slip of the joints takes place "for every type of beam connection so far used, however light, the stress distribution was similar in form to that which would have been found if all the joints had been perfectly rigid," and that the actual values of these stresses, although less than those which would have occurred if the joints had remained perfectly rigid, were very much greater than is "generally assumed in design today." It seems likely, therefore, that as structures erected in accordance with present methods of design have proved to be perfectly safe, considerable economies could be introduced if a method of designing structures as rigid frames capable of use in the drawing office could be evolved. No such method is suggested in the present report but the committee say that this "is appearing as a possibility of the near future."

TOWN PLANNING

Preparation of Schemes and Orders under the Town and Country Planning Act. By S. Pascoe Hayward, B.A., Barrister-at-Law. London: Sir Isaac Pitman and Sons, Ltd. Price 21s. net.

AFTER the flood of books purporting to explain the new Act, instead of letting it speak for itself, it is refreshing to come upon a small volume which merely deals with procedure. The author reproduces the Regulations, Orders, etc., so far issued by the Minister of Health, and gives a series of tables in which the order of procedure of each operation is made plain. Each step is clearly shown in its proper sequence, and all that it involves. The first table deals with Stage 1, the Pre-Resolution stage. This is followed by Stage 2, the Resolution stage; and Stage 3, the Preliminary Statement stage. It would, perhaps, have been an advantage if the author had added a note to the effect that the Ministry of Health now recommend that, in most cases, this stage should be omitted.

The next stage for which procedure is tabulated is the Draft Scheme stage, and that is followed by the Approval stage, and all the other various alternatives are duly set out. Procedure is also tabulated for making a Supplementary Order, a General Development Order, an Order under Section 17, and a Compulsory Purchase Order, and at the end the Statutory Rules and Orders are reproduced. The tables do not, perhaps, make quite clear the distinction between the procedure of making a General Development Order and a Supplementary Order. They rather suggest that none of the documents and particulars referred to in step 19 of the latter are required to be sent to the Minister in respect of the former, whereas, in fact, a duplicate of the Order and of the Map, together with copies of any objections or representations which have not been met or withdrawn, have to be submitted to the Minister in both cases.

Another minor criticism is that it would have been better in reproducing the forms which comprise Part III if it had been made clear which Schedule of the Regulations any form represents.

These are minor criticisms and the volume as a whole should prove a very useful guide to those preparing schemes, and safeguard them from missing any step or overlooking any part of any stage of the somewhat complicated procedure.

IN PARLIAMENT

[BY OUR SPECIAL REPRESENTATIVE]

Architects' Registration Act

In the House of Lords last week, the Earl of Crawford introduced a Bill, which was read a first time, to amend the Architects' Registration Act.

Housing

In the House of Commons, Mr. Liddall asked the Minister of Health how many houses had been provided under the Housing Act, 1933, by arrangement with the building societies; and how many

houses had been completed under slum-clearance schemes.

Mr. Shakespeare said that up to March 31, 1934, guarantees had been given under Section 2 of the Act of 1933 in respect of 1,631 houses. In addition, guarantees in respect of 8,400 houses had either been promised or are the subject of active negotiations with the local authorities. Up to the same date, 17,569 houses had been completed under the Housing Act, 1930, for the purpose of rehousing persons displaced under the provisions of the Act. In addition, 14,201 houses were provided up to March 31, 1934, to rehouse persons displaced under Improvement and Reconstruction schemes prior to the Act of 1930.

In reply to Mr. Holdsworth, Sir Hilton Young said that of the 120,781 houses provided by private enterprise without State assistance during the half-year referred to, 44,754 were of a rateable value not exceeding £13 (£20 in Greater London), and 22,730 were occupied by persons other than their owners.

Cement Composition Bricks

Mr. Whiteside asked the Minister of Health whether the information at his disposal showed that the use of the recently invented special cement composition bricks would materially affect building costs; and, if so, whether he proposed to make any alteration in the subsidy grant to local authorities.

Sir Hilton Young said the answer was in the negative. The bricks to which his hon. friend appeared to refer had not yet been manufactured in this country.

SOCIETIES AND INSTITUTIONS

SOUTH-EASTERN SOCIETY OF ARCHITECTS

The sixth annual general meeting of the Canterbury Chapter of the South-Eastern Society of Architects was held recently at Canterbury.

The following Officers and Committee were elected for the ensuing session :—Chairman, Mr. H. Anderson, F.R.I.B.A.; hon. secretary, Mr. H. Campbell Ashenden, F.R.I.B.A.; hon. assistant secretary, Mr. J. R. Fendick; hon. treasurer, Mr. C. J. F. Martindale, F.R.I.B.A.; and hon. auditor, Mr. W. P. D. Stebbing, L.R.I.B.A., F.S.A. Committee : — Messrs. J. Archibald, L.R.I.B.A., M.T.P.I., H. A. Beeston, A.R.I.B.A., J. L. Duthoit, A.R.I.B.A., J. R. Fendick, E. A. Jackson, F.R.I.B.A., T. G. Lucas, F.R.I.B.A., F.S.A., A. W. B. Messinger, L.R.I.B.A., F. A. Perren, F.R.I.B.A., F. A. Walker, F.R.I.B.A., and E. G. Wildin, L.R.I.B.A.

BERKS, BUCKS AND OXON ARCHITECTURAL ASSOCIATION

The annual general meeting of the above Association was held on May 12, at Maidenhead. Mr. Stanley Hamp (President) occupied the chair.

The retiring officers of the Association were re-elected as follows :—President, Mr. Stanley Hamp, F.R.I.B.A.; hon. treasurer, Mr. T. Talford Cumming, F.R.I.B.A.; hon. secretary, Mr. E. A. J. Martyn, A.R.I.B.A.; and hon. auditor, Mr. C. B. Willcocks, F.R.I.B.A.

It was reported that the Branch Societies had made the following elections to the Council of the Association :—Berks : Vice-president, Mr. E. Steward Smith, F.R.I.B.A.; members of the Council, Messrs. S. E. Burrett, H. M. Lewis, A.R.I.B.A., W. H. Rising, F.R.I.B.A., J. T. Saunders, F.R.I.B.A., A. W. Saxon Snell, F.R.I.B.A., F. E. Wapshott, I.R.I.B.A., F.S.I., A. B. West, F.R.I.B.A., and F. Woods, F.R.I.B.A.

Bucks : Vice-president, Mr. G. Langley Taylor, F.R.I.B.A.; members of the Council, Messrs. A. R. Borrett, A.R.I.B.A., A. Foxley, F.R.I.B.A., W. D. Hartley, A.R.I.B.A., C. S. Kimpton, A.R.I.B.A., and H. J. Stribling, A.R.I.B.A.

Oxon : Vice-president, Mr. W. Austin Daft, A.R.I.B.A.; members of the Council, Messrs. F. E. Openshaw, A.R.I.B.A., R. F. Dodd, F.R.I.B.A., T. Rayson, F.R.I.B.A., G. Hastwell Grayson, F.R.I.B.A., and N. W. Harrison, F.R.I.B.A.

The President reported that steps had been taken by the Council to form a Joint Consultative Committee of Architects, Builders and Quantity Surveyors for the area of the Association, and that he hoped that, if the Association would confirm this action, it would result in the smoothing out of any difficulties that might arise in connection with building schemes. The meeting approved the proposal.

ASSOCIATION OF ARCHITECTS, SURVEYORS AND TECHNICAL ASSISTANTS

The annual dinner and dance of the above Association was held on May 12 at the Hotel Rembrandt, South Kensington, S.W.1. Mr. R. Wynn Owen, F.R.I.B.A. (President), occupied the chair.

Lt.-Col. T. C. R. Moore, C.B.E., M.P., proposing the toast of "The Association," said : "There are two features in our national life that the National Government have failed in—housing and unemployment. If our people were adequately and properly housed there would be no unemployment among architects, architectural assistants and surveyors. Therefore, it seems to me that one of the chief features in the policy of the Government ought to be directed towards removing that cancerous sore in our life—the slums—and taking people away from those horrible and degrading surroundings in which they live and placing them in surroundings where they can exert their own individuality and feel their own self respect come back to them. By doing this they would be giving work and hope of better work to all those engaged in the building trades and the architectural profession of this country."

The Chairman, responding, said : "The Registration Bill has made provision for the increasing employment of the architectural profession by patrons of architecture through the medium of salaried architects as opposed to the private practitioner." He said he could see the time in the not too far distant future when private practice would be limited to probably a few specialists in particular branches of the profession and probably a few more private practitioners who would execute commissions for domestic work for individual personal clients, but the majority and the great majority of the work of this country was going to be done through the medium of the salaried architect.

Mr. R. Coppock, J.P., L.C.C. (General Secretary, National Federation of Building Trades Operatives), responding to the toast of "Our Guests" (proposed by Mr. F. Maynard), said :—"We must see London replanned; it is the intention of the L.C.C. to plan the whole of London and from now on that is to be the task of the chairman of the Registration Council (Major Harry Barnes). His duty will be, as chairman of the Town Planning Committee to replan the built-up areas of London."

THE BUILDINGS ILLUSTRATED

Sub-Contractors' List

Royal Masonic Institution for Girls (pages 757-766). General contractors, Walter Lawrence and Son, Ltd., who were also responsible for general joinery, panelling and fitments, also stalls and organ lofts in chapel, and furniture. Quantity surveyor, A. Boxall; clerk of works, E. J. Appleton; stone and wood carving, designed by Charles Knight and L. Ginnett and executed by Joseph Cribb; painted panels in assembly hall and chapel by L. Ginnett, in dining hall by Charles Knight; stained glass windows, designed and painted by L. Ginnett, Dudley Jarrett and B. Tatchell and executed by Cox and Barnard; mosaic pavings and linings to swimming bath designed by H. Morgan Rendle; nameplates, Austin Dale; Omar Ramsden, ornaments to altar table in chapel presented by the Head Mistress, Head Matron and Some Old Girls. Some of the sub-contractors : Fenning & Co., Ltd., terrazzo work (sanatorium); Hollis Bros. & Co., Ltd., hardwood floorings; Korkoid Decorative Floors, special floorings; G. Asserati, Ltd., asphalte; Educational Supply Association, Ltd., laboratory fittings and blackboards; Norman and Burt, altar and reredos in chapel; Henry Hope and Sons, Ltd., and Standard Patent Glazing Co., skylights; Hailwood and Ackroyd, Ltd., Falk Stadelman & Co., Ltd., and Birmingham Guild, Ltd., electric light fittings; G. N. Haden and Sons, Ltd., heating, boiler plant, hot and cold water supplies, gas services, laundry equipment, ventilation, disinfector plant, aeration and filtration plant; Benham and Sons, Ltd., kitchen equipment; Walter MacFarlane & Co., cast iron rainwater goods; Davis Gas Stove Co., Ltd., gas fires and surrounds; Cross and Cross, Ltd., and Rees and Kirby, steelwork; J. and E. Hall, Ltd., lifts, electric passenger and hand power services; James Walker (Architectural Decorations), Ltd., fibrous plaster; Robert Adams, Ltd., door furniture; Henry Hope and Sons, Ltd., N. F. Ramsay & Co., Ltd., James Gibbons, Ltd., J. Starkie Gardner, Ltd., Roanoid, Ltd., P. C. Henderson, Ltd., door furniture; Haywards, Ltd., pavement lights; Electrolux, Ltd., electric sweepers and polisher; Newalls Acoustic Products, Ltd., acoustical and insulation work; R. H. Penney and Sons, masonite insulation; Ronuk, Ltd., polish for woodwork generally; Bell Brothers (Manchester, 1927), Ltd., circulating, filtration, aeration and heating plant to swimming bath; Expanded Metal Co., Ltd., Expamet expanded steel reinforcement for concrete paving, flooring and roofing, and decking to pipe ducts; Ames & Finnis, Lombardic tile roofings and bricks generally.

A full list of sub-contractors was published in our issue for May 10.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILE RADIUS)

BOW. *Hospital Accommodation.* The L.C.C. is to provide a new reception and out-patients' department at St. Andrew's hospital, at a cost of £17,960.

CHELSEA. *Flats.* The B.C. has approved plans for the erection of a nine-storey block of flats in Turk's Row.

EALING. *Estate Plans.* The Corporation has passed the following estate plans: Oldfields estate, for Messrs. Percy Bilton (Properties), Ltd.; Northolt Park estate, for the Hillingdon Estates Co.; Hanger Hill estate, for Messrs. Haymills, Ltd.; Greystoke estate, for the London and Provincial Building Co., Ltd.; and West End estate, for Manor Park Construction Co.

EAST BARNET. *School.* The Hertfordshire C.C. has approved plans for the erection of an elementary school on the Osidge estate, East Barnet, at an estimated cost of £20,926.

FRIERN BARNET. *Houses.* Plans passed by the U.D.C.: Three houses, Valley Avenue, for Mr. A. Bryett; eight houses, Buckingham Avenue, for Messrs. Auburn and Sons: three houses, Manor Drive, for Messrs. Frampton and Palmer; eight houses, Friars Avenue, for Messrs. F. W. Bristow and Son, Ltd.

HAMMERSMITH. *Hospital Equipment.* The L.C.C. is to provide equipment at the post-graduate hospital and medical school at a cost of £25,573.

HANWELL. *Nurses' Home.* The L.C.C. is to erect a nurses' home at mental hospital at a cost of £36,500.

STEPNEY. *Reconstruction.* The L.C.C. is to clear and reconstruct the Quaker Street area at a cost of £35,500.

STOCKWELL. *Isolation Hospital.* The L.C.C. is to provide new isolation hospital accommodation at the South-Western Hospital, at a cost of £22,750.

SWANSCOMBE. *School.* The Kent Education Committee is to erect a school for about 425 children at Galley Hill.

WESTMINSTER. *Flats.* The City Council has arranged to discuss with the L.C.C. a proposal for the erection of 286 flats on the Ebury Bridge housing estate extension.

SOUTH-WESTERN COUNTIES

TORQUAY. *Clinic and Welfare Centre.* The Corporation has selected a site in the vicinity of Barton Hill Road for the erection of a school clinic and welfare centre.

SOUTHERN COUNTIES

ASHWELL, ETC. *Water Supplies.* The Hertfordshire C.C. has approved provisional schemes prepared by Messrs. D. Balfour and Sons for the provision of water supplies, at a total cost of £174,900, to the following districts: Ashwell, Buntingford, Hadham, Hertford, Hitchin and Ware.

BRIGHTON. *Houses and Shops.* The Corporation has approved plans submitted by Mr. W. H. Overton for the development of the Dyke Road estate, where 78 houses, including shops, are to be erected.

BRIGHTON. *Extensions to Reservoir.* The Corporation is to extend the Park Road reservoir at a cost of £11,638.

HERTFORD. *Offices.* The Hertfordshire C.C. has purchased the Leahoe estate, comprising 30 acres, for the provision of central offices.

LEYBOURNE GRANGE. *Buildings.* The Kent C.C. has approved a revised scheme for further buildings at Leybourne Grange mental colony, at a cost of £72,850.

WORTHING. *Assembly Hall.* The Corporation has accepted the tender, £39,447, of Messrs. James Longley & Co., Ltd., for the erection of the assembly hall, and appointed Mr. C. Cowles-Voysey, F.R.I.B.A., as architect, Mr. H. J. Venning, F.S.I., as quantity surveyor, and Mr. Burnard Geen, M.INST.C.E., as consulting engineer for constructional steel and reinforced concrete work.

EASTERN COUNTIES

BEDFORD. *Sewer and Houses.* The Corporation is to construct a sewer at a cost of £400 in connection with the development by the Millfield Estate, Ltd., of land at Elstow Road, where the City and Borough Housing Corporation, Ltd., is to erect 100 houses.

BEDFORD. *Houses.* Plans passed by the Corporation: 100 houses, Elstow Road estate, for Messrs. A. E. Craig & Co., Ltd.; two houses, Honey Hill Road, for Mr. W. H. Howe.

BEDFORD. *Mental Colony.* The Bedfordshire and Northamptonshire Joint Board for the Mentally Defectives is to erect a colony at Bromham House, to accommodate 260 patients, at a cost of £110,000.

NORWICH. *Houses.* The Corporation is to provide 50 houses for persons to be displaced from the Coach and Horses Street clearance area.

YARMOUTH. *Flats.* The Corporation is to erect 56 flats on the North Denes estate, and consider the erection of further flats on the Maygrove estate for aged persons.

YARMOUTH. *Houses.* Plans passed by the Corporation: 10 houses, Middleton Road, etc., for Messrs. H. R. Middleton & Co., Ltd.; 12 houses, Downing Road, etc., for Mr. H. C. Downing; six houses, Burgh Road, for Messrs. H. Bedwell and Son; two houses, Middleton Road, for Mr. V. Cork; two houses, Burgh Road, for Mr. Springall; two houses, Middleton Road, for Mr. E. W. Wiseman; development, Claydon estate, for Claydon Estate, Ltd.; six houses, Middleton Road, and six houses, Victoria Road, for Messrs. H. A. Holmes and Son; seven houses, Middleton Road, for Mr. E. J. Fuller; three houses, Burgh Road, for Mr. W. Rodwell; two houses, Lawn Avenue, for Mr. F. S. Grimble; eight houses, Colomb Road, for Messrs. Crow and Palmer; two houses, Blake Road, for Mr. C. L. Leach.

MIDLAND COUNTIES

BERRY WOOD. *Nurses' Home.* The Northamptonshire C.C. is to erect a nurses' home at the mental hospital, at a cost of £29,575.

KETTERING. *Houses and Flats.* Plans passed by the U.D.C.: Two houses, Piper's Hill Lane, for Messrs. Mutton and Clarke; block of flats, Lewis Road, for Capt. C. Elliott; two houses, Masefield Road, for Mr. P. Hewitt; 96 houses, London Road, for Messrs. A. E. Craig, Ltd.

KIDDERMINSTER. *Houses.* Plans passed by the Corporation: 22 houses, Bruce Road, for Mr. T. D. Edwards; two houses, St. John's Avenue, for Mr. F. W. Ivens; 12 houses, James Road, for Mrs. A. Spilsbury; eight houses, Greatfield Road, for Mr. A. W. Ryder.

WOLVERHAMPTON. *Cinema, Houses, etc.* Plans passed by the Corporation: 246 houses, Elston Hall estate, for Mr. A. J. Fieldhouse; 12 houses, Green Lane, for Messrs. Blackburn and Crossland; three houses, Oxley Moor Road, for Messrs. Jones Bros. & Co.; two houses, Rookery Lane, for Messrs. Marler Bros.; two shops, Holly Bush Lane, for Mr. C. M. Jones; six houses, Richmond Road, for Mr. T. E. Christensen; four houses, off Jones Avenue, for Mr. Thos. Jones; four houses, Rupert Street, for Mrs. C. Saunders; two houses, Newhampton Road, for Mr. Victor Russell; two houses, Woodland Road, for Mr. W. Howell; two houses, Green Lane, for Messrs. Tate & Co.; 102 houses, Three Tuns Lane, Oxley, for Mr. Wm. Sharratt; cinema, Cannock Road, for Mr. S. W. Clift; 60 houses, New Oenn estate, for Messrs. A. M. Griffiths and Son, Ltd.

NORTHERN COUNTIES

ACCRINGTON. *Works extensions and houses.* Plans passed by the Corporation: Two houses, Royds Avenue, for Wardley Estates, Ltd.; 12 houses, Hatfield Road, for Mr. J. W. Hodgson; two houses, Mather Avenue, for Mr. Norman Chambers; two houses, Willows Lane, and two houses, Ashworth Street, for Mr. Arthur Spencer; two houses, Woodfield Avenue, for Mr. Edmundson; six houses, Poulton Avenue, for Mr. F. Nolan; works extensions Corporation Street, for Messrs. Milton Livesay & Co., Ltd.; extensions Pioneer works, Horne Street, for Messrs. Whittaker Bros., Ltd.

ACCRINGTON. *Houses.* The Corporation is considering plans for the erection of 30 houses for aged persons on the Laneside estate.

BLACKPOOL. *Houses, etc.* Plans passed by the Corporation: 86 houses, Holmfield Road, for Sir L. Parkinson & Co.; 14 houses, Park Road, for Mr. R. Gregson; six houses, Warbreck Drive, for Mr. H. Dunnill; two houses, Links Road, for Messrs. R. Fielding and Son; three houses, Dunes Avenue, for Mr. W. B. Snape; four houses, Leyburn Avenue, for Mr. T. Foster; two houses, Devonshire Road, for Mr. T. H. Fenton; 12 houses, Bethel Avenue, for Messrs. Andrews and Crook; 45 houses, Acre Gate, for Messrs. Hitchen and Bairstow; two houses, Beetham Place, for Mr. H. B. Lloyd; four houses, Harcourt Road, for Mr. H. Suthers; two houses, Anchorsholme Lane, for Mr. A. A. Holt; two houses, South Park Drive, for Mr. J. W. Wilkinson; two houses, Stoke Avenue, for Mr. H. Haigh; two houses, Norkeed Road, for Messrs. J. Cryer and Sons; two houses, Bethel Avenue, for Mr. R. H. Cunliffe; three houses, Granville Road, for Messrs. Cardwell Bros.; two houses, Balham Avenue, for Mr. W. E. Holmes; swimming pool, café and shops, Lytham Road, for Lido Swimming Pool Ltd.; two shops, Marton Drive, for Mr. J. Howarth; two houses, Delphine Avenue, for Mr. W. Spencer; 20 houses, Sandhurst Avenue, for Messrs. R. Fielding and Son; 10 houses, Dinckley Grove, for Mr. W. Hornby; two houses, Common Edge Road, for Mr. E. Sutcliffe; two bungalows, Blackpool Road, for Mr. J. Astley; two houses, Devonshire Road, for Mr. J. W. Lee; two houses, Park Drive, for Mr. E. Mazurk.

ECCLES. *Houses.* The Corporation is to erect 14 houses in Regent Street, and 16 houses on the Haddon Road estate.

OSSETT. *Houses.* Plans passed by the Corporation: Four houses, Broomcroft, for Messrs. Hepworth and Moorhouse; four houses, off Dewsbury Road, for Mr. Hinchliffe Oldroyd; five houses, Cromwell Place, for Messrs. Joseph Ellis and Sons; two houses, Runtlings, for Mr. S. B. Nettleton.

SHEFFIELD. *Streets, etc.* The Corporation has passed the following plans for new streets, etc:—Sewer extension, Wood Lane, Woodlands estate, for Messrs. Reeves Charlesworth, Ltd. extension, Lees Hall Road, for Messrs. W. and J. Laver; sewer through land adjoining Stradbroke Road, for Mr. T. H. Ellis, Huntingdon Crescent, for Messrs. Allsop and Marshall; new street off Springfield Avenue, Ecclesall Grange estate, for Mr. H. Andrews; reconstruction of watercourse off Handsworth Road, for the Duke of Norfolk and Bishopscourt Road, for Mr. Allan Ramsay.

SHIPLEY. *Houses.* Plans passed by the U.D.C.: 12 houses, Poplar Crescent, for Messrs. Dale and Wild; 160 houses, Low Ash estate, for Messrs. Walton Bros.

SOUTH SHIELDS. *School.* The Corporation is to reconstruct Stanhope Road senior school, at a cost of £20,000.

WAKEFIELD. *Housing.* The Corporation has purchased 13 acres of land at Horbury Road for housing purposes.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I s. d.	II s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A_1	Abergavenny ..	S Wales & M.	1 5	1 0½
A_2	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1½
A_2	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1½
A	Airdrie ..	Scotland	*1 5½	1 1½
C	Aldeburgh ..	E. Counties	1 1½	10½
A	Altrincham ..	N.W. Counties	1 5½	1 1½
B_2	Appleby ..	N.W. Counties	1 2	10½
A	Ashton-under-Lyne	N.W. Counties	1 5½	1 1½
A_2	Atherstone ..	Mid. Counties	1 4	1 0
B_2	Aylesbury ..	S. Counties	1 2½	11
B_1	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_2	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1½
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow ..	N.W. Counties	1 5½	1 1½
A	Barry ..	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke ..	S.W. Counties	1 3	11½
A_2	Bath	S.W. Counties	1 4½	1 0½
A	Batley ..	Yorkshire	1 5½	1 1½
A_2	Bedford ..	E. Counties	1 4½	1 0½
A_2	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_2	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	*1 7	1 2½
A	Birmingham	Mid. Counties	1 5½	1 1½
A_1	Bishop Auckland	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1½
A	Blackpool ..	N.W. Counties	1 5½	1 1½
A	Blyth ..	N.E. Coast	1 5½	1 1½
B_1	Bognor ..	S. Counties	1 3	11½
A	Bolton ..	N.W. Counties	1 5½	1 1½
A_2	Boston ..	Mid. Counties	1 4	1 0
A_2	Bournemouth ..	S. Counties	1 4	1 0
B_1	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1½
A_1	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M.	1 5½	1 1½
B_1	Bridgwater ..	S.W. Counties	1 3	11½
A_1	Bridlington ..	Yorkshire	1 5	1 0½
A	Brighouse ..	Yorkshire	1 5½	1 1½
A_2	Brighton ..	S. Counties	1 4	1 0
A	Bristol ..	S.W. Counties	1 5½	1 1½
B_1	Brixham ..	S.W. Counties	1 2½	11
A_2	Bromsgrove ..	Mid. Counties	1 4½	1 0½
B_2	Bromyard ..	Mid. Counties	1 2	10½
A	Burnley ..	N.W. Counties	1 5½	1 1½
A	Burslem ..	Mid. Counties	1 5½	1 1½
A	Burton-on-Trent	Mid. Counties	1 5½	1 1½
A	Bury ..	N.W. Counties	1 5½	1 1½
A_1	Buxton ..	N.W. Counties	1 5	1 0½
A_2	CAMBRIDGE	E. Counties	1 5	1 0½
B_1	Canterbury ..	S. Counties	1 3	11½
A	Cardiff ..	S. Wales & M.	1 5½	1 1½
A	Carlisle ..	N.W. Counties	1 5½	1 1½
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Carnforth ..	N.W. Counties	1 5½	1 1½
A	Castleford ..	Yorkshire	1 5½	1 1½
B	Chatham ..	S. Counties	1 3½	11½
A_2	Chelmsford ..	E. Counties	1 4	1 0
A_2	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester ..	N.W. Counties	1 5½	1 1½
A	Chesterfield ..	Mid. Counties	1 5½	1 1½
B_1	Chichester ..	S. Counties	1 3	11½
A	Chorley ..	N.W. Counties	1* 5½	1 1½
B_1	Cirencester ..	S. Counties	1 3	11½
A	Clitheroe ..	N.W. Counties	1 5½	1 1½
A	Clydebank ..	Scotland	1 5½	1 1½
A	Coalville ..	Mid. Counties	1 5½	1 1½
A_2	Colchester ..	E. Counties	1 4	1 0
A	Colne ..	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_1	Consett ..	N.E. Coast	1 5	1 0½
A_2	Conway ..	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1½
A_2	Crewe	N.W. Counties	1 4½	1 0½
A	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1½
A	Darwen ..	N.W. Counties	1 5½	1 1½
B_1	Deal	S. Counties	1 3	11½
A_2	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby ..	Mid. Counties	1 5½	1 1½
A	Dewsbury ..	Yorkshire	1 5½	1 1½
B	Didcot ..	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1½
B_2	Dorchester ..	S.W. Counties	1 2½	11
A	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley ..	Mid. Counties	1 5½	1 1½
A	Dundee ..	Scotland	1 5½	1 1½
A	Durham ..	N.E. Coast	1 5½	1 1½
A_2	FASTBOURNE	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1½
A_1	E. Glamorganshire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter ..	S.W. Counties	*1 4½	1 0½
B	Exmouth ..	S.W. Counties	1 3½	11½
A_2	FELIXSTOWE	E. Counties	1 4	1 0
A_2	Filey	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1½
B_1	Folkestone ..	S. Counties	1 3	11½
A	Frodsham ..	N.W. Counties	1 5½	1 1½
B_2	Frome	S.W. Counties	1 2½	11
A	GATESHEAD	N.E. Coast	1 5½	1 1½
B	Gillingham ..	S. Counties	1 3½	11½
A	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole ..	Yorkshire	1 4½	1 0½
A_2	Gosport ..	S. Counties	1 4½	1 0½
A_2	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0½
A	Greenock ..	Scotland	*1 5½	1 1½
A	Grimsby ..	Yorkshire	1 5½	1 1½
B	Guildford ..	S. Counties	1 3½	11½
A	HALIFAX ..	Yorkshire	1 5½	1 1½
A	Hanley ..	Mid. Counties	1 5½	1 1½
A	Harrogate ..	Yorkshire	1 5½	1 1½
A	Hartlepools ..	N.E. Coast	1 5½	1 1½
B	Harwich ..	E. Counties	1 3½	11½
B_1	Hastings ..	S. Counties	1 3	11½
A_2	Hatfield ..	S. Counties	1 4½	1 0½
B	Hereford ..	S.W. Counties	1 3½	11½
A_2	Hertford ..	E. Counties	1 4½	1 0½
A	Heysham ..	N.W. Counties	1 5½	1 1½
A	Howden ..	N.E. Coast	1 5½	1 1½
A	Huddersfield ..	Yorkshire	1 5½	1 1½
A	Hull ..	Yorkshire	1 5½	1 1½
A	ILKLEY ..	Yorkshire	1 5½	1 1½
A	Immingham ..	Mid. Counties	1 5½	1 1½
A_2	Ipswich ..	E. Counties	1 4½	1 0½
B_2	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1½
A	KEIGHLEY ..	Yorkshire	1 5½	1 1½
B	Kendal ..	N.W. Counties	1 3½	11½
B	Keswick ..	N.W. Counties	1 3½	11½
A_2	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster	Mid. Counties	1 4½	1 0½
B_1	King's Lynn ..	E. Counties	1 3	11½
A	LANCASTER ..	N.W. Counties	1 5½	1 1½
A_1	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester ..	Mid. Counties	1 5½	1 1½
A	Leigh ..	N.W. Counties	1 5½	1 1½
B_2	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln ..	Mid. Counties	1 5½	1 1½
	Liverpool ..	N.W. Counties	*1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly ..	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12-15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1½
A	Loughborough	Mid. Counties	1 5½	1 1½
A_2	Luton	E. Counties	1 4	1 0
A	Lytham ..	N.W. Counties	1 5½	1 1½
A_1	MACCLESFIELD	N.W. Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11½
A_2	Malvern ..	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1½
A	Mansfield ..	Mid. Counties	1 5½	1 1½
B_1	Margate ..	S. Counties	1 3	11½
A	Matlock ..	Mid. Counties	1 4	1 0
A_1	Merthyr ..	S. Wales & M.	1 5	1 0½
A	Middesbrough	N.E. Coast	1 5½	1 1½
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth ..	S. Wales & M.	1 2½	11
	& S. and E. Glamorganshire			
A	Morecambe ..	N.W. Counties	1 5½	1 1½
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson ..	N.W. Counties	1 5½	1 1½
A	Newcastle ..	N.E. Coast	1 5½	1 1½
A	Newport ..	S. Wales & M.	1 5½	1 1½
A	Normanton ..	Yorkshire	1 5½	1 1½
A	Northampton	Mid. Counties	1 5½	1 1½
A	North Staffs ..	Mid. Counties	1 5½	1 1½
A	North Shields ..	N.E. Coast	1 5½	1 1½
A_1	Norwich ..	E. Counties	1 5	1 0½
A	Nottingham ..	Mid. Counties	1 5½	1 1½
A	Nuneaton ..	Mid. Counties	1 5½	1 1½
A_2	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham ..	N.W. Counties	1 5½	1 1½
A_2	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford ..	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	*1 5½	1 1½
B_2	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth ..	Scotland	*1 5½	1 1½
A_2	Peterborough ..	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	*1 5½	1 1½
A	Pontefract ..	Yorkshire	1 5½	1 1½
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_2	Portsmouth ..	S. Counties	1 4½	1 0½
A	Preston ..	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate ..	S. Counties	1 3½	11½
A_2	Retford ..	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A_2	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1½
B	Rochester ..	S. Counties	1 3½	11½
A_1	Ruabon ..	N.W. Counties	1 5	1 0½
A	Rugby ..	Mid. Counties	1 5½	1 1½
A_2	Rugeley ..	Mid. Counties	1 4½	1 0½
A	Runcorn ..	N.W. Counties	1 5½	1 1½
A_1	ST. ALBANS ..	E. Counties	1 5	1 0½
A	St. Helens ..	N.W. Counties	1 5½	1 1½
B_2	Salisbury ..	S.W. Counties	1 2½	11
A_1	Scarborough ..	Yorkshire	1 5	1 0½
A	Scunthorpe ..	Mid. Counties	1 5½	1 1½
A	Sheffield ..	Yorkshire	1 5½	1 1½
A	Shipley ..	Yorkshire	1 5½	1 1½
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton ..	Yorkshire	1 4½	1 0½
A_2	Slough ..	S. Counties	1 4½	1 0½
A_1	Solihull ..	Mid. Counties	1 5	1 0½
A_2	Southampton ..	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport ..	N.W. Counties	1 5½	1 1½
A	S. Shields ..	N.E. Coast	1 5½	1 1½
A_1	Stafford ..	Mid. Counties	1 5	1 0½
A	Stockport ..	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud ..	S.W. Counties	1 3½	11½
A	Sunderland ..	N.E. Coast	1 5½	1 1½
A	Swadlincote ..	Mid. Counties	1 5½	1 1½
A	Swansea ..	S. Wales & M.	1 5½	1 1½
A_2	Swindon ..	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton ..	S.W. Counties	1 3½	11½
A	Teesside Dist. ..	N.E. Counties	1 5½	1 1½
A_2	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1½
A_1	Torquay ..	S.W. Counties	1 5	1 0½
B_2	Truro ..	S.W. Counties	1 2½	11
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall ..	Mid. Counties	1 5½	1 1½
A	Tyne District ..	N.E. Coast	1 5½	1 1½
A	WAKEFIELD	Yorkshire	1 5½	1 1½
A	Walsall ..	Mid. Counties	1 5½	1 1½
A	Warrington ..	N.W. Counties	1 5½	1 1½
A_1	Warwick ..	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid. Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby ..	Yorkshire	1 4½	1 0½
A	Widnes ..	N.W. Counties	1 5½	1 1½
A	Wigan	N.W. Counties	1 5½	1 1½
B	Winchester ..	S. Counties	1 3½	11½
A_2	Windsor ..	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_2	Worksop ..	Yorkshire	1 4	1 0
A_1	Wrexham ..	N.W. Counties	1 5	1 0½
A_2	Wycombe ..	S. Counties	1 4	1 0
B_1	YARMOUTH ..	E. Counties	1 3	11½
B_1	Yeovil	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	11½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	£ s. d.
Bricklayer . . . . . per hour	1 7
Carpenter . . . . . ,,	1 7
Joiner . . . . . ,,	1 7
Machinist . . . . . ,,	1 8
Mason (Banker) . . . . . ,,	1 7
,, (Fixer) . . . . . ,,	1 8
Plumber . . . . . ,,	1 7
Painter . . . . . ,,	1 6
Paperhanger . . . . . ,,	1 6
Glazier . . . . . ,,	1 7
Slater . . . . . ,,	1 7
Scaffolder . . . . . ,,	1 3
Timberman . . . . . ,,	1 3
Navvy . . . . . ,,	1 2½
General Labourer . . . . . ,,	1 2½
Lorryman . . . . . ,,	1 5
Crane Driver . . . . . ,,	1 6
Watchman . . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£ s. d.
Grey Stone Lime . . . . per ton	2 2 0
Blue Lias Lime . . . . ,,	1 16 6
Hydrated Lime . . . . ,,	3 0 9
Portland Cement, in 4 ton lots (d d site, including Paper Bags) . ,,	1 18 0
Rapid Hardening Cement, in 4 ton lots (d/d site, including Paper Bags) ,,	2 5 6
White Portland Cement, in 1 ton lots ,,	8 15 0
Thames Ballast . . . . per Y.C.	6 3
½" Crushed Ballast . . . . ,,	6 9
Building Sand . . . . ,,	7 3
Washed Sand . . . . ,,	8 3
2" Broken Brick . . . . ,,	8 0
½" ,, ,, ... ,,	10 3
Pan Breeze . . . . . ,,	6 6
Coke Breeze . . . . . ,,	8 9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

	4" s. d.	6" s. d.
Straight Pipes . . per F.R	0 9	1 1
Bends . . . . each	1 9	2 6
Taper Bends . . ,,	3 6	5 3
Rest Bends . . ,,	4 3	6 3
Single junctions . . ,,	3 6	5 3
Double . . . ,,	4 9	6 6
Straight channels . . per F.R.	1 8	2 6
½" Channel bends . . each	2 9	4 0
Channel junctions . ,,	4 6	6 6
Channel tapers . . ,,	2 9	4 0
Yard gullies . . ,,	6 9	8 9
Interceptors . . ,,	16 0	19 6
IRON DRAINS:		
Iron drain pipe . . per F.R.	1 6	2 6
Bends . . . . each	5 0	10 6
Inspection bends . . ,,	9 0	15 0
Single junctions . . ,,	8 9	18 0
Double junctions . . ,,	13 6	30 0
Lead wool . . . lb.	6	—
Gaskin . . . ,,	5	—

BRICKLAYER

	£ s. d.
Flettons . . . . . per M.	2 18 0
Grooved do. . . . . ,,	3 0 0
Phorpres bricks . . . . ,,	2 17 3
Phorpres Cellular bricks . . ,,	2 17 3
Stocks, 1st quality . . ,,	4 11 0
,, 2nd ,, . . ,,	4 2 6
Blue Bricks, Pressed . . ,,	8 17 6
,, Wirecuts . . ,,	7 17 6
,, Brindles . . ,,	7 0 0
,, Bullnose . . ,,	9 0 0
Red Sand-faced Facings . . ,,	6 18 6
Red Rubbers for Arches . . ,,	12 0 0
Multicoloured Facings . . ,,	7 10 0
Luton Facings . . . ,,	7 10 0
Phorpres White Facings . . ,,	3 17 3
Phorpres Rustic Facings . . ,,	3 12 3
Midhurst White Facings . . ,,	5 0 0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:	
Stretchers . . . . ,,	21 0 0
Headers . . . . ,,	20 10 0
Bullnose . . . . ,,	27 10 0
Double Stretchers . . ,,	29 10 0
Double Headers . . ,,	26 10 0
Glazed Second Quality, *Less* . ,,	1 0 0
,, Buffs and Creams, *Add* . ,,	2 0 0
,, Other Colours . . ,,	5 10 0
2" Breeze Partition Blocks . per Y.S.	1 7
2½" ,, ,, ,, . . ,,	1 10
3" ,, ,, ,, . . ,,	2 1
4" ,, ,, ,, . . ,,	2 6

MASON

	s. d.
The following d/d F.O.R. at Nine Elms:	
Portland stone, Whitbed . . F.C.	4 4½
,, ,, Basebed . . ,,	4 9
Bath stone . . . . ,,	2 11
York stone . . . . ,,	6 6
,, ,, Sawn templates . . ,,	7 6
,, ,, Paving, 2" . . F.S.	1 8
,, ,, 3" . . ,,	2 6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£ s. d.
24" × 12" Duchesses . . . per M.	28 17 6
22" × 12" Marchionesses . . ,,	24 10 0
20" × 10" Countesses . . ,,	19 5 0
18" × 10" Viscountesses . . ,,	15 10 0
18" × 9" Ladies . . . ,,	13 17 6
Westmorland green (random sizes) . per ton	8 10 0
Old Delabole slates d/d in full truck loads to Nine Elms Station:	
20" × 10" medium grey per 1,000 (actual)	21 11 6
,, green ,, ,,	24 7 4
Best machine roofing tiles . . ,,	4 10 0
Best hand-made do. . . . ,,	5 0 0
Hips and valleys . . . each	9½
,, hand-made . . . ,,	10
Nails, compo . . . . lb.	1 4
,, copper . . . . ,,	1 6

CARPENTER AND JOINER

	s. d.
Good carcassing timber . . F.C.	2 2
Birch . . . . as 1" F.S.	9
Deal, Joiner's . . . ,, ,,	5
,, ,, 2nds . . ,, ,,	4
Mahogany, Honduras . . ,, ,,	1 3
,, African . . ,, ,,	1 1
,, Cuban . . ,, ,,	2 6
Oak, plain American . . ,, ,,	1 0
,, Figured ,, . . ,, ,,	1 3
,, Plain Japanese . . ,, ,,	1 2
,, Figured ,, . . ,, ,,	1 5
,, Austrian wainscot . ,, ,,	1 6
,, English . . . ,, ,,	1 11
Pine, Yellow . . . ,, ,,	1 0
,, Oregon . . . ,, ,,	4
,, British Columbian . ,, ,,	4
Teak, Moulmein . . ,, ,,	1 3
,, Burma . . ,, ,,	1 2
Walnut, American . . ,, ,,	2 3
,, French . . ,, ,,	2 3
Whitewood, American . . ,, ,,	1 1
Deal floorings, ½" . . . Sq.	18 6
,, ⅝" . . . ,,	1 1 6
,, ¾" . . . ,,	1 2 0
,, 1" . . . ,,	1 5 0
,, 1½" . . . ,,	1 10 0
Deal matchings ½" . . . ,,	14 0
,, ⅝" . . . ,,	15 6
,, 1" . . . ,,	1 4 0
Rough boarding ½" . . . ,,	16 0
,, 1" . . . ,,	18 0
,, 1½" . . . ,,	1 6 0

Plywood, per ft. sup.

Thickness	¼"	½"	¾"	1"
Qualities	AA. A. B.	AA. A. B.	AA. A. B.	AA. A. B.
	d. d. d.	d. d. d.	d. d. d.	d. d. d.
Birch	4 3 2	5 4 3	7½ 6 4½	8½ 7 6
Alder	3½ 3 2	5 4 3	6½ 5½ 4½	8 7 6
Gaboon Mahogany	4 3 3	6½ 5½ 4½	9½ 7½ –	1/0½ 10 –
Figured Oak 1 side	8½ 7 –	10 8 –	11½ – –	1/6 – –
Plain Oak 1 side	6½ 6 –	7½ 7 –	9½ – –	1/– – –
Oregon Pine	5 4 –	5½ 5 –	6 – –	– – –

	d.
Scotch glue . . . . . lb.	8

SMITH AND FOUNDER

Tubes and Fittings:

(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	½"	¾"	1"	1½"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9
,, 3"-11½" long ,,	7	9	1/3	1/8	3/–
Long screws, 12"-23½" long ,,	11	1/3	2/2	2/10	5/3
,, ,, 3"M-1½" long ,,	8	10	1/5	1/11	3/6
Bends . . . . ,,	8	11	1/7½	2/7½	5/2
Springs not socketed . ,,	5	7	1/1½	1/11½	3/11
Socket unions . . ,,	2/–	3/–	5/6	6/9	10/–
Elbows, square . . ,,	10	1/1	1/6	2/2	4/3
Tees . . . . ,,	1/–	1/3	1/10	2/6	5/1
Crosses . . . ,,	2/2	2/9	4/1	5/6	10/6
Plain Sockets and nipples ,,	3	4	6	8	1/3
Diminished sockets . ,,	4	6	9	1/–	2/–
Flanges . . . ,,	9	1/–	1/4	1/9	2/9
Caps . . . ,,	3½	5	8	1/–	2/–
Backnuts . . . ,,	2	3	5	6	1/1
Iron main cocks . . ,,	1/6	2/3	4/2	5/4	11/6
,, ,, with brass plugs ,,	—	4/–	7/6	10/–	21/–

Discounts:

TUBES.

	Per cent.		Per cent.
Gas . . .	65	Galvanized gas .	52½
Water . . .	61½	,, water	47½
Steam . . .	57½	,, steam	42½

FITTINGS.

Gas . . .	57½	Galvanized gas .	47½
Water . . .	52½	,, water	42½
Steam . . .	47½	,, steam	37½

SMITH AND FOUNDER—*continued*

	s. d.
Rolled steel joists cut to length . . cwt.	10 9
Mild steel reinforcing rods, ⅜" . . ,,	8 6
,, ,, ½" . . ,,	8 3
,, ,, ⅝" . . ,,	8 0
,, ,, ¾" . . ,,	7 6
,, ,, ⅞" . . ,,	7 6
,, ,, 1" . . ,,	7 6
,, ,, 1¼" . . ,,	7 6
,, ,, 1½" . . ,,	7 6
	3" 4"
Cast-iron rain-water pipes of ordinary thickness metal . F.R	s. d. 8	s. d. 10
Shoes . . . . each	2 0	3 0
Anti-splash shoes . . ,,	4 6	8 0
Boots . . . . ,,	3 0	4 0
Bends . . . . ,,	2 7	3 9
,, with access door . . ,,	—	6 3
Heads . . . . ,,	4 0	5 0
Swan-necks up to 9" offsets . ,,	3 9	6 0
Plinth bends, 4½" to 6" . ,,	3 9	5 3
Half-round rain-water gutters of ordinary thickness metal . F.R.	5	6
Stop ends . . . . each	6	6
Angles . . . . ,,	1 7	1 11
Obtuse angles . . . ,,	2 0	2 6
Outlets . . . . ,,	1 9	2 3

PLUMBER

	£ s. d.
Lead, milled sheets . . cwt.	18 6
,, drawn pipes . . ,,	17 0
,, soil pipe . . ,,	18 6
,, scrap . . ,,	10 6
Solder, plumbers' . . lb.	9½
,, fine do. . . ,,	1 0
Copper, sheet . . ,,	8½
,, tubes . . ,,	11
L.C.C soil and waste pipes: 3"	4" 6"
Plain cast . F.R.	1 0	1 2	2 6
Coated . . ,,	1 1	1 3	2 8
Galvanized . ,,	2 0	2 6	4 6
Holderbats . each	3 10	4 0	4 9
Bends . . ,,	3 9	5 3	10 3
Shoes . . ,,	2 10	4 4	9 6
Heads . . ,,	4 8	8 5	12 9

PLASTERER

	£ s. d.
Lime, chalk . . . per ton	2 5 0
Plaster, coarse . . ,,	2 10 0
,, fine . . ,,	4 15 0
Hydrated lime . . ,,	3 0 9
Sirapite . . . ,,	3 6 0
Keene's cement . . ,,	5 0 0
Sand, washed . . Y.C.	11 6
Hair . . . lb.	6
Laths, sawn . . bundle	2 4
,, rent . . ,,	3 9
Lath nails . . . lb.	3½

GLAZIER

	s. d.	s. d.
Sheet glass, 21 oz., squares n/e 2 ft.	s. F.S.	2½
,, ,, 26 oz. ,, ,, ,,		3½
Flemish, Arctic, Figured (white)* ,,		7
Blazoned glasses . . ,,	2 6	
Reeded; Cross Reeded ,,		11
Cathedrals: eleven varieties (white)* ,,		6½
Crown sheet glass (n/e 12 in. × 10 in) ,,		2 0
Flashed opals (white and coloured) ,,	1 0 and 2	0
⅛" rough cast; rolled plate . ,,		7
⅛" wired cast; wired rolled . ,,		10
⅛" Georgian wired cast . . ,,		11
⅛" Polished plate, n/e 1 ft. . ,,	†10 to ‡1	1
,, ,, 2 . . ,,	†1 2 ,, ‡1	4
,, ,, 4 . . ,,	†2 3 ,, ‡2	6
,, ,, 8 . . ,,	†2 9 ,, ‡3	2
,, ,, 20 . . ,,	†3 7 ,, ‡4	2
,, ,, 45 . . ,,	†3 11 ,, ‡4	7
,, ,, 100 . . ,,	†5 0 ,, ‡5	7
Vita glass, sheet, n/e 2 ft. . ,,		1 3
,, ,, ,, over 2 . ,,		1 9
,, ,, plate, n/e 2 ft. . ,,		3 0
,, ,, ,, 7 . ,,		5 0
,, ,, ,, 15 . ,,		6 0
,, ,, ,, over 15 . ,,		7 6
"Calorex" sheet 21 oz., and 32 oz. ,,	2 6 and 3	6
,, rough cast ⅛" and ¼" ,,	8½ ,, 1	0
Putty, linseed oil . . lb.		3

*Colours 1d. F.S. extra.

†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

	£ s. d.
White lead in 1 cwt. casks . . cwt.	2 6 0
Linseed oil . . . . gall.	2 2½
Boiled oil . . . . ,,	2 4½
Turpentine . . . . ,,	4 1½
Patent knotting . . . ,,	14 0
Distemper, washable . . . cwt.	2 6 0
,, ordinary . . . ,,	2 0 0
Whitening . . . . ,,	4 0
Size, double . . . firkin	3 0
Copal varnish . . . gall.	13 0
Flat varnish . . . ,,	14 0
Outside varnish . . . ,,	16 0
White enamel . . . ,,	1 15 0
Ready-mixed paint . . ,,	13 6
Brunswick black . . . ,,	7 6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR		£ s. d.
Digging over surface n/e 12" deep and cart away	Y.S.	2 9
" to reduce levels n/e 5' 0" deep and cart away	Y.C.	8 6
" to form basement n/e 5' 0" deep and cart away	"	9 0
" " 10' 0" deep and cart away	"	9 6
" " 15' 0" deep and cart away	"	10 0
If in stiff clay add	"	2 6
If in underpinning "	"	4 0
Planking and strutting to sides of excavation	F.S.	1 0
" " to pier holes	"	5
" " to trenches	"	5
" " extra, only if left in	"	3
Hardcore, filled in and rammed	Y.C.	10 0
Portland cement concrete in foundations (6-1)	"	1 6 0
" " (4-2-1)	"	1 12 6
" " underpinning	"	1 16 0
Finishing surface of concrete, spade face	Y.S.	7

DRAINLAYER		4" s. d.	6" s. d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1 6	2 3
Extra, only for bends	Each	2 8	3 9
" junctions		3 9	4 6
Gullies and gratings	"	16 6	18 0
Cast iron drains, and laying and jointing	F.R.	4 9	6 9
Extra, only for bends	Each	10 6	15 6

BRICKLAYER		£ s. d.
Brickwork, Flettons in lime mortar	Per Rod	27 10 0
" " in cement	"	28 15 0
" Stocks in cement	"	35 0 0
" Blues in cement	"	52 0 0
Extra only for circular on plan	"	2 0 0
" backing to masonry	"	1 10 0
" raising on old walls	"	2 0 0
" underpinning	"	5 10 0
Fair Face and pointing internally	F.S.	1½
Extra over fletton brickwork for picked stock facings and pointing	"	8½
" " " red brick facings and pointing	"	11
" " " blue brick facings and pointing	"	1 4
" " " glazed brick facings and pointing	"	3 6
Tuck pointing	"	7
Weather pointing in cement	"	3½
Slate dampcourse	"	10
Vertical dampcourse	"	1 1

ASPHALTER		s. d.
½" Horizontal dampcourse	Y.S.	4 6
½" Vertical dampcourse	"	6 9
½" paving or flat	"	4 0
1" paving or flat	"	5 6
1" × 6" skirting	F.R.	1 0
Angle fillet	"	2
Rounded angle	"	2
Cesspools	Each	5 0

MASON		s. d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C.	17 9
Bath stone and do., all as last	"	13 6
Artificial stone and do.	"	13 0
York stone templates, fixed complete	"	10 6
" thresholds	"	13 6
" sills	"	1 0 6

SLATER AND TILER		£ s. d.
Slating, Bangor or equal, laid to a 3" lap, and fixing with compo nails, 20" × 10"	Sqr.	3 10 0
Do., 18" × 9"	"	3 7 0
Do., 24" × 12"	"	3 17 0
Westmorland slating, laid with diminished courses	"	6 0 0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course	"	3 0 0
Do., all as last, but of machine-made tiles	"	2 16 0
20" × 10" medium Old Delabole slating, laid to a 3" lap (grey)	"	4 6 0
" " " " " (green)	"	4 15 0

CARPENTER AND JOINER		£ s. d.
Flat boarded centering to concrete floors, including all strutting	Sqr.	2 5 0
Shuttering to sides and soffits of beams	F.S.	8
" to stanchions	"	8
" to staircases	"	1 8
Fir and fixing in wall plates, lintols, etc.	F.C.	3 9
Fir framed in floors	"	4 6
" " roofs	"	6 6
" " trusses	"	7 6
" " partitions	"	8 6
⅞" deal sawn boarding and fixing to joists	Sqr.	1 14 6
1" " " " "	"	1 17 6
1¼" " " " "	"	2 3 0
4" × 2" fir battening for Countess slating	"	9 6
Do. for 4" gauge tiling	"	12 0
Stout feather-edged tilting fillet	F.R.	4½
Patent inodorous felt, 1 ply	Y.S.	2 3
" " " 2 "	"	2 9
" " " 3 "	"	3 3
Stout herringbone strutting to 9" joists	F.R.	10½
1" deal gutter boards and bearers	F.S.	1 2
1¼" " " " "	"	1 6
2" deal wrought rounded roll	F.R.	8
1" deal grooved and tongued flooring, laid complete, including cleaning off	Sqr.	2 1 0
1¼" do.	"	2 10 0
1½" do.	"	2 17 0
1" deal moulded skirting, fixed on, and including grounds plugged to wall	F.S.	1 6
1¼" do.	"	1 9

CARPENTER AND JOINER—*continued*		s. d
1½" deal moulded sashes of average size	F.S.	1 9½
2" " " "	"	1 11½
1½" deal cased frames double hung, of 6" × 3" oak sills, 1¼" pulley stiles, 1¼" heads, 1" inside and outside linings, ⅝" parting beads, and with brass faced axle pulleys, etc., fixed complete	"	3 7
2" " " " "	"	3 10
Extra only for moulded horns	Each	6
1½" deal four-panel square, both sides, door	F.S.	2 0
2" " " " "	"	2 8
1½" " but moulded both sides	"	2 4
2" " " " "	"	3 0
4" × 3" deal, rebated and moulded frames	F.R.	1 0
4½" × 3½" " " "	"	1 4
1½" deal tongued and moulded window board, on and including deal bearers	F.S.	1 9
1½" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	"	2 6
1½" deal moulded wall strings	"	2 1
1½" " outer strings	"	2 4
Ends of treads and risers housed to string	Each	1 9
3" × 2" deal moulded handrail	F.R.	1 3
1" × 1" deal balusters and housing each end	Each	2 0
1½" × 1½" " " "	"	2 9
3" × 3" deal wrought framed newels	F.R.	1 3
Extra only for newel caps	Each	6 0
Do., pendants	"	6 0

SMITH AND FOUNDER		£ s. d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt.	15 6
Riveted plate or compound girders, and hoisting and fixing in position	"	19 6
Do. stanchions with riveted caps and bases and do.	"	19 0
Mild steel bar reinforcement, ½" and up, bent and fixed complete	"	17 6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S.	11
Wrot-iron caulked and cambered chimney bars	Per cwt.	1 10 0

PLUMBER		£ s. d.
Milled lead and labour in flats	cwt.	1 12 0
Do. in flashings	"	1 15 6
Do. in covering to turrets	"	2 3 0
Do. in soakers	"	1 7 6
Labour to welted edge	F.R.	3½
Open copper nailing	"	3
Close " "	"	4

Lead service pipe and fixing with pipe hooks	½" s. d.	¾" s. d.	1" s. d.	1¼" s. d.	2" s. d.	4" s. d.
	F.R. 10	1 0	1 3	2 0	2 10	—
Do. soil pipe and fixing with cast lead tacks	—	—	—	—	—	5 6
Extra, only to bends	Each —	—	—	—	2 0	6 9
Do. to stop ends	" 6½	8	9	11	1 0	—
Boiler screws and unions	" 3 3	3 9	5 0	8 0	—	—
Lead traps	" —	—	—	6 3	8 9	—
Screw down bib valves	" 6 9	9 6	11 0	—	—	—
Do. stop cocks	" 7 0	9 6	12 6	—	—	—

		s. d.
4" cast-iron ½-rd. gutter and fixing	F.R.	1 0
Extra, only stop ends	Each	1 0
Do. angles	"	1 6
Do. outlets	"	2 9
4" dia. cast-iron rain-water pipe and fixing with ears cast on	F.R.	1 2
Extra, only for shoes	Each	1 3
Do. for plain heads	"	5 6

PLASTERER AND TILING		s. d.
Expanded metal lathing, small mesh	Y.S.	2 0
Do. in n/w to beams, stanchions, etc.	"	2 9
Lathing with sawn laths to ceilings	"	1 3
½" screeding in Portland cement and sand for tiling, wood block floor, etc.	"	1 5
Do. vertical	"	1 7
Rough render on walls	"	1 2½
Render, float and set in lime and hair	"	1 9
Render and set in Sirapite	"	1 11
Render, backing in cement and sand, and set in Keene's cement	"	2 9
Extra, only if on lathing	"	4
Keene's cement, angle and arris	F.R.	6
Arris	"	1½
Rounded angle, small	"	3
Plain cornices in plaster, including dubbing out, per 1" girth	"	1½
1" granolithic pavings	Y.S.	3 6
1½" " "	"	4 6
6" × 6" white glazed wall tiling and fixing on prepared screed	"	17 6
9" × 3" " " " "	"	1 2 6
Extra, only for small quadrant angle	F.R.	8

GLAZIER		s. d
21 oz. sheet glass and glazing with putty	F.S.	7½
26 oz. do. and do.	"	8½
Flemish, Arctic, Figured (white) and glazing with putty	"	1 1
Cathedral glass and do.	"	1 2
Glazing only, British polished plate	"	7
Extra, only if in beads	"	2
Washleather	F.R.	4

PAINTER		s. d.
Clearcolle and whiten ceilings	Y.S.	6
Do. and distemper walls	"	9
Do. with washable distemper	"	1 1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	"	3 3
Do. on woodwork	"	3 6
Do. on steelwork	"	3 0
Do. and brush grain and twice varnish	"	5 6
Stain and twice varnish woodwork	"	1 11
Stain and wax-polish woodwork	"	4 6
French polishing	F.S.	1 2
Stripping off old paper	Piece	2 0
Hanging ordinary paper from	"	2 9

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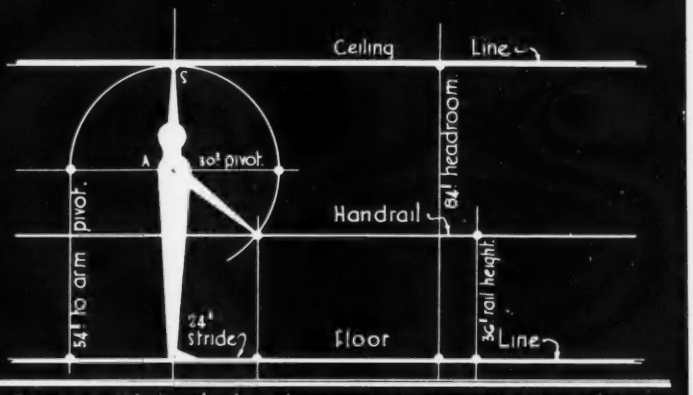
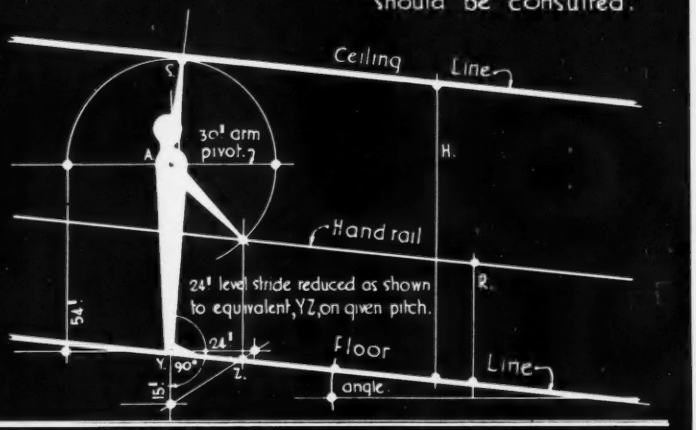
Notes : The headroom and handrail heights for all gradients are established by three definite dimensions. ① The average walking stride of an adult = 24! ② Average height from shoe heel to upper arm pivot = 54! ③ Average arm swing from pivot to tip of mid-finger = 30! In all diagrams the ceiling line is parallel to the pitch line of the gradient and tangential to the arm circle at point 'S'. Note 'S' changes position with change in gradient, arm swing, AS, being invariably at rt. ∠s. to line of gradient.

Diagram N° 1 : Level tunnels, footways, passageways, Landings, platforms, balconies, Etc. Showing standard method of establishing vertical headroom and handrail heights by definite dimensions, see notes at left.



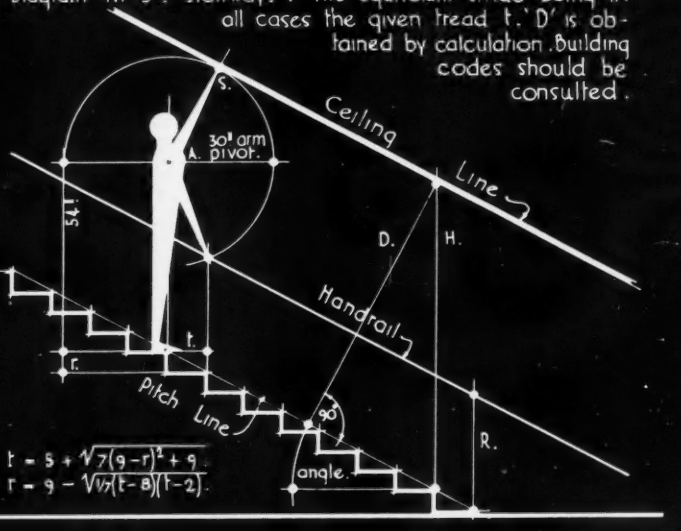
Pitch Ratio.	Angle in degrees & minutes.	Handrail height R in inches.	Headroom H in inches.
½ : 12.	2 - 23.		
½ : 10.	2 - 52.	35	
1 : 12.	4 - 46.		
1 : 10.	5 - 43.	34½	
1½ : 12.	7 - 7.		84
1½ : 10.	8 - 23.		
2 : 12.	9 - 28.	34	
2 : 10.	11 - 19.		
2½ : 12.	11 - 46.		
2½ : 10.	14 - 2.		
3 : 12.	14 - 2.	33½	85
3½ : 12.	16 - 16.		
3 : 10.	16 - 42.		

Diagram N° 2 : Inclined passageways, ramps etc. If going is steeper than 1 in 10 surfaces & handrails should be non-slip. Min. walking width 30! minimum working width 42! Building codes should be consulted.



Riser r in inches.	Tread t in inches.	Angle in degrees and minutes.	Headroom H in inches.	Handrail height R in inches.	Headroom D in inches. (nearest)
5	16	17 - 21	85		82
5¼	15½	18 - 43			82
5½	14¾	20 - 27	86	33½	80
5¾	14	22 - 20			80
6	13½	23 - 58			80
6¼	13	25 - 40	87		78
6½	12¼	27 - 57			76
6¾	11¾	29 - 52	88	33	76
7	11	32 - 28	89		75
7¼	10½	34 - 37	90		74
7½	10	36 - 52	91		73
7¾	9½	39 - 12	93		72
8	9	41 - 38	94		70
8¼	8½	44 - 9	96	33½	69
8½	8¼	45 - 51	97		68
8¾	8⅛	46 - 57	98		67
9	8	48 - 22	99	34	66

Diagram N° 3 : Stairways : The equivalent stride being in all cases the given tread t. 'D' is obtained by calculation. Building codes should be consulted.



$t = 5 + \sqrt{7(9-r)^2 + 9}$.

$r = 9 - \sqrt{1/7(t-8)(t-2)}$.

INFORMATION SHEET : DATA FOR HEADROOM ETC. TO CEILED PASSAGES & STAIRWAYS.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.1

INFORMATION SHEET • III • PASSAGES AND STAIRWAYS

Supplement to THE ARCHITECTS' JOURNAL for May 24, 1934

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INFORMATION SHEET

• III •

PASSAGES AND STAIRWAYS

THIS Sheet gives the minimum dimensions for passageways and staircases in areas where space is limited. All dimensions are based on the measurements and average walking stride of a normal adult 5 ft. 9 in. high, but small variations in height will not appreciably affect the results. It should be noted that the handrail height varies with the gradient.

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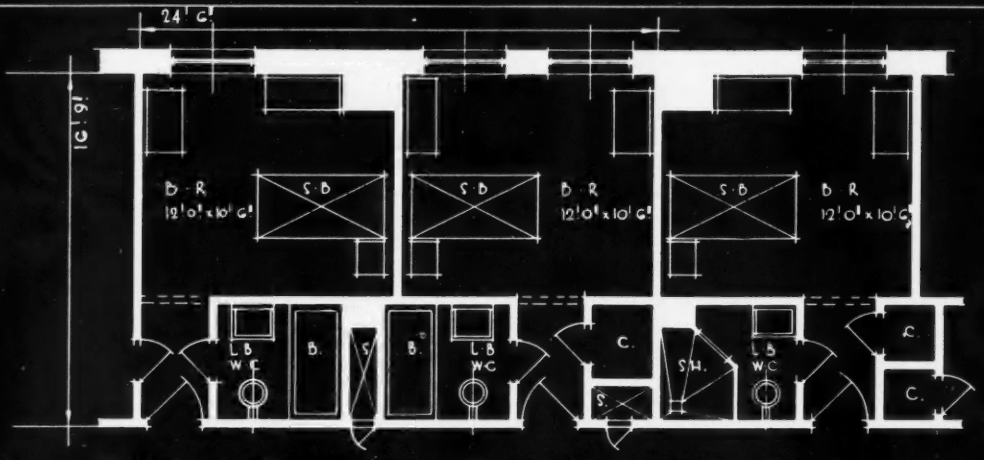
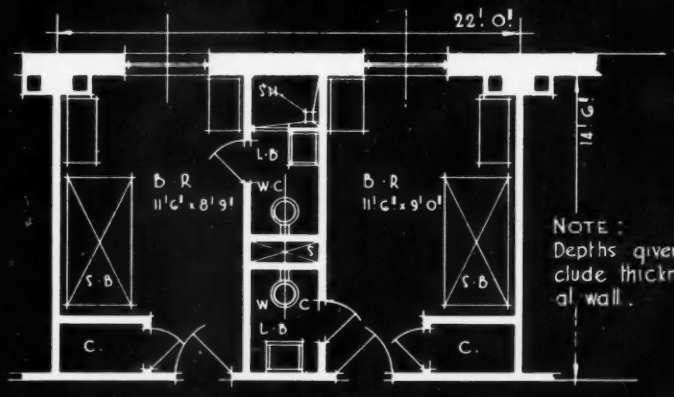
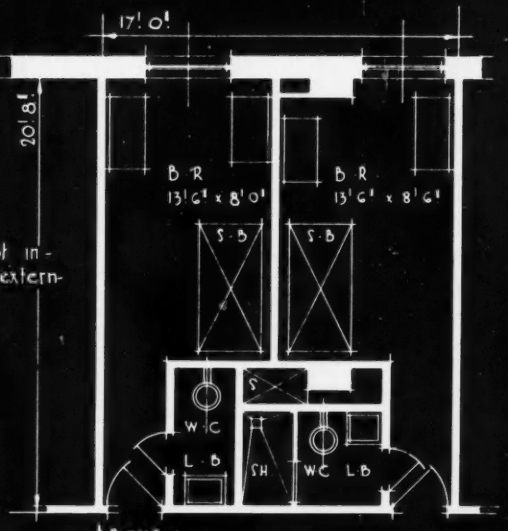


Three single-bed rooms shown above, each with bath or shower. Area of two rooms 410 square feet. Frontage 24' 6" Depth to corridor 16' 9"

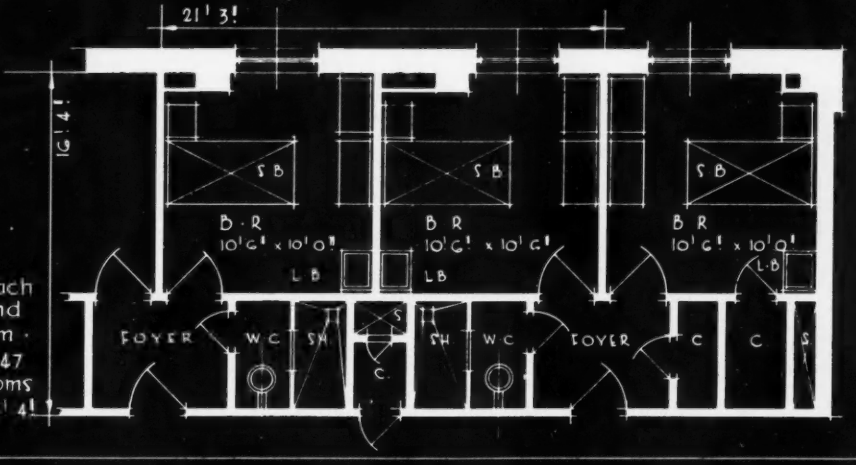


NOTE: Depths given do not include thickness of external wall.

ABOVE: Two single rooms, one with shower the other with toilet compartment. Area: 319 sq. feet. Wall frontage: 22'10" Depth: 14'6"



ABOVE: Two single rooms one shower, one toilet, no cupboards. Area 351 sq. ft. Frontage 17' depth to corr' 20' 8"



RIGHT: Three single rooms, each with shower compartment and lavatory basin in guest room. Area for two room units 347 sq. ft. Frontage for two rooms 21' 3" Depth to corridor 16' 4"

SCALE: ONE EIGHTH INCH EQUALS ONE FOOT.

INFORMATION SHEET: HOTELS 2: TYPES OF SINGLE-BED GUEST ROOM UNITS.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.1

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INFORMATION SHEET

• 112 •

HOTELS II
BEDROOM UNITS

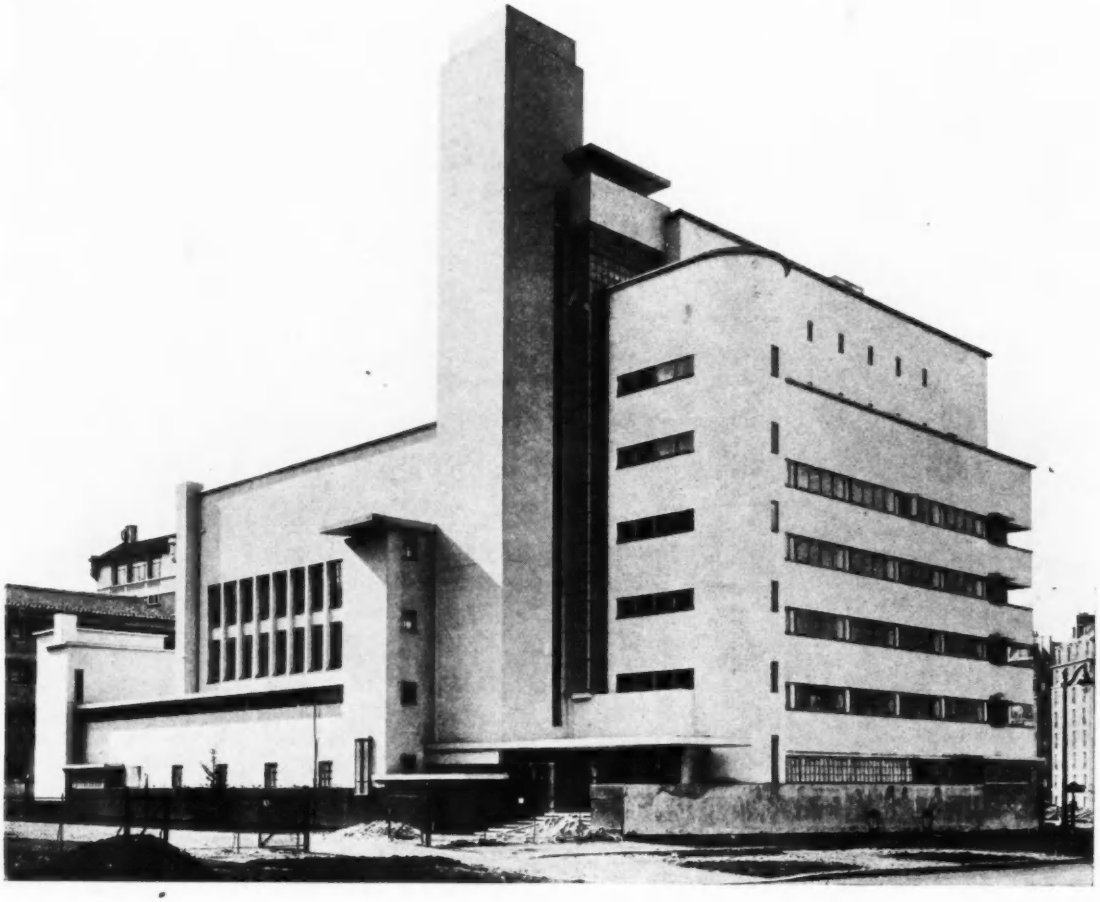
THIS Sheet illustrates various types of single-bedded hotel room units of varying depths and frontages. As a rule, hotel room and bath units must be designed to meet definite requirements, and these typical plans are intended to give useful examples of lay-outs and proportions. A previous Sheet (Number 110) dealing with double-bedded room units, was presented with our issue for May 17, 1934.

£1,250,000 HOSPITAL CENTRE

AT SELLY OAK, BIRMINGHAM

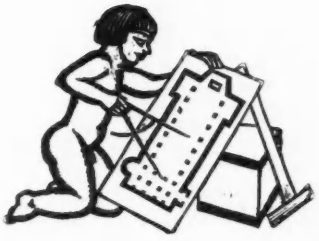
WORK has commenced on the erection of the first part of the new hospital centre, Selly Oak, Birmingham, which, when complete, is estimated to cost about £1,250,000. The architects are Messrs. Lanchester and Lodge, whose design was placed first in a limited competition held in 1930.

The photograph shows the site, excavated for administration buildings, ward blocks, etc., and the steelwork of the nurses' home, which is to be built first.



THE DUTCH PAVILION CITÉ UNIVERSITAIRE PARIS

The new Dutch Pavilion at the Cité Universitaire, designed by W. M. Dudok, is planned round a square courtyard in the middle of which is a pool. The above photograph shows the main staircase tower and lift shaft in the centre, with the dormitory wing on the right. To the left is the main hall for meetings, with administrative offices above it. (From the exhibition of of W. M. Dudok's work, now being held at the Architectural Association.)



MORE ABOUT RUISLIP

IN last week's issue we printed the terms of the arbitrator's award in the Ruislip case, in which the architects of some houses intended for that neighbourhood appealed against the Ruislip–Northwood Urban Council's refusal to sanction their plans. This refusal, it will be remembered, was made on the advice of the local Architects' Advisory Panel, and the result of the case was the upholding of the Council's decision by the arbitrator appointed by the R.I.B.A.

This week we print the full history of this affair, together with some illustrations of the type of house that is now being erected (presumably with the Council's approval) in the locality for which the rejected design was considered unsuitable, and an account of the arbitration proceedings. We make no apology for returning to a matter which, as symptomatic of the present confused state of architectural administration, affects the prestige and livelihood of every architect in the country.

The chief point to observe in the case is this : that there was no question of contravention of bye-laws or of structural or sanitary insufficiency. The disagreement was purely a question of æsthetics. It is true that the Panel members objected to the use of reinforced concrete, but it was soon apparent that their arguments were founded, in the case of the Council's representative, on unfamiliarity with the material, and in the case of the Panel members on a misunderstanding of the way it was being used ; and this objection, like the others, was resolved into a question of appearance. The objections to the design were, in short, merely the personal æsthetic opinions of the Panel members, who decided that it was not the kind of building they admired, and therefore recommended that the Urban Council should refuse to allow it to be built.

The implications of this use of the Panel system for the expression of personal likes and dislikes we have already discussed, and the danger that public condemnation by some members of the profession of others equally well qualified brings on the standing of the profession as a whole. Now beyond this question of prestige there is another direction in which abuse of the Panel system can have an equally unfortunate influence : it can make even harder of attainment the one objective to which the whole profession is at present striving—the reinstatement of the architect as the educating and controlling authority in all matters of design, particularly in the province of suburban development which has suffered more than any other from the absence of his influence. This objective is also, ironically enough, the very one for the aid of which the Panel system was instituted.

The average speculative builder, when developing a suburban estate, has come to regard the architect as superfluous. The ultimate advantages of co-ordination and liveability are not his concern, and it is inevitable that he should build down to the lowest level of taste, not educate up by good example to a higher. To do all he can to raise the standards of design is the architect's responsibility, not the builder's. To achieve that the architect must make the most of every opportunity of proving to the builder the many advantages of co-operation.

Here in the Ruislip case was a builder who took a more enlightened view than most, and, before proceeding with a scheme of development, did seek architectural advice—an encouraging example with many good auguries for the future. Instead of running up the usual rubbish with which the respectable business of speculative building has become only too understandably associated, he went to a well-known firm of architects, one member of which is a Rome Scholar and the other an Associate of the R.I.B.A., and commissioned them to prepare his designs. The result of his enterprise was that the project was refused by the Council, the builder was involved in an arbitration case and in the expense both of the case and of the delay it has caused to his programme, and the houses he was to have built for sale were publicly advertised as " deliberately odd " : all this because the builder had been willing to co-operate with the architectural profession, which clamours continually for a chance to work with him and reviles him if it is refused. If, on the other hand, the builder had followed the usual custom of proceeding without architectural advice and adhered to the usual suburban style, his designs would presumably have been passed without question or delay. The type of house that is allowed to be built without any kind of criticism or objection is illustrated (by examples taken from the Ruislip neighbourhood) elsewhere in this issue. The Ruislip case, as an example of the troubles co-operation with the architect seems likely to bring with it, will hardly be an encouragement to other builders to adopt a responsible and enlightened outlook.

The moral of all this is obvious. The Panel system was not instituted as machinery for the public exhibition of disagreement among architects on æsthetic questions (even though the letter on page 786, written to the Ruislip Council by the Panel members, seems to make it appear so), but in order to make it possible for æsthetic consideration to be given to building enterprises in which the architect has no voice whatever. If it is abused as it has here been abused, the builder will soon be convinced that co-operation with the architect is not only, as he has felt in the past, unnecessary, but is actually prejudicial to the peaceful running of his business ; that he must avoid the architect at all costs if he wants his plans passed unquestioned by the local authority.

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NOTES & TOPICS

HOUSING AND THE BUILDING SOCIETIES

THE greater mass of housing in the past year has been financed and largely controlled by the Building Societies, who have a total mortgage asset of £388,377,535. This may be a matter for congratulation. The population is being housed. But I suggest that this record would have been impossible had it not been for the measure of government control over the density and siting of new development, and without the enormous road building activity of recent years.

*

Further, I will say that much of this development is wasteful, being too dependent on dear transport for its existence as adjunct to urban centres, and that it has further wasted its assets by its low standard of design and very often of its construction, and its nearly complete lack of intelligence when compared with the best work done under public control.

*

It has not, in spite of anything said to the contrary, seriously added to the pool of cheap housing and private enterprise, does nothing whatsoever towards the clearing up of the muddle it created in the towns in the boom years of the nineteenth century.

*

It has made lots of money, but has its *control*, which flows always from the lending of money, been used to any very good social effect? Has it?

MORE HASTE . . .

Another circular comes from the Minister of Health whipping up the slum clearance campaign. Not a hint in it of planning: nothing said of anything, but get a move on, get something done quickly.

*

Don't mind if it costs you money. Charge that to capital if you like, but get a move on.

*

Were slums made in a day that they can be removed, they and all that goes with them in unplanning, individualism, cock-eyed legislation and so on *ad infinitum* in a year or so?

*

Is there no time to make some general plan of campaign. No time to make up the national mind as to what slum clearance is to be. Is the whole business political? Is it?

EDUCATIONAL POSTERS ON ARCHITECTURE

I see that Mr. Kenneth Clark and Mr. Clive Bell are going to advise the Postmaster-General about the design of educational posters on the history and development of communications. Since the Government murdered that piece of applied planning, the Empire Marketing Board, the 20,000 schools which it used to supply with posters and maps have been deprived of those educational advantages.

*

The Post Office is about to take up the task of distributing such posters, actively encouraged by the Education Departments of the United Kingdom. It is suggested that the scope of these posters will be enlarged, if they are successful, to cover other subjects.

*

Why not architecture? The Post Office is now devising a set of posters which will contrast the Falmouth packets of the seventeenth and eighteenth centuries with the mail-carrying air-liners of today. A series of architectural contrasts, and studies in the evolution of design, would help future generations to be intelligently conscious of the buildings that surround them. The R.I.B.A. might perhaps make some constructive suggestions when the time comes to embrace fresh subjects with this poster scheme. Suggestions might even be made now in anticipation.

HOUSES WITH HANGARS

Mr. Raymond McGrath, in an interview with *The Evening Standard* the other day, discussed the design of houses as they will be when everyone has his own aeroplane.

*

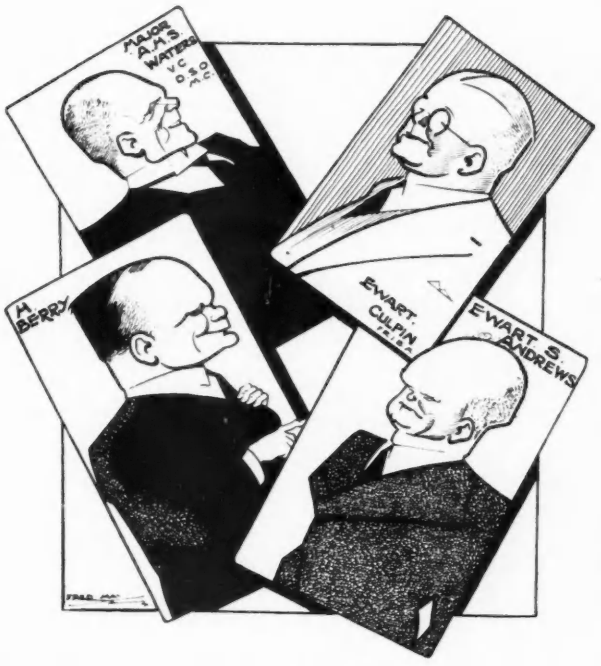
Each house will have its own hangar, just as it now has its own garage. On the top of the hangar will be a "beacon . . . which will be visible to a member of the family coming home in any weather . . ." The clarity of the beacon is compared to that of name plates on garden gates.

*

The suggestion conjures up possibilities. "Mon Abri" and "Sans Souci," "Rose Cottage" and "Laburnum Villa" will have a new and undeveloped medium for the exercise of smart individuality, and the countryside from 1,500 ft. up will look like an enormous garden fête.

*

But, as a matter of fact, I am not nervous. The Air Ministry already has certain regulations about aircraft signals and beacons; and I hear that at the forthcoming



Four of the speakers at the luncheon, held in London last week, to commemorate the granting of a Royal Charter of Incorporation to the Institution of Structural Engineers : Major A. H. S. Waters, V.C. (President) ; Mr. Ewart S. Andrews, B. Sc. (President-elect); Mr. Ewart G. Culpin, F.R.I.B.A. (Vice-chairman of the L.C.C.) ; and Mr. H. Berry, A.M.I.Mech.E. (Chairman of the L.C.C. Building Acts Committee).

International Air Convention one of the most important matters for discussion is to be the standardization of beacon signals, with, ultimately, prohibition of display of any light which may conceivably mislead a pilot.

*

I question whether, say, the Kingston by-pass could find a distinctive symbol for every house without contravening some regulation or other.

CIRCULATING LIBRARIES

A friend of mine is particularly resentful of lending libraries. "If a book is worth reading," he says, "it is worth buying." I have never been able to find out from him how, until one has read a book, one can decide the point ; and my personal view is that very *few* of the books which one is not sorry to have read are worthy of being bought to be read again. I should explain that my friend is a publisher.

*

Now the Royal Society of British Artists has inaugurated a circulating loan collection of pictures by its own members. The annual subscription is three guineas, and any picture bought is paid for at the listed price, less the amount of the subscription.

*

I think the idea is a good one. It enables the less wealthy members of the public to possess, even for a short time, the works of contemporary artists ; it allows a man to be quite *sure* he wants a picture before he buys it. The idea should be of great help to the painters, and it will tend to eliminate the rigid adherence to reproductions of classic masterpieces.

*

There is bound to be some mediocre stuff, but there will always be people who want it.

POPULATION STATISTICS

I have just been reading the current number of *Planning*, the P.E.P. broadsheet dealing with population statistics—not a good thing for the digestion of a late meal after a long day. But again I am reminded that very few things that happen in this world are without their effect upon architecture.

*

For was it not the break-up of family life, revealed with such alarming suddenness at the last census return, that proved to have upset all our little housing and helped to precipitate the slum clearance crisis ?

*

Sir Ernest Simon's baffled rage before this plain fact lives with me as one of the high-water marks of the period. It upset us all, for no one knew his census returns well enough to be able to predict the predictable, and the twentieth century, in spite of its talk of science and so on, and what jolly, clever people we are, missed the boat by a good margin.

*

The question is what sort of a lock are we going to devise for the stable door ? Or is it just too painful, this looking into the future : are we going to let the next Derby winner break loose, while we get on with our crown and anchor in the harness room ?

PRESERVATION BY PLANNING

Nearly every week one hears of a piece of alleged vandalism about to be committed, or just heartbreakingly completed, somewhere in England. The latest scare is the proposed destruction of the unspoilt coastal scenery of West Wittering, in Sussex.

*

The most up-to-date methods are to be adopted. A tract of land is to be purchased from the Board of Trade and transformed into a golf course, and a large luxury hotel is to be provided. Possibly a super-luxury hotel. There is, of course, much local agitation.

*

In England everyone waits for the worst to happen, and nobody moves a finger to get the land properly surveyed and planned until their own locality is threatened with super-luxury or insufferable cheapness, in its worst jerry-built forms. Even then they think only of preservation, not of planning. When will we learn that what is worth preserving in England can only be preserved by planning the countryside, the seaside, and the town ?

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

The Ecclesiastical Commissioners are to spend £500,000 on working class dwellings in London 782

"*The Council no doubt already realizes that this is not an ignorant, but a consciously modern, design which, in external form, is deliberately odd*" 786

"*I have come from Maidstone, and I am faced with the difficulty of one of these ultra-modern buildings which they have put up on a residential site. We are horrified that the Local Authority could not stop it*" 789

"*Why should not all architects be in one Institute? Such an Institute would have one condition, and one condition only, of membership, and that is Registration*" 790

I.A.A.S. AND THE R.I.B.A.

A writ for alleged libel has been issued by The Incorporated Association of Architects and Surveyors against the Royal Institute of British Architects. The alleged libel is said to be contained in a letter from the R.I.B.A. to the I.A.A.S.

The plaintiffs are Sir Edwin Lutyens, president of the I.A.A.S., Sir Robert Tasker, a former president, and Major G. B. J. Athoe, the secretary. Mr. Ian MacAlister, secretary of the R.I.B.A. is one of the defendants.

Sir Patrick Hastings has been retained by the I.A.A.S.

THE ARCHBISHOP OF LIVERPOOL ON MODERN ART

The Archbishop of Liverpool (Dr. Downey) opening the annual exhibition of the Liverpool Academy of Art on May 28, said : "It seems to me that in art, as in literature, music and philosophy, too many moderns are aiming at the merely eccentric under the pathetic delusion that they are being original. In seeking to approach a subject with a fresh mind they have remained in ignorance of what has already been accomplished by previous workers, and the result is oftentimes a crudity which is positively distressing."

THE ECCLESIASTICAL COMMISSIONERS AND THE CONDITION OF THEIR PROPERTY

The Ecclesiastical Commissioners have arranged to take early steps to improve the admittedly deplorable condition of Church property in Paddington and Southwark—two London boroughs in which the Church holds estates yielding large revenues.

Paddington has the highest infantile mortality rate in London. Here a large site is to be used to provide additional working class accommodation and a large sum of money is to be provided by the Church. Not only so, but steps are promised to curb overcrowding for the future.

In Southwark, complaints against certain Church of England property have been chronic for years. Here, as in Paddington, the Commissioners were faced with antiquated arrangements ; but these obstacles have been surmounted, and it is now announced that the Church is to pull down a good deal of defective property and spend half a million sterling on dwellings for poorer tenants of the working class. The Commission announces that it is determined to do all in its power to remove within the next few years "any shadow of justification" for charges against its property.

THE ARCHITECTS' DIARY

Thursday, May 31

ARCHITECTURE CLUB. *At the Savoy Hotel, W.C.2. Annual Dinner. Topic : Slum Clearance.*" 7.30 *for* 7.45 *p.m.*

ARCHITECTURAL ASSOCIATION. *At 36 Bedford Square, W.C.1. Exhibition—the Work of W. M. Dudok. Until June 9.*

Wednesday, June 6

THE LONDON SOCIETY. *At the Hotel Victoria. Annual Dinner. Subject for the evening : "Changing London." The chair will be taken by the President of the Society, the Earl of Crawford and Balcarres. The speakers will include The Rt. Rev. the Bishop of Stepney, Sir John Martin Harvey, Capt. Harvie Watt, M.P.. 7.30 for 7.45 p.m.*

INSTITUTION OF STRUCTURAL ENGINEERS. *Summer Conference at Bath. Opening day.*

BEXHILL ENTERTAINMENTS HALL

The Ministry of Health considers that the proposed expenditure (£80,000) by the Bexhill Corporation on the provision of an entertainments hall on the Coastguard Site is too high.

The Minister, in his reply to the Corporation, states that a loan for a period of 30 years should not exceed £70,000, and that a loan for any reasonable expenditure in excess of that sum, including that on furniture, should not be for a longer period than 15 years.

Before giving final sanction, the Minister will await the receipt of tenders.

EDINBURGH PUBLIC BUILDINGS

The First Commissioner of Works (Mr. Ormsby-Gore) spoke of the proposed "Scottish Whitehall" to be built in Edinburgh when he was entertained to luncheon by the Corporation in Edinburgh City Chambers on May 24. He was rather horrified at the scattered accommodation of the Government Departments in the City. The Department of Health had seven buildings, widely separated. The new building, designed by Mr. Thomas Tait, would cover 140,000 superficial square feet. In it would be housed the Scottish Office, the Department of Health, the Fishery Board, the Education Department, and the General Board of Control.

When he received the proposed elevations he would waste no time in submitting them to the Edinburgh Corporation and the Scottish Fine Art Commission.

BEDFORD SQUARE AND TROLLEY BUSES

The House of Commons' Select Committee, who are considering the London Passenger Transport Board Bill, decided on Tuesday against the Board's proposal to make Bedford Square a turning place for trolley-buses.

REHOUSING

The technique of rehousing was discussed by Mr. E. Maxwell Fry at the annual meeting of the Mansion House Council of Health and Housing at the Carpenters' Hall on Tuesday last. The Bishop of Winchester presided.

Mr. Fry, in the course of his address, said :—

The slums we are to re-build are those same slums we have left barely untouched for sixty to a hundred years. Look into them. They form a part of the vast machine we call London. As a machine it no longer functions. Its roads that turn and twist without aim, drag with them a bewildering complication of sewers, pipes and wires serving each little individual cell. We can only guess by the madness of traffic dislocation how badly the road plan of London now serves us ; but this is only an index of a more fundamental disorder, economic and social, for London approaches the point of being too costly a burden to carry. Despite the extent and complication of public service the financial burden of keeping the machinery working makes the costs of these services too high for the mass of the working-class population. Not only are the services of housing, transport, lighting, and so on, too high, but they are applied to property, the very nature of which prohibits the full use of the services provided.

The question we have to ask ourselves is whether it is worth rebuilding on this unplanned labyrinth or are we to re-build on a well-based economic plan, and make slum clearance an act of urban regeneration that will offer a new way of life to the poorer citizens of London at a cost which the community can afford ? If the old machinery is too cumbersome, then we must scrap it and make new.

The enlargement of the programme of rebuilding is a very real thing. It is an acquisition of territory in which sociology, medicine and economics have joined forces with structural and mechanical science, industry and architecture. The mental and the material equipment with which we enter upon this phase of slum clearance is not to be compared with that of the past. We have at our disposal the means of re-creating large areas of London.

Let me detail the main heads of the new programme :—

1. The provision of dwellings rising from a minimum standard of accommodation that offers every family a house equipped for decent and healthy living at rents within its means.

2. The disposal of dwellings at densities that leave open spaces for rest, recreation and enjoyment, and the necessary nursery schools and similar community services.

3. The planning of residential districts on an economic road and zoning plan which will function with economy as a good machine should, economy being considered from the point of view of the citizens as well as of the governors and administrators.

The technique of rehousing has got to rise to meet this programme, and at this moment nothing that science, industry and technical skill can produce is outside the bounds of enquiry.

I believe that the industrial system offers us a

means to this end. Industry has met competition with the triple weapon of standardization, mass production and skilled management. Housing, so long as it is carried out spasmodically and over difficult sites, is not easily susceptible to methods of industrialized control, but once entered upon on a large scale, over well-ordered sites, the benefits of standardization are felt at once. We live by the industrial system, and if we are not to die of it, we must control it for our use, and canalize it for the work of rehousing. That alone is sufficient justification for a revolution in housing technique. But in practice it will be the only system capable of increasing housing standards at less cost. Following the analogy of the motor-car, the design of housing must cease to be the individual province of architects working separately. That was how the old expensive cars were made for rich people. It must now combine to produce the best possible range of 1934 model plans in perfected systems of 1934 construction, and on a plan of working which is the product of the best organizing brains the country can find for the job. This is the time for group work and pooled effort. The Mansion House Council is promoting this system in making itself a clearing-house of housing information, but I will make bold to go further and to ask it to consider the establishment of a technical bureau, a *research laboratory* of rehousing technique, and for this purpose to raise funds sufficient for an active organization, collecting, analysing and reporting upon every aspect of housing, but in particular, upon the relationship of accommodation to cost, and the methods by which large-scale planning may be made effective.

In the present confusion, hopes are centred on the L.C.C. as the largest administrative body having powers to plan. It should be insisted from the first that planning is a matter of economics, and, paradoxically as it may seem, that economics are not enough.

OXFORD PRESERVATION TRUST

At the annual meeting of the Oxford Preservation Trust next month a report will be given on the well-known Painted Room at 3, Cornmarket Street. This was probably the guest chamber of the Crown Tavern where Shakespeare is believed to have stayed on his journeys between Stratford and London. The room is a fine example of sixteenth century mural decoration. It has been carefully preserved at the cost and under the care of Mr. E. W. Attwood.

LEEDS HOUSING PLANS

Important steps in the development of the first housing estate to be laid out under the Leeds Corporation £12,000,000 programme were taken at a recent meeting of the Housing Committee. It was decided to invite tenders for the erection of 796 houses and flats. Contracts have previously been let for the erection of 121 houses on the estate, to be completed by September.

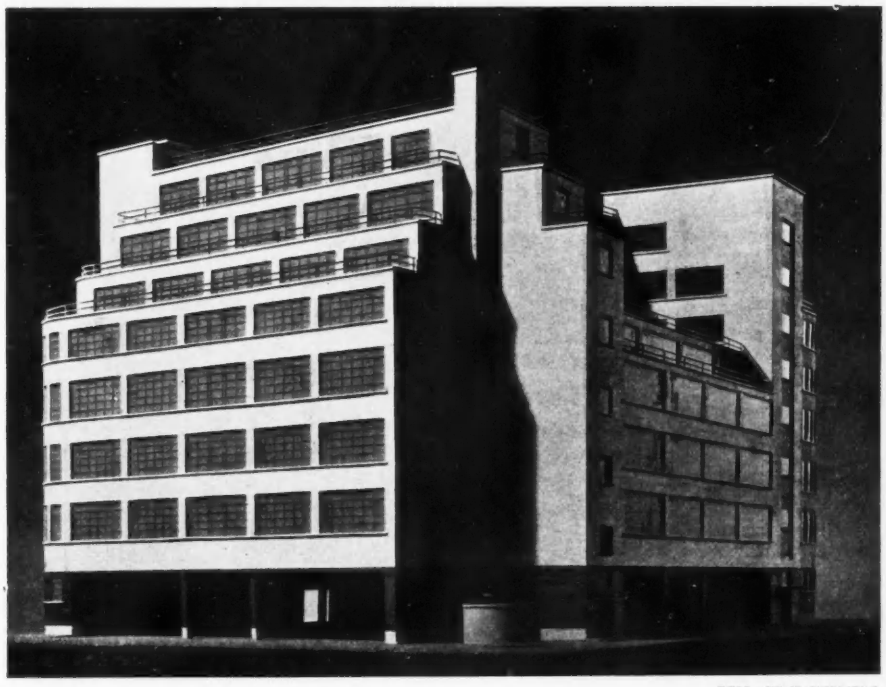
THE MAUSOLEUM OF THE EMPEROR AUGUSTUS, ROME

Signor Mussolini has given his approval to a plan for isolating the Augusteo, the mausoleum of the Emperor Augustus, from the old dwellings which at present surround it. It is hoped to have the work completed in time for the celebrations in 1937 of the bi-millenary of the Emperor Augustus.

ANNOUNCEMENTS

Mr. Colin Lucas, B.Arch, has joined in partnership with Messrs. Connell and

PROPOSED BUILDING IN CHELSEA



DELL AND WAINWRIGHT

Above are two photographs of the model of a building in Draycott Street, Chelsea, to house the dispatch department of Messrs. Peter Jones. In its final form the building will consist of basement, ground floor and seven upper floors, but only the basement, ground and three upper floors are to be constructed immediately. Excavation has begun, and this portion (costing approximately £75,000) is expected to be completed in October.

The building is to be of steel frame construction with external walls of London stock bricks. The corner treatment shown in the lower photograph was determined by the need to include a petrol pump, which the law requires to be free-standing and not to be overlooked by windows.

The architects for the building are Messrs. Slater and Moberly, with Professor Reilly and Mr. William Crabtree as consulting architects.

Ward, of 25 Grosvenor Place, S.W.1. The firm is to practice under the name of Connell, Ward and Lucas.

The partnership of Mr. Harold E. Todd, and Mr. A. A. Thompson, 29 Orchard Street, Bristol, has been dissolved owing to the ill-health of Mr. Thompson. Mr. Harold E. Todd, A.R.I.B.A., will continue to practise at the same address (29, Orchard Street, Bristol 1).

R. I. B. A.

THE DEVELOPMENT OF THE ENGLISH PUBLIC SCHOOL PLAN

"The English public school is a Victorian institution. Even those of the proudest antiquity were remodelled in character and largely rebuilt during that virile and earnest period and I strongly suspect that most of the ancient customs and taboos which tradition venerates today are of nineteenth-century origin," stated Professor W. G. Newton, F.R.I.B.A., in his paper on "The Planning of the Public School" at a meeting of the Institute on Monday last.

"A study of these buildings during the last 60 or 70 years would reveal," he said, "two main lines of development: one, the ever-increasing importance of the apparatus of teaching: and secondly, the gradual breaking down of a preconceived pattern, whether of plan or external appearance, before the demands, continually more insistent, of convenience, light and air and sunshine."

The lecturer then discussed the great urban schools of England, which came architecturally into prominence during the last half of Queen Victoria's reign; these were Dulwich, Charterhouse, St. Paul's and Christ's Hospital. He concluded with a full description of the Merchant Taylors' School.

The vote of thanks to Mr. Newton was moved by Sir Henry C. Gooch, J.P., and seconded by Mr. Frank Fletcher, Headmaster of Charterhouse School.

COMPETITION NEWS

BEDFORD SCHOOL COMPETITION

The following six firms of architects have been selected to take part in the limited competition for the proposed school, London Road, Bedford: Messrs. Annesley Brown and Hiscock, FF.R.I.B.A.; A. O. Chatterley, A.R.I.B.A.; Foden, Hemm and Williams, A.R.I.B.A.; A. W. Kenyon, F.R.I.B.A.; O. P. Milne, F.R.I.B.A.; and Louis de Soissons, F.R.I.B.A. Mr. J. R. Leathart, F.R.I.B.A., is the assessor.

The author of the winning design will receive the job at a commission of 5 per cent. Each unsuccessful competitor will receive a fee of 25 guineas. The last day for submission of designs is July 31.

STAND FOR THE BUILDING TRADES EXHIBITION

A competition, open to any architect, designer or student who is ordinarily resident in Great Britain and is under 30 years of age as at midnight January 31, 1935, is being held by Venesta, Ltd., for a preliminary design for a stand at the Building Trades Exhibition in September. Competitors are invited to submit rough drawings setting out their preliminary ideas. These will be submitted to a jury of assessors. The competitor whose drawing is selected will be awarded a premium of £100 and will be required to supervise the erection of the stand. The other premiums of £10 each will be handed to the four competitors responsible for the design placed next in order by the assessors:—E. Maxwell Fry, A.R.I.B.A.; John Gloag; H. de C. Hastings; W. T. Plume; Henry Rutherford; and W. L. Wood.

Full particulars are obtainable from Venesta, Ltd., Vintry House, Queen Street Place, London, E.C.4. Designs must be sent in by Saturday, June 23, 1934.

Competitions Open

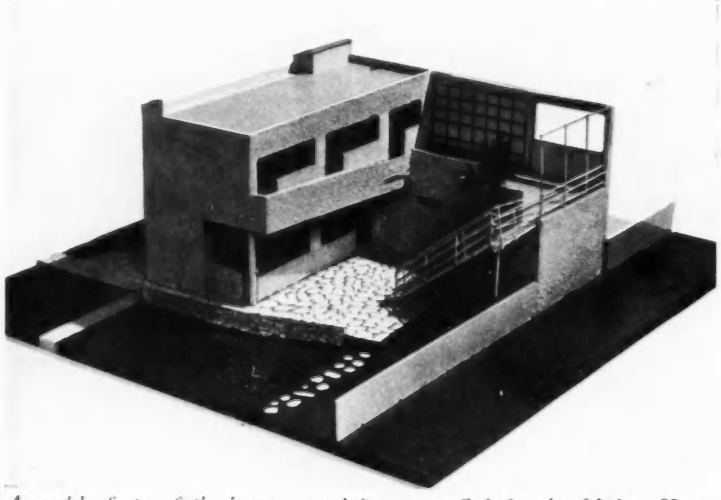
June 26.—Sending-in Day. Proposed Council Offices, Slough, for the Slough U.D.C. Assessor: H. S. Goodhart-Rendel, V-P.R.I.B.A. Premiums: £250, £150 and £100 for designs placed first, second and third, respectively. Conditions, etc., may be obtained from F. R. Duxbury, Clerk to the Council, Council Offices, Slough. (Deposit £1 1s.). Last day for submission of designs: June 26.

July 16.—Sending-in Day. Proposed Council School, Dudley. The competition is limited to architects having an office within 15 miles radius of Dudley. Assessor, H. T. Buckland, F.R.I.B.A. Premiums: £150, £100 and £50. The last day for application for conditions was April 23. Designs should be submitted to the Director of Education, Education Offices, St. James' Road, Dudley.

July 31.—Sending-in Day. Proposed Municipal Sanatorium and Children's Hospital Belfast. Competition limited to architects who have resided in Northern Ireland since March 1. 1933. Assessor: R. S. Wilshere, F.R.I.B.A, Premiums: 500, 200 and 100 guineas. The last day for questions was April 28. Designs should be submitted to the Town Clerk, City Hall, Belfast.

August 11.—Sending-in Day. Proposed new Municipal Offices for the Swinton and Pendlebury Urban District Council. Assessor: J. R. Adamson, F.R.I.B.A. Premiums: £150, £100, and £75 for designs placed first, second and third respectively. Last date for sending questions: June 11, 1934. Last date for submission of designs: August 17, 1934. Conditions may be obtained on application to William Carter, M.B.E., Clerk of the Council, Council Offices, Swinton, Manchester. (Deposit £1 1s.)

October 1.—Sending-in Day. Proposed Municipal Assembly Halls, Wolverhampton, for the Wolverhampton Corporation. Assessor: C. Cowles Voysey, F.R.I.B.A. Premiums: £350, £250 ond £150. Conditions from the Town Clerk, Town Hall, Wolverhampton. Last day for questions was May 21. (Deposit £1 1s.)



A model of one of the houses now being constructed for the Modern Homes Exhibition, to be held at Gidea Park from July 31 to August 20. The cost, with garden, will be £1,475—representing the most expensive class of house at the Exhibition.

THIS ARSHETECTURE

A well-known Blackpool man—he is a lawyer—mentioned the subject of houses to me yesterday, and he made a very interesting suggestion.

He has secured a piece of land in the country, near Blackpool, and he is going to build a house on it, for himself and his wife. But he does not want an ordinary house. . .

And then he produced a sketch plan of his proposed residence. He had drawn this plan, roughly, himself, but he was not satisfied with it. I told him I should put a little balcony outside the bedroom window, so that it would give an opportunity of admiring the view across the country.

Then he got to the really interesting part of the subject. "I know the readers of the *Diary* are good at most things," he said. "Do you think any of them can suggest a design for the cottage? Ask them to sketch out a plan of what they think is their ideal cottage, and then I may get an idea for mine. When I have got the idea I will get an architect to draw proper plans."—*From* THE BLACKPOOL EVENING GAZETTE.

THE RUISLIP CASE

THE FULL HISTORY

In the following article the complete story of the Ruislip case is given, following our publication last week of the terms of the arbitrator's award. Two clauses from the award, it will be remembered, were : " That the said plans sections or elevations are in the matter of design injurious to the amenity of the neighbourhood. That the said plans sections or elevations ought not to have been approved by the said Urban District Council."

The article includes an account of the arbitration proceedings and the events that led up to it, and quotes in full the document through which the case arose and on which the hearing was largely based ; the letter written by the local Advisory Panel to the Ruislip-Northwood Urban Council.

Illustrations of typical houses in the neighbourhood, with a photograph of the site and of a model of the rejected design are given overleaf ; the house having been fully illustrated in our issue for February 1. The implications of the case, as it affects the architectural profession, are discussed in this week's leading article.

IN June, 1933, Messrs. Connell and Ward were commissioned to design some semi-detached houses intended for sale on completion by Messrs. Walter Taylor (Builders), Ltd., of Harrow. As hardly any speculative builders have hitherto considered it necessary, or even desirable, to employ qualified architects, Messrs. Walter Taylor's initiative was naturally hailed as a triumph for the panel system. It will be remembered that the setting up of local advisory panels under the joint auspices of the R.I.B.A. and C.P.R.E. was inspired by the desire to arrest the growing disfigurement of the countryside — more particularly in districts where new suburbs are expanding over rural areas. The primary cause of this progressive disfigurement is universally admitted to be that speculative builders " do without architects," and the panels were intended to help local authorities to control building development in the best interests of their territories. In reality, therefore, the panels are " æsthetic consultants," acting in regional spheres. It was hoped that when appealed to, their purely voluntary advice would be so manifestly reasonable and disinterested as to furnish the necessary moral suasion for inducing speculative builders, and those wishing to build themselves cheap country homes, to take the advice of experts, i.e., architects, even if they refused to employ them. There was, however, no sort of intention on the part of their promoters that these panels should provide a convenient battle-ground on which opposite schools of architects could fight out their personal differences, or seek to impose their individual prejudices, in public, to the detriment of the profession's corporate prestige. The æsthetic standards they sought to establish were such as are implied in any properly qualified architect's professional competence to design. As was stated in the leading article of last week's issue of this JOURNAL, " There can be no question in panel administration of distinguishing between the work of one qualified architect and another."

The plot of land chosen for the first of these houses is situated on a road known as Park Avenue, at Ruislip, Middlesex, where no other buildings as yet stand. The site fronts a wide expanse of fields which, like Park Wood, a large coppice of undergrowth interspersed with some good standing timber lying immediately in rear, has been scheduled as an open space. This plot, with an option on a longer strip in extension of it, was purchased from King's College, Cambridge, for centuries past the local Lords of the Manor, who have shown themselves notable benefactors to Ruislip. King's College, Cambridge, were, for instance, largely instrumental in promoting the Ruislip-Northwood Town-Planning Act of 1914, the first measure of its kind obtained by any local authority in Great Britain. As the ground landlords of the greater part of Ruislip, King's College initiated, and have since consistently striven to co-operate in, the development of the district in an enlightened and orderly manner with full regard to the preservation of its once noteworthy amenities. With the passing of the Ruislip-Northwood Town-Planning Act, however, the control of building development and elevations naturally passed almost entirely to the local urban district council. It is necessary to stress this obvious point, because at the inquiry held by the official arbitrator the Town Clerk attempted to make King's College indirectly responsible for the design of some deplorable, but only too typical, specimens of the newest Ruislip " Architecture," erected on land that had " recently " been sold by the College, of which photographs were circulated during the course of the proceedings. The Town Clerk's very transparent and ingenuous manœuvre was promptly quashed by Messrs. Walter Taylor's counsel, and several of the experts called by him, by pointed references to the Council's powers under their own Act. In answer the Town Clerk had to admit that no steps had been taken by the Council to reject, or even modify, even the worst of these deplorable speculative-builder designs. How faithfully the Council has fulfilled its trust in the way of safeguarding Ruislip's amenities will be realized by anyone who has passed through this now merely characteristic " Metroland " suburb in the course of the last year or two.

Messrs. Walter Taylor, Ltd., have the reputation of being good and honest builders. The head of the firm, Mr. Walter Taylor, who is a builder's son, recently designed and built for himself what was subsequently referred to as " an unconventional type of house," with a flat roof and wide-windowed living-room. This house aroused considerable interest in Pinner, and brought him many business inquiries. As a result, Mr. Walter Taylor was confirmed in his opinion that the public had begun to demand houses of a definitely modern, as opposed to " Tudorrean," design such as form the average speculative builder's stock in trade. He realized, however, that his own house had certain undeniable faults, and felt that a qualified architect who had had practical experience in building houses of entirely modern design would be able to improve on it very considerably in a structural, economic and æsthetic sense. Accordingly, he approached Messrs. Connell and Ward as the architects of " High and Over " at Amersham, and the equally well-known house built by them at Grayshott for the late Sir Arthur Lowes Dickinson. In both these houses reinforced-concrete construction was adopted to secure maximum fenestration and economy in construction. Since then they have been commissioned to build six other country houses of a similar type, besides a block of tenements for the St. Pancras Housing Association.

Mr. Amyas D. Connell was Rome Scholar for Architecture in 1926, a scholarship which is deemed the highest architectural distinction in the British Empire. Mr. Basil R. Ward, who is a former Jarvis Student, is a member of the Public Relations Committee of the R.I.B.A., and has since been nominated for election to the Arts Standing Committee of the same body. These facts are mentioned in order to remove any possible misconceptions as to the professional qualifications of the architects concerned. The architects' clients instructed them : to design plans, good and economical to modern conditions, in advance of ordinary suburban development so far as

The centre of the village of Ruislip in Middlesex remains much as it has been— 1

for a good many years: an accumulation, round the church as nucleus, of harmonious buildings in the natural manner of their period. 2

Now a new accumulation of assorted architecture is growing round the original village, as Ruislip becomes a dormitory town. This accretion largely consists— 3

But they all have as a basis a meaningless and generally tasteless adaption of forms that have themselves outlived the causes that conditioned them. 7

Some might be described as deliberately odd. No appreciation of modern needs is apparent— 8

and they are guilty of falsification of materials and lack of any respect for the civilities, to the serious detriment of Ruislip's attractiveness; though it appears they are built— 9

economy in upkeep, durability, and standard of living are concerned: the object being to provide houses to compete favourably in accommodation and price with other speculative builders' work in the neighbourhood.

The sketch designs prepared on these instructions were dictated by the governing conditions of a relatively narrow frontage, and an open relationship of the living rooms to one another in order to secure a maximum of air and light in all parts of the house. Reinforced-concrete construction was proposed as offering the best means of meeting these stipulations, owing to its flexibility and economy.

Early in September, 1933, Messrs. Walter Taylor, Ltd., submitted plans and working drawings of the first pair of houses to the Ruislip Urban District Council for their approval in the usual way. On September 21, they were notified that the Council had disapproved the plans, and that the Council's non-approval was based on Clause 56 of the Ruislip-Northwood Town Planning Act of 1914, which runs as follows:

General character or design of Buildings.

If, having regard to the nature and situation of the site of any building or buildings proposed to be erected or altered or to the character of any buildings erected or in course of erection in the neighbourhood of such site, the Council are of the opinion that the character of the building or buildings proposed to be erected or altered would be injurious to the amenity of the neighbourhood, whether on account of the design or the undue repetition of the design or the materials to be used, the Council may require such reasonable alterations to be made in regard to the design or materials as they may think fit, and may require the plans to be amended accordingly.

If any dispute or difference shall arise between the Council and any other person as to the requirements of the Council under this Clause, the same shall be referred to a single Arbitrator to be appointed by the President of the Royal Institute of British Architects on the application of the Council or such other person. The decision of the Arbitrator so appointed shall be final and conclusive and the reference to arbitration shall be deemed to be a reference under the Arbitration Act, 1889.

For the purposes of this Clause, any person submitting plans for the erection and alteration of any buildings shall furnish to the Council all such plans and particulars as may be reasonably required by the Council.

Considering that the clause of the Act invoked contained no justification for the Council's action, Messrs. Connell and Ward deposited a request with the Ruislip Council on September 29, asking them to reconsider their decision; their request being accompanied by a coloured perspective drawing of the proposed elevations of the pair of houses in question. On November 14, the Clerk of the Council wrote to Messrs. Connell and Ward to say that after referring the whole question to the Harrow Advisory Panel of the R.I.B.A. and C.P.R.E., "the Council must persist in their decision to disapprove the plans."

After the architects had made several fruitless attempts to obtain a definite statement of the grounds on which the Council had based their decision, they finally succeeded in inducing the Clerk to send them a copy of the Panel's Report, dated October 31, which ran as follows:—

To the Clerk to the Council.

Plan No. 4179.

Submitted by Messrs. Connell and Ward.

DEAR SIR,—At a meeting of the Harrow Advisory Panel held today the above Plan referred to us by your Council was carefully considered, particularly in regard to the points to which attention was specially directed and it was decided to advise the Council to persist in their disapproval.

The Council no doubt already realizes that this is not an ignorant, but a consciously modern, design which, in external form, is deliberately odd. We see nothing in the planning which would render it necessary that it should be treated in this fashion which is not new but of Continental origin. We are satisfied that, despite full publicity for all discoverable examples in the technical Press, there is in fact little work of this character being built in this country and if, as appears likely, it becomes unfashionable the isolated examples are likely to prove unacceptable to tenants and may even become derelict, to the disadvantage of surrounding property.

The proposed material, reinforced con-

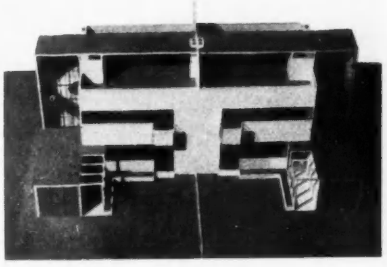
of poor imitations of the earlier way of building that are both absurd in themselves and make their prototypes appear ridiculous. 4

Some examples are more pretentious than others. Some try harder— 5

to make a faithful copy of an antique model, even to the extent of perpetuating imperfections that their originators would have avoided if they could. 6

with the local Council's approval. They are rapidly changing a pleasant neighbourhood into an architectural Bedlam. 10

However, some virgin sites still remain, on which it would have been possible to build, without too cruelly close proximity to the existing growths, some houses— 11



of contemporary materials, designed to reflect contemporary habits of life as competently as the original village reflected its own : but the local authority—and the local Panel WOULD NOT HAVE THEM. 12

crete, has been found cold, noisy and no cheaper or quicker than brick, so that there appears to be nothing to justify its use in domestic work. From experience of the district we consider the apparent intention to rely on isolated foundations to be risky and likely to develop uneven settlement which would be further prejudicial to the houses.

As a matter of detail, the prominence given to the unimportant staircases by projection and enclosure within walls of glass does not seem evidence of proportionate design, though whether it is good or bad Art is, of course, a matter of opinion.

Architects might be interested to see these designs carried out, but we conceive it to be the duty of elected representatives to have some regard to the feelings and wishes of the community which they represent and, in our opinion, nine out of ten of the Ruislip population would view these houses in their proposed situation with active disfavour.

Yours faithfully,
(Signed) EDWIN GUNN.

The architects then inquired whether the views set forth in this report coincided with the Council's. On November 28 they elicited the information that "the Council were naturally influenced considerably by the Report made by the Advisory Panel." Accordingly, on January 2, 1934, Messrs. Connell and Ward advised Messrs. Walter Taylor, Ltd., to proceed to arbitration. The arbitrator appointed by the President of the R.I.B.A., as provided for under the same Clause 56 of the Ruislip-Northwood Town Planning Act of 1914, was Mr. E. Gladstone Allen, F.R.I.B.A., and his inquiry was fixed to be held in the Old Manor Farm (a gift to the District Council from King's College, Cambridge), Ruislip, on April 24.

At this inquiry Messrs. Walter Taylor, Ltd., were represented by Mr. W. A. Fearnley-Whittingstall, and the Ruislip District Council by their Urban Town Clerk. Among the witnesses called by Mr. Fearnley-Whittingstall, besides Mr. Walter Taylor, Mr. Connell, and Mr. Ward, were Professor Adshead, F.R.I.B.A., M.ARCH., Member of the Council of the R.I.B.A., as a town-planning expert ; Professor Dickson, late Professor of Engineering at the Imperial College of Science and Technology ; Mr. J. Steinberg, representing the Reinforced Concrete Association ; Mr. R. W. Davies, of Messrs. James Style and Whitlock, St. James's Place, S.W.1, Estate Agents for King's College, Cambridge; and Mr. P. Morton Shand. The only witness called by the Town Clerk was Mr. Edwin Gunn, A.R.I.B.A.

Messrs. Connell and Ward's submission was that the vendors of the land had raised no objection to their design, but had, on the contrary, evinced a most interested and sympathetic attitude towards it throughout. It was by consent of the Bursar of King's College, Cambridge, Mr. J. Maynard Keynes, the well-known economist, that Mr. R. W. Davies was attending to give evidence to this effect. They had prepared a lay-out of the land immediately adjoining that on which the first pair of houses was to be built ; and these would be set well back from the road so as to leave an ample garden. They pleaded guilty to the charge that their design was not due to ignorance, but not guilty to its external form being "deliberately odd," since this would clearly be to the detriment of their client's interests. The planning of the type of house stipulated, in their opinion, dictated the particular form embodied in the scale model which was placed before the arbitrator. This form, they considered, was purely an expression of contemporary needs such as have become common to the whole civilized world. If their design was of Continental origin the same sweeping objection applied to every phase of traditional English architecture from Gothic to Georgian. Incidentally, it is well known that the modern movement is of English origin. This year's Ideal Home Exhibition at Olympia, no less than the colonies of flat-roofed villas erected or now being erected at Ditton Hill, Wembley, Eltham, etc., proved that the public demand for houses of this type was insistent and rapidly increasing. They were convinced that, if properly designed, a reinforced-concrete house is cheaper, warmer, and less noisy than a brick one, and as quick to build.

When the Town Clerk cross-examined

the various experts called on behalf of the architects, they all endorsed Messrs. Connell and Ward's design as an addition to, rather than a detraction from, the dwindling amenities of the district; and the propriety of using concrete as its structural medium. It soon transpired that the Panel, like the Council, apparently imagined that these houses were to be built without any kind of insulation. Professor Dickson quoted the researches of Cellerier, the eminent French scientist who invented the sound-unit known as the decibel, with devastating effect. He showed that a brick wall $3\frac{3}{16}$ in. thick gives a sound alternation of only 34 decibels, whereas a concrete wall $2\frac{1}{16}$ in. thick, insulated with wallboard, cork sheeting, etc., gives 45 decibels (a far greater resistance to noise transmission) at the same frequency. Further evidence as to the entire suitability of concrete, and the architects' design in a structural sense, was given by Mr. Steinberg, of Messrs. Considère Constructions, Ltd. As a result Mr. Fearnley-Whittingstall forced the Town Clerk to withdraw the whole of the Council's objections to concrete on the grounds of coldness, noisiness, and structural unsuitability. The æsthetic objections to the design were no less summarily dismissed; as also the danger of a monolithic building becoming "derelict," and one of modern design "unfashionable." The only argument brought forward by Mr. Edward Gunn, A.R.I.B.A., that survived cross-examination was the plea that he himself had lived in Ruislip for 22 years, and that two other unnamed members of the Panel had resided there for even longer periods. Mr. Gunn did not think it necessary to inform the Arbitrator that he was shortly leaving the district to reside in Minehead. It was pointed out for the builders that no known means existed of ascertaining whether the inhabitants of Ruislip as a body objected to this or any other design; with which the appeal to democracy tamely collapsed. Photographs of typical "Jerrybethan" houses at Ruislip were circulated to prove that the amenities which the district had previously enjoyed had been already sacrificed with the Council's full concurrence. The Town Clerk and Mr. Edwin Gunn were particularly concerned about the glass cages containing the "unimportant" staircases. The former advanced as a perfectly serious argument against them that it would be quite possible for anyone passing along Park Avenue at night to see the master of the house "going upstairs to bed in his pyjamas." The Town Clerk wound up his defence by asking the Arbitrator to hold that the Council had not acted unreasonably, and that the proposed houses would, in effect, seriously injure the "olde-worlde" amenities of a highly select and quite unspoilt residential locality.

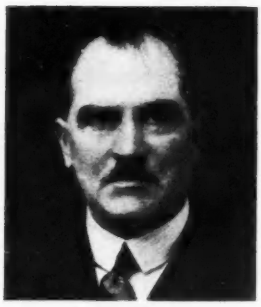
On May 14, Mr. E. Gladstone Allen issued his award. This statement upheld the Ruislip Urban District Council as having acted entirely within the powers conferred on them under the local Town Planning Act of 1914; but added the rider that no evidence had been presented to the Arbitrator which enabled him to decide whether Messrs. Connell and Ward's plans and elevations did, or did not, in all respects conform to the requirements of the Town Planning Act in question. Yet while holding that the Council were perfectly right in refusing to approve these plans and elevations, as definitely "injurious to the amenity of the neighbourhood," the award proceeded to censor the Council for having acted *ultra vires* in unconditionally rejecting them, instead of indicating such alterations as they desired to be made in the architects' design.

It is understood that the solicitors of Messrs. Walter Taylor, Ltd., have requested the Arbitrator to give rulings on certain not unimportant points included in his original terms of reference which, in their submission, his published award leaves still unanswered.

No one can possibly blame speculative builders if, as a result of this award, they decide to refrain in future from commissioning qualified architects to design any of the houses it is their legitimate business to build. In any case Messrs. Walter Taylor, Ltd., like the overwhelming majority of architects, can scarcely be encouraged.

THE RUISLIP PANEL

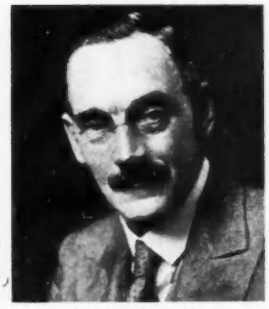
Edwin Gunn.



Harry Neal.

P. C. Boddy.

J. H. Markham.



H. R. Houchin.

The Ruislip Panel consists of seven members of which five are illustrated above. Mr. Edwin Gunn, A.R.I.B.A., is the convenor of the Panel. Mr. P. C. Boddy, F.R.I.B.A., Mr. S. Pointon Taylor, F.R.I.B.A., Mr. J. H. Markham, F.R.I.B.A. and Mr. H. R. Houchin, F.R.I.B.A. are the other architect members. The builder members are Mr. Harry Neal, A.I.O.B. and Mr. A. C. Telling, L.I.O.B. We understand that Mr. Markham has not been able to attend the meetings of the Panel.

A PAIR OF OPINIONS

1: THE ARCHITECT

The following is from a speech by Mr. Goulburn Lovell, A.R.I.B.A., reported in the "R.I.B.A. Journal," which followed the paper, entitled "New Materials and New Methods," given at the R.I.B.A. last winter by Mr. Serge Chermayeff.

Mr. President,—It has been pointed out to us that there are many young architects in the room, and I prefer to address my remarks to them. I come into contact with a large number of students, and I came here to-night to learn something. What I have learned means that I shall have to go back to my young colleagues and say to them, "For God's sake do not attempt to do anything like we saw put on to the screen at the meeting last Monday." If all we have been told

is true you will be unable to get your buildings executed; the control of building in this country is in the hands of Local Authorities. We must get them to take the advice of the architects. The last speaker (Mr. J. D. Horsack, F.R.I.B.A.) is on an Advisory Panel, and he would turn down any of the suggestions which we have had this evening, and if he did not, the Local Authorities would. I have come from Maidstone, and I am faced with the difficulty of one of these ultra-modern buildings which they have put up on a residential site. We are horrified that the Local Authority could not stop it. Young men may feel certain that, unless they can attune their new efforts to the traditional ideas which have been handed down to them, they are going to encounter failure. There are new materials, and there is no reason why they should not be applied to new design. I know I am an old man, but I am an old man who is getting considerable influence with a number of young men, and if those young men were to try to do what is urged, they would never get a job, because Local Authorities in England would never put up with it.

2 : THE LAYMAN

The following paragraph, under the heading, "No Building Censorship," appeared in Roundabout Notes, by C.P.C, in "The Middlesex County Times."

Considerable interest attaches to a Ministry of Health inquiry held this week as the result of an appeal against the disapproval of certain building plans by the Ruislip-Northwood Council. It was not suggested that the plans contravened any of the ordinary bye-laws regarding safety and sanitation, but only that the design of the proposed house was ugly and unconventional—that is to say, was a modern design to be carried out in ferro-concrete and glass. Not having seen the particular design, I cannot express an opinion upon its æsthetic quality, but I am strongly opposed to any local authority setting itself up as a censor of architecture. I have no objection to an authority insisting upon reasonable uniformity in the same road, as the Middlesex County Council proposes to do with regard to the westward extension of Western Avenue, but the modern school of architecture—the finest school of architecture in my opinion since the close of the Middle Ages—must be given its chance. Visitors to the Ideal Homes Exhibition have seen what beautiful houses modern architects can provide, and there is no justification for a local authority trying to compel people to put up for ever with imitation Tudor.

LETTERS FROM READERS

PERCY MORRIS, L.R.I.B.A.
(City Architect, Wakefield)
G. H. WIDDOWS, F.R.I.B.A, M.Inst.R.A.
(Derbyshire County Architect)
R. E. COOPER
JOHN BARTON
ARTHUR WELFORD, A.R.I.B.A.
G. M. GUTHERZ
(Secretary, Neue Werkbund Oesterreichs)
MARRYAT AND SCOTT, LTD.

Municipal Engineers and the Amenities

SIR,—If your correspondent "Panel Member" will explain the meaning of the following terms contained in his letter published in your issue for May 3, his attitude towards the circular letter of the Institution of Municipal and County Engineers might be more clearly understood :—

1. Indefinable prescription.
2. Aesthetic beastliness.
3. "Fine Art."
4. Aesthetic sense.
5. Backwash of Registration disputes.
6. Narrow and machine like.
7. Architectural adaptability.

Will he also give the exact wording of the law of the land which involves questions of taste and explain how a member of the R.I.B.A. should be better ordained or equipped to find some indefinable prescription to deal with "outrages" than a member of the Institution of Municipal and County Engineers?

To Mr. Manning Robertson may I say that in my opinion the architects are guilty of providing fake timber and pink roofs, and may I ask who is more responsible professionally for the spoliation of the countryside than the architectural profession?

PERCY MORRIS
City Architect, Wakefield

The Place of the R.I.B.A.

SIR,—Amid all the welter and confusion in which our profession finds itself is it not time that we all took stock of the conditions obtaining and ask ourselves whether where we are is where we would wish to be? No good purpose will be served by delay, and someone has to put into words what many appear to be thinking. In doing this, unpleasant things have to be said, and there is no great pleasure in that, but it is not the unpleasant things that matter. What does matter and matters very much, is the welfare of the profession as a whole.

An event has taken place which has caused a revolution, and that event is the passing of the Architects' Registration Act. That Act is there and it has come to stay and it is childish to behave as if conditions had not changed. Prior to that Act one belonged to a society or institute as a kind of guarantee of professional ability. Such is no longer necessary, for the Register is the guarantee. In the witness box we shall no longer, I take it, be asked whether we belong to an association but whether we are on the Register of the Registration Council. All that is necessary is to pay six shillings and eight pence each year, without any obligation whatever to belong to any society.

This does not mean that no society will be necessary. The Act needs amendment in more than one direction and the Registration Council have no power to amend. All they can do is to administer the act as it is. An association of some kind will therefore be necessary if the weaknesses of the Act are to be remedied.

What is needed is a strong forward policy for the profession as a whole and put forward by a society which can command respect. If this is to be the case it seems to me that a new start must be made, for the R.I.B.A. in the opinion of more than one has failed to rise to the occasion, and has, I fear, forfeited respect. As I write this, a circular has come to hand from the R.I.B.A. dealing with "professional conduct" and in it I read as follows :—"Members and professional affixes."....."

> "The Council's attention has been called more than once to the practice, among some members, of adding a string of letters of doubtful value to the affix indicating membership of the Royal Institute on their letter paper.
>
> "This is a matter in which the Council obviously cannot dictate to members, and must trust to their good sense. It should be obvious, however, that the affix of a chartered body of high standing is weakened in effect by the addition to it of a string of other mysterious designations, some of which probably indicate no more than the payment of an annual subscription."

This sneer of affixes "which probably indicate no more than the payment of an annual subscription" is in bad taste and is one a body containing about thirty-four per cent. of Licentiates can ill afford to make. Are we to understand that this is Conduit Street's latest idea of the standard for "professional conduct?"

Moreover, Conduit Street has failed

to keep pace with the times as, I think, the following shows. As I see it the profession has five different groupings :

(1) Architects in private practice in London.
(2) Architects in private practice in the Provinces.
(3) Salaried assistants.
(4) Architects in the whole time employment of large business firms.
(5) Architects in the whole time employment of public bodies.

Nine months ago, I wrote to the Secretary asking for the numbers of Fellows, Associates and Licentiates in each of these five groups. He replied that he could not give me the figures and that it would take *two months* to prepare them. With all the changes that have taken place in professional practice, so little is the Institute moved thereby that it has no analysis to show how its members earn their daily bread. In other words the Institute is apparently carrying on as if all architects are as they were in the days of William IV.

May not those who regard the Institute as mainly a London Club chiefly for the benefit of the London practitioner be pardoned for thinking so? More than one private practitioner in the Provinces has asked himself what he gets for the subscription he sends. Your columns show that the A.A.S.T.A. have little or nothing for which to thank the Institute. A new society for Official architects is being formed to deal with their own problems because they have yet to learn of any thing which the Institute has done for official architects as such.

The confusion in the world cannot go on for ever. The New Age is bound to come, perhaps sooner than some of us think. Are we to think that we can go into the New Age in our present chaotic condition? What is needed is a clear forward policy, a new beginning and a new spirit animating it. Why should not all architects be in one Institute and arranged under the five groupings to which I have referred? Each grouping would deal with its own problems. Over all would be the Council on which each grouping would find a place and where all could be co-ordinated for the benefit of the profession as a whole. Such an Institute would have one condition, and one condition only, of membership, and that is Registration.

Such an Institute has been started and I joined it soon after its inception because it seemed to me to have in it the solution of our present troubles. The R.I.B.A. met the movement with abuse. But this is another instance where the R.I.B.A. has lost its dignity, for in spite of pompous language it knows it cannot expel a member for joining another society. The Charter of the R.I.B.A., unless I am much at sea, is purely educational.

That this letter will call down on my head the wrath of the Big Noises in London (and the Provinces) I fully expect, but they are a minority. If some of our leading men joined together and made a start in the direction I have indicated, Conduit Street might have an experience such as it little expected, and the new society would not have to design a special garb to attract members.

The world is in confusion. Conduit Street does not seem to be making it any better. What can we do to help in bringing order out of chaos?

GEORGE H. WIDDOWS, F.R.I.B.A., M.INST.R.A.
County Architect of Derbyshire

R.I.B.A. and A.A.S.T.A.

SIR,—So Astragal refuses to take sides, does he, and " preserves an intelligent neutrality " with regard to the A.A.S.T.A. and control of salaries? Astragal, I think, can generally be relied upon to be intelligent, but in this case he is certainly not neutral, and I think his remarks call for further comment.

As an argument against the adoption of a minimum scale, he quotes the case of the " long service and good conduct " type, whose employer cannot afford to keep him on if forced to pay a higher salary. If after many years of private practice an architect cannot afford to pay his assistants of long standing a decent salary, it is time the private practitioner disappeared ; and as a matter of fact he is actually rapidly doing so. Then again, surely Astragal would not be against a scheme which would definitely benefit architects as a whole, simply because a few hard cases might arise.

As regards " undercutting " amongst assistants, the adoption of a minimum scale would counteract this, in the same way as the R.I.B.A. recognized scale of charges prevents undercutting amongst practising architects. As a matter of fact it isn't the salaried man who undercuts his fellow, as much as the private architect who, finding it difficult to undercut his charges owing to the R.I.B.A. scale, undercuts his fellow-practitioner in the matter of salaries, to the detriment of the unfortunate assistant.

I think it should be pointed out that the scale of charges recommended by the A.A.S.T.A. is not rigid, but gives scope for comprehensive action.

R. E. COOPER
London

Astragal writes :—

I am glad your correspondent thinks me intelligent. I have always thought so myself ; and, if you did not, too, sir, where should I be?

The fact that an assistant has been many years in one firm does not mean that he goes on increasing in value ; in fact, he is ultimately bound to deteriorate. No minimum scale will prevent a practising architect from wanting value for his money. I leave it to the " minimum scale " fans to decide whether the " old-timers " are to starve meanwhile, to achieve a questionable benefit to the younger men in the future. Does Mr. Cooper really believe that any architect in practice is going to pay the same money to a dud as he does to a competent man? Naturally, then, the salary being fixed, out goes the dud.

The third paragraph of your correspondent's letter is quaintly ingenuous. I specially like the words " in the same way as." (But we only whisper these things.) Of course, the salaried man doesn't undercut his fellows ; he has nothing to undercut ; but he *will* have under the minimum scale ; and at the same time the practising architect will be in the same position as at present, under the R.I.B.A. Scale, so it looks like his ruin to pay high wages.

I know perfectly well that many assistants are badly paid. But that *may* be due to the assistant's own value. Regard the present situation, poor as it be. Do we find an employer continually " sacking " his senior assistants in order to save on salaries? When we do that *will* be the " disappearance " of the practising architect. However, all may be well as the A.A.S.T.A.'s scale is " not rigid." Oh, magic phrase !

ASTRAGAL

Fascist Architecture

SIR,—Mr. Burford's letter in your last issue does clear up a point that was previously open to grave doubts—there is at least one architect who is a member of the British Union of Fascists. For the rest, however, his subject-matter shows no disposition to meet any further issues, in which he displays the characteristic intransigence of Fascism seeking office.

He expresses great anxiety that the accepted Fascist doctrine of complete control by the State should not be taken literally. But, then, the architectural profession is hardly so simple as to imagine even a Fascist Government instructing its citizens when to eat and drink. Unfortunately for the gentlemen among whom Mr. Burford finds himself, the majority of those citizens have also an objection to receiving explicit instructions in the matter of religion, novels, poetry, music, the toys with which their children play, and the buildings which they may (or may not) admire. This attitude may seem as illogical and unreasonable as it is annoying to the

Fascist mind, but it is an attitude that must nevertheless be accepted; for, as Mr. Burford just y observes, the State, even the Fascist State, cannot exist without the individuals who compose it.

Mr. Burford is, I believe, like Herr Erich Mendelsohn, whose work his resembles, a very capable architect; he is not, however, in the least an economist. Architecture, he says, needs finance, or in other words, buildings cost money; he then adds that Fascism, by securing economic prosperity, will provide the basis for architectural progress, though this by no means necessarily follows—or the Victorian era would have been one of great artistic achievement. The untenable argument, however, is that Fascism, of itself and in individual countries, can bring economic prosperity. It is possible, I take it, to uphold Fascism because one considers Jews the devil's own, or Socialism too good to be true, because one wants more aeroplanes, likes black shirts, or is in the habit of following the behest of Lord Rothermere. It is not, however, possible to associate any known form of Fascism with economic prosperity. Dr. Schacht, of the German Reichbank, would certainly not do so when he asks international creditors for a general moratorium; Chancellor Dollfuss is hardly imposing new and heavy taxation because his exchequer is in a healthy state; while over the Alps Signor Mussolini, the Grand Old Man of Fascismo, gratefully accepts considerable gold loans from France, his traditional *bête noire*—presumably, Mr. Burford will tell us, because he is not perilously near the verge of bankruptcy.

There is a growing political enlightenment among all constitutional parties in this country which seems to be reflected in the slow birth of an enlightened architecture. Mr. Burford, a missionary to the Arts for British Fascism, would have us exchange these unromantic ways for a resolute, forced march back to some form of classical tyranny, complete with disfranchised slave class (Jews, Communists, Socialists), and a tyranny, moreover, of the *rentier* class, led by a gentleman of truly protean political genius, who after playing renegade to a succession of parties, perches content, crowing loudly, on top of his own very small dunghill. A noble prospect, which, did it ever come about, would no doubt have an architectural setting precisely worthy of it.

JOHN BARTON
London

SIR,—Mr. Burford's assumption that I misunderstand Fascist aims is beside the point. In any case those aims, as he expresses them: "It seeks to create a balance, a harmony, between the two" (State and individual) can hardly be claimed as exclusive to the Fascists.

But my question was about Fascist policy in the matter of credit finance. Mr. Burford realizes the importance of the question when he says, "Architecture more than any other art needs finance for its realization." Quite so; hence my question, which Mr. Burford does not answer. May I put it in a different form: does Fascism propose to make any alteration to the powers over credit creation and destruction which are now the monopoly of the banking system?

ARTHUR WELFORD
London

The Austrian Exhibition

SIR,—On the occasion of the Exhibition of Austrian Art in London you published a letter signed by Professor Frank which treated the foundation of the Neue Werkbund Oesterreichs. In this letter statements were made which are untrue and contradictory to the real facts.

We are pleased to enclose an appeal which preceded the foundation of the Neue Werkbund Oesterreichs. From the contents of this appeal you will see that there was not the least thought of leaving the aims of the Werkbund. The names of the artists who, together with workmen and industries, have signed this appeal are proof enough that there can be no talk about a reaction as stated by Professor Frank. We have published a response in the journal of the Neue Werkbund Oesterreichs (the *Profil*), which reads as follows:—

Professor Frank found it necessary to point out his views concerning the Austrian Exhibition in London in *The Architectur Journal*. It seems that he does not know the meaning of the English proverb, "Right or wrong, my country." Perhaps the idea of one's own country is something altogether unknown to him, otherwise he would hardly have published this libel in the English paper. In his well-known exemption he disputes with the *Neue Werkbund Oesterreichs* as if he was responsible for the artistic management of the exhibition, and calls this an organization, which has definitively abjured the modern movement. If he writes that the members who seceded did so because they found they were no longer in sympathy with the policy of the *Oesterreichischer Werkbund*, he is making an error. The cause for the retirement from the old *Oesterreichische Werkbund* was to a great extent Mr. Frank himself, whose vanity and decomposing activity made a mutual work impossible. And if Professor Frank writes further, that the *Neue Werkbund Oesterreichs* consisted chiefly of artworkers and craftsmen who believe that propaganda will make it possible to reintroduce rich ornament and carved furniture, that individual manual workmanship can be substituted for industrial products and that pure form is only a transient fashion which has caused the decay of many once prosperous Austrian handicrafts, these are statements which are simply untrue.

If Professor Frank had taken the trouble to read the appeal which the *Neue Werkbund Oesterreichs* issued before his foundation he would have found that the *Neue Werkbund Oesterreichs* certainly does not exclude the industrial design and the contribution of the industry; on the contrary, that he welcomes especially the creative person, the solid handicraft and the valuable work of the producing industry as well as the friends who further his aims from cultural conviction. The attempt of Professor Frank to see in this new foundation a reactionary motive, must stay an attempt. His aims in this case are too clear to assume that he himself believes what he states in this article.

It is not necessary that Professor Frank troubles about modern culture; we really do not have the intention to put it under his care. For we think that culture itself would not be very pleased with this saviour. With this article he certainly did not help the Austrian workmanship and culture abroad.

G. M. GUTHERZ
(Secretary,
Neue Werkbund Oesterreichs)
Vienna

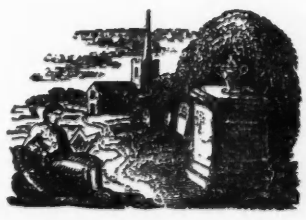
Lifts In Working Class Flats

SIR,—We have read with considerable interest Mr. J. I. Bernard's article on the electrical equipment of working-class dwellings in the E.D.A. supplement of your issue for May 17. We were, however, disappointed to find no mention of lifts. It is true that in the past lifts have been looked upon as an unnecessary and expensive luxury so far as working class dwellings are concerned, but improved methods of production have materially decreased the cost of lifts in recent years and this, combined with the increasing height of dwellings, has led some of the more up-to-date boroughs to instal lifts of special design in their slum clearance schemes.

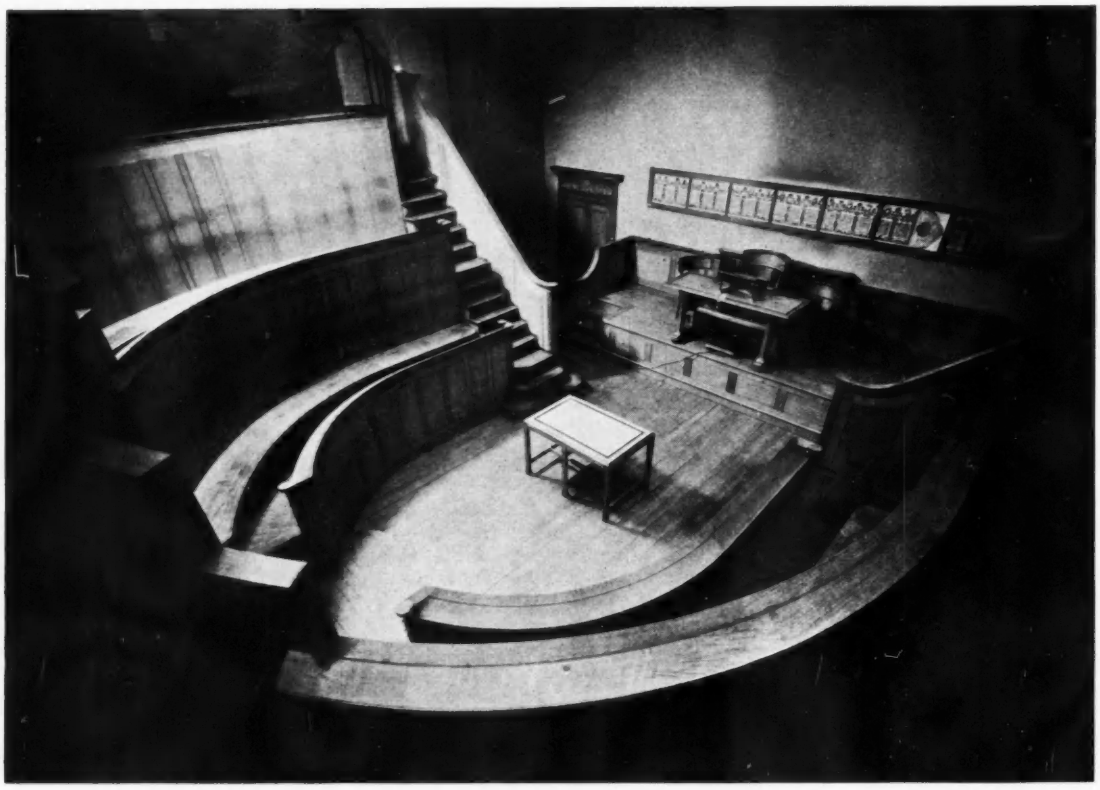
The fact that the Electrical Services Panel of the Council for Research on Housing Construction has been actively engaged on the problem of lifts, shows that the final link in the chain of comfortable transport of the tired worker from his work to his home is receiving serious attention.

We believe that in the near future, even the lowest rental dwellings, exceeding three storeys in height, will be equipped with specially designed lifts, built in the light of the experience we have already gained of this somewhat specialized branch of lift construction.

MARRYAT AND SCOTT, LTD.
London



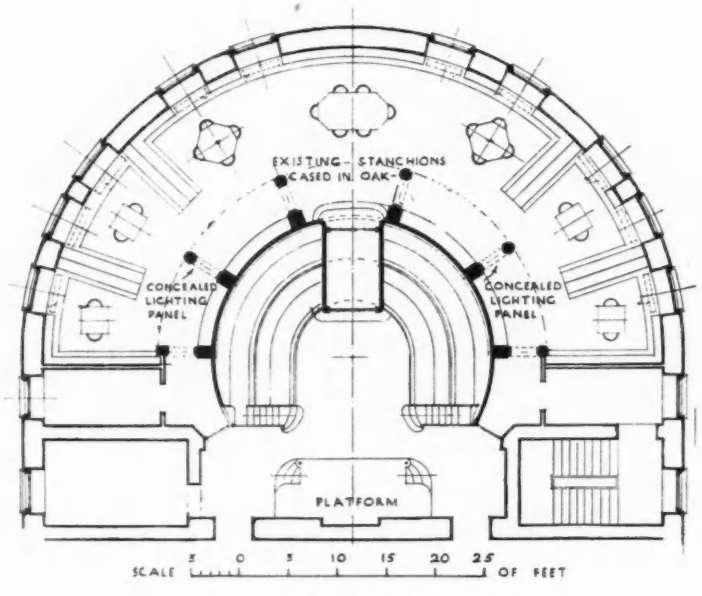
THEATRE AND LIBRARY, UNIVERSITY



J. SOMERSET MURRAY

The Gustave Tuck Theatre, in University College, London, occupies the position of the old theatre designed by William Wilkins in 1827. The problem was to alter the existing seating to convert the theatre into a library, museum and lecture theatre.

The seating for the lecture theatre, as is shown in the photograph above, rises steeply, and the museum runs in a semi-circle behind it. The library, also semi-circular in plan, is below the museum. The whole of the new work is in oak.



GROUND FLOOR PLAN

COLLEGE: BY RICHARDSON AND GILL

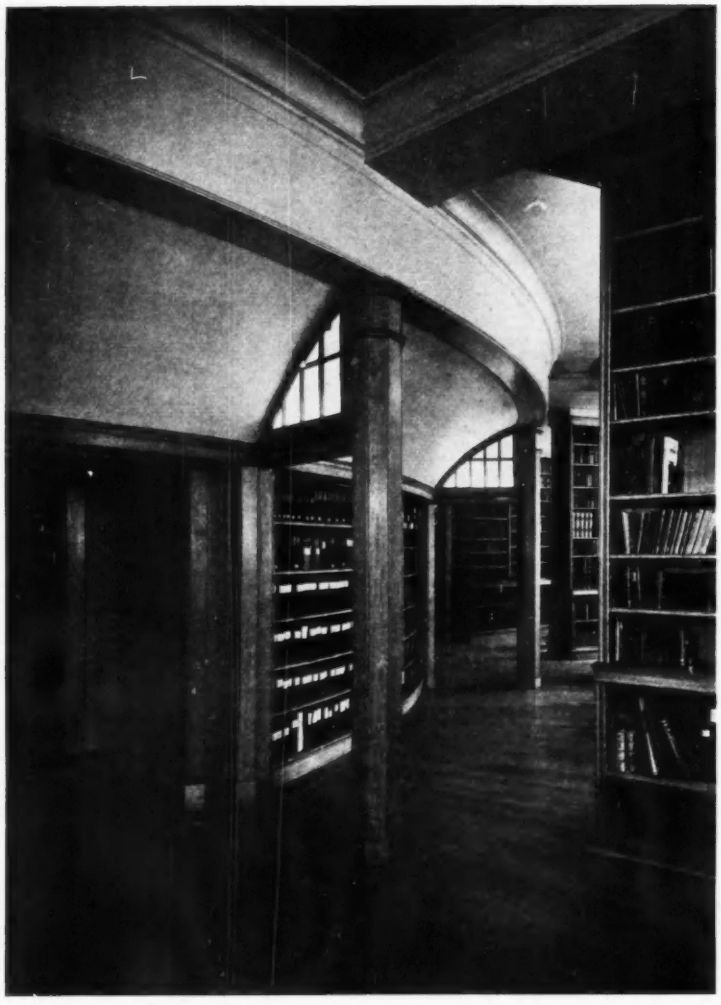
A photograph on the lower level, looking into the semi-circular library (left) and the lecture theatre.

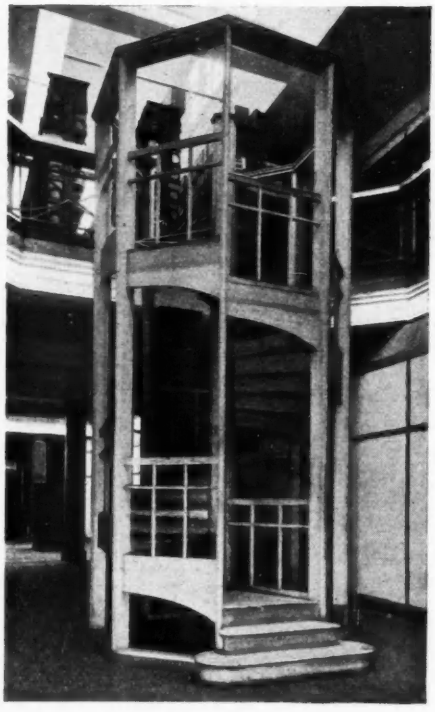
J. SOMERSET MURRAY

The entrance to the lecture theatre below the gallery, showing some of the museum showcases above.

C

THEATRE AND LIBRARY, UNIVERSITY COLLEGE





Above: a free-standing oak staircase in the science library in the same building.

Left: top, the interior of the library showing the oak-cased stanchions which support the upper tiers of lecture theatre seats; bottom, the central feature in the back wall of the library.

J. SOMERSET MURRAY

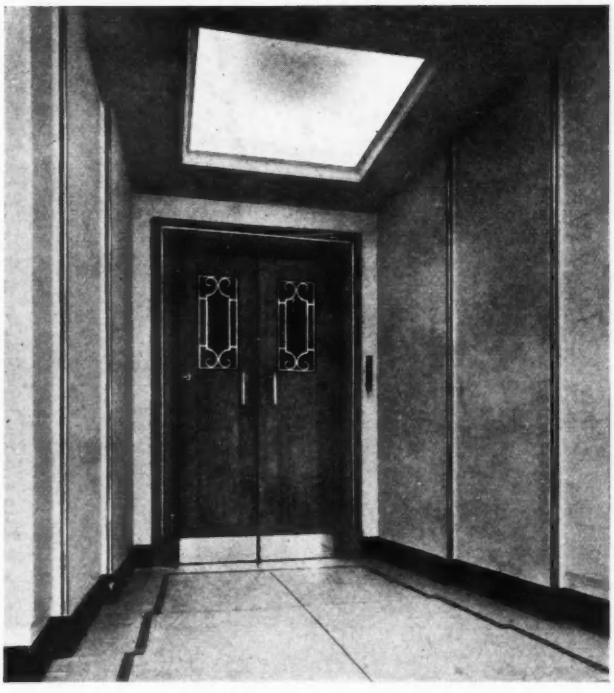
DESIGNED

BY

RICHARDSON

AND GILL

ENTRANCE TO A BLOCK OF FLATS



DESIGNED BY DEANE AND BRADDELL

The entrance doors and canopy illustrated above (designed by Deane and Braddell) are for a block of flats in Seymour Street, W., designed by North, Robins and Wilsdon. The architrave and wing walls are in polished Travertine, the steps being in the same material unpolished. The grille is in cindal metal (an alloy of aluminium), and the doors and canopy in grey-green cellulosed bronze.

On the left is the ground floor lift lobby, with doors and architraves in oak and grilles and kicking plates in cindal metal. The wall arrises are also protected by vertical strips of cindal metal.

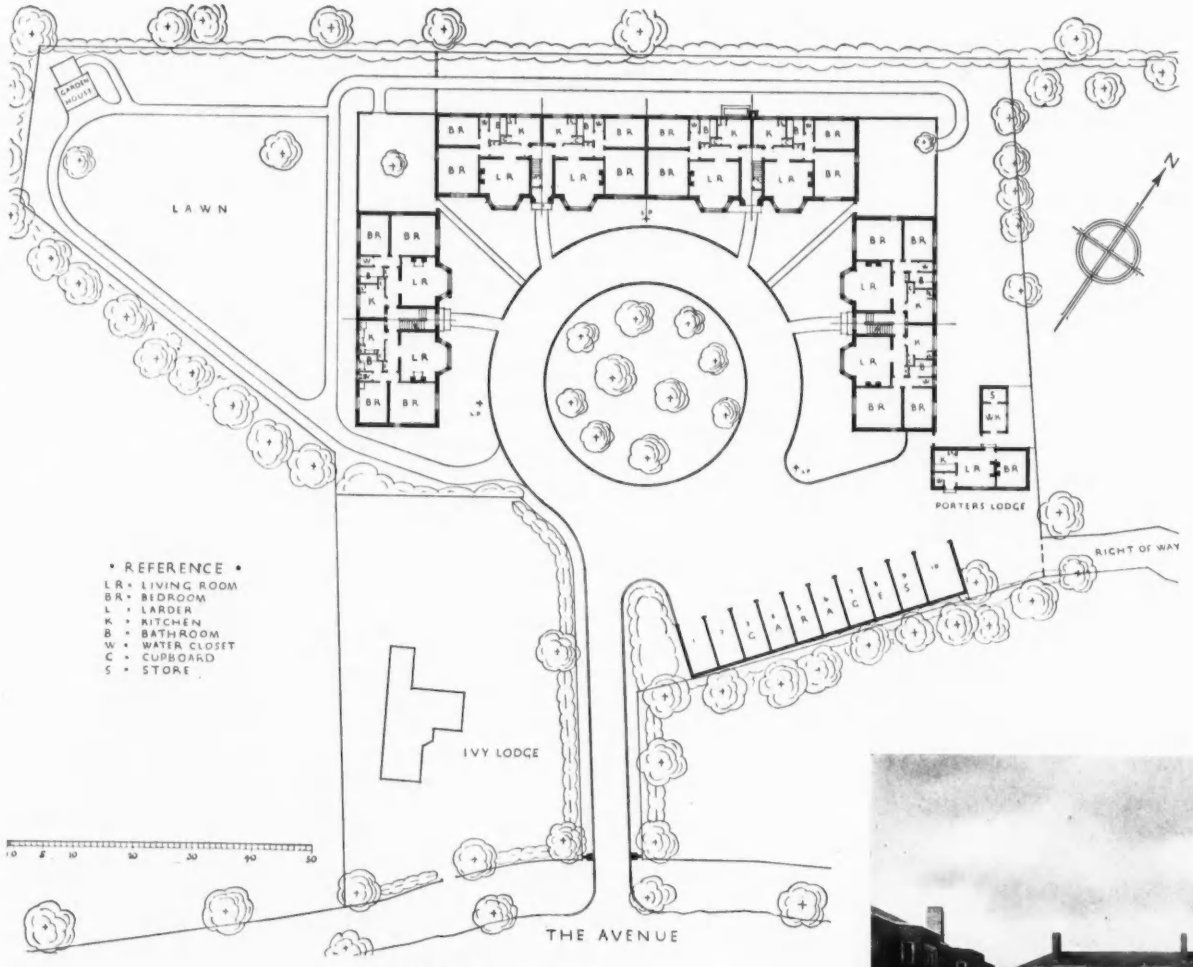
FLATS AT WORCESTER PARK

PHOTOGENERAL

A view inside the garden court, showing the south-east range of flats.

garden court, showing the south-east range of flats.

PHOTOGENERAL



LAY-OUT PLAN

This scheme comprises a group of twenty-four self-contained flats arranged on three sides of a garden court. The elevations are faced with soft-tinted brown bricks and are designed to present a quiet and dignified front to the courtyard; a number of elms and many fruit trees have been retained on the site.

The windows generally are steel casements set in broad wood frames and painted cream. The entrance doorways and staircase windows are dressed with stone. The roofs are covered with brown sand-faced plain tiles.

Internally the joinery throughout is oak, with flush doors with bronze and chromium fittings. There are oak parquet floors in living rooms and halls, linoleum floors in kitchens, and cork in bathrooms. The kitchens are planned with electric cooking and fires, electric refrigerators, and constant hot water.

On this page are the lay-out plan and a general view from the approach drive.

PHOTOGENERAL

DESIGNED BY

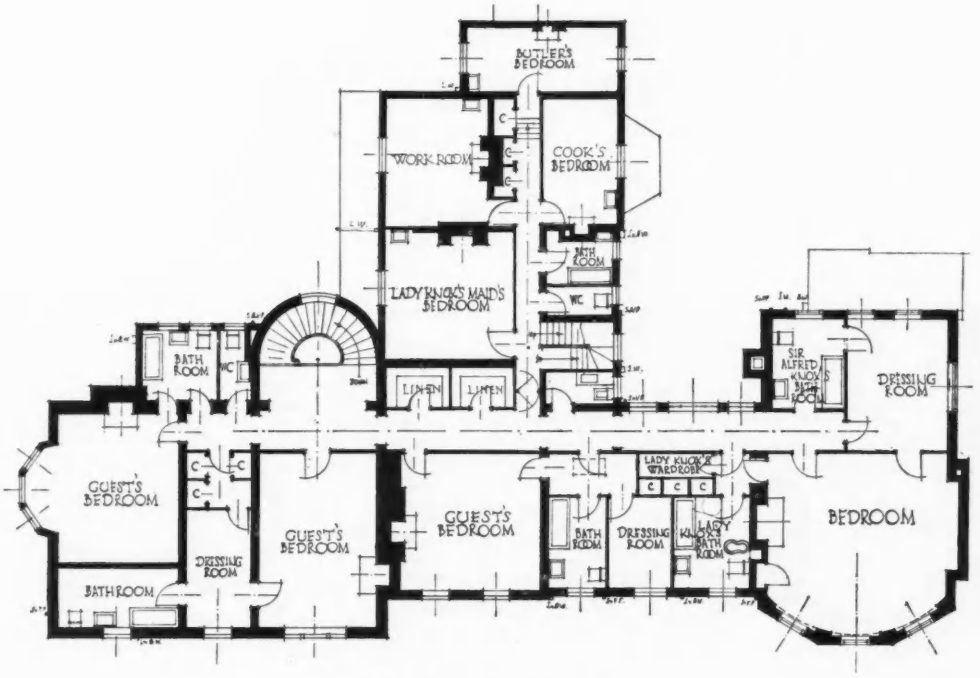
J. M. SHEPPARD AND SON

ALTERATIONS TO A HOUSE IN BERKSHIRE:

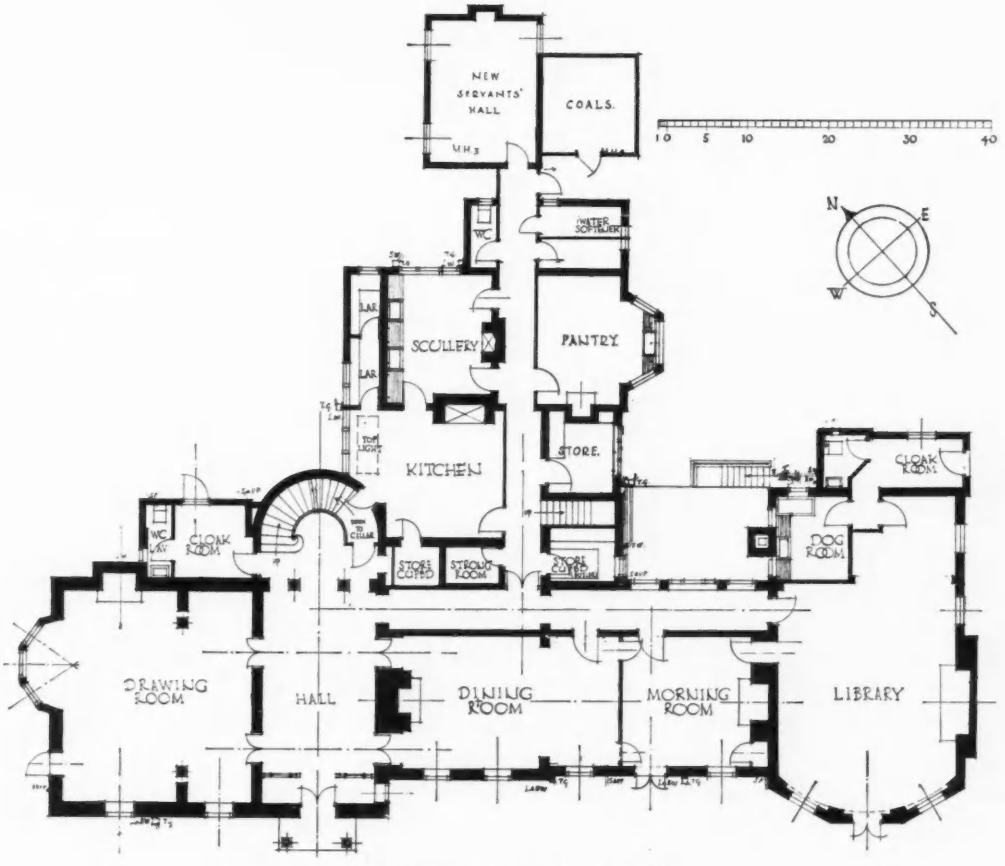
The main block of the original house was probably built in the early part of the nineteenth century, though it had been added to at various times. The first floor windows had a somewhat unusual ogee shape, which has been preserved in the new work. The casement windows have been replaced by sash windows with interlaced bars. There was a glass conservatory on the house before alteration, and a large billiard-room. In the new plans (given on the facing page) the original dining-room has now become the hall with a new circular staircase at the end of it; the drawing-room now occupies the space previously occupied by the dining-room and hall, and in place of the glass conservatory and the billiard-room a morning-room and library have been constructed. The first floor plan has been entirely remodelled, providing seven bedrooms and dressing-rooms and five new bathrooms. The servants' wing at the back, both on the ground and upper floors, has also been re-planned, providing the necessary accommodation and offices for seven or eight servants. A completely new heating and ventilating system has been installed; an automatic thermostatic control being placed in the ground floor corridor.

Above: the house after reconstruction; below: the original house. A photograph and working details of the new entrance doorway are given on pages 803 and 804.

BY WELCH, CACHEMAILLE-DAY AND LANDER



FIRST FLOOR PLAN



GROUND FLOOR PLAN

SOCIETIES AND INSTITUTIONS

INSTITUTION OF STRUCTURAL ENGINEERS

A LUNCHEON to commemorate the granting of a Royal Charter of Incorporation to the Institution of Structural Engineers was held at the May Fair Hotel, London, on May 24. Major A. H. S. Waters, V.C. (President), occupied the chair.

Mr. Ernest Brown, M.C., M.P. (Secretary for Mines), proposed the toast of "the Institution," and Major Waters responded. At the conclusion of his speech, Mr. Brown handed the Charter to the President.

The toast of "Our Guests," was proposed by Mr. Ewart S. Andrews, B.Sc., (President-Elect) and responded to by Messrs. E. G. Culpin, F.R.I.B.A. (Vice-chairman, L.C.C.) and H. Berry, A.M.I.MECH.E. (Chairman of the L.C.C. Building Acts Committee).

Mr. Culpin referred to the Building Acts. He said that at the earliest it would be 1937 before the recommendations of the Committee which had been sitting for three years could be put into legislative form. By that time some of the regulations might become obsolete. If we were to take advantage of new methods resulting from research and incorporate them in buildings of the future, there must be some way found of getting those alterations into practice in a quicker way. Would it not be possible to find a way by which some parts of the Building Acts might be replaced by bye-laws of the L.C.C. and put into force by the Council after due notification had been made to all concerned? Steel construction, reinforced concrete walls, etc., might be dealt with by means of such bye-laws, instead of an Act of Parliament having to be obtained to get them into force.

THE FUTURE OF UNIVERSITY CITIES

Speaking at a meeting of the Garden Cities and Town Planning Association, held in Oxford on May 20, on the future development of University Cities, Mr. B. S. Townroe said that industrial growth was raising serious difficulties in cities like Oxford and Cambridge. A University town ought not to be too divorced from industrial activities, but when, as at Oxford, a huge new industry was established, many complications ensued. At Cambridge, too, it had been suggested that at least three-quarters of the town might be blown up with advantage. On the other hand, the City of Bristol owed much to the University centre, which had been established by the munificence of commercial magnates, and at Liverpool similar improvements were in course of progress round the University buildings.

Owing to the changing conditions, Mr. Townroe said that town planning was heartily to be welcomed. A plan for the whole city of Oxford was being drawn up. The Regional Plan prepared by Mr. W. R. Davidge for Cambridge and district would shortly be published. Town planners had prepared plans for Bristol, Liverpool, Manchester, Sheffield, Leeds and Newcastle—all cities with universities. In Scotland town planning was hanging fire and no planning schemes at all had been approved by the Department since the Town and Country Planning Act was passed in 1932.

Finally, Mr. Townroe suggested that the Universities might well lead the way in town planning education. Several English universities were revising their syllabuses in order to bring them up to the standard of the Joint Planning Examination Board. The Universities which had already done this, partly in order to obtain exemption from the Board's examination through their own diploma, were London, Liverpool and Durham. In addition, the City of Leeds College of Art and the Architectural Association were taking steps to the same end; and Manchester and Edinburgh Universities had the matter under consideration.

The bronze medal offered by the Nottingham, Derby, and Lincoln Architectural Society for the best building erected within the district during the three years ended December 31 last, has been awarded to Mr. T. Cecil Howitt, F.R.I.B.A., of Nottingham, for his design of the Raleigh Cycle Co.'s new offices in Lenton Boulevard, illustrated above.

SOUTH WALES INSTITUTE OF ARCHITECTS

A particularly successful visit to the Swansea Civic Buildings now in course of erection was arranged by the South Wales Institute of Architects (Central Branch) and the Welsh School of Architecture on May 9. Members were conducted around the various parts of the City Hall, Law Courts and Administrative Offices by Mr. Percy Thomas, F.R.I.B.A., of the firm of Ivor Jones and Percy Thomas, the architects for the buildings.

At the end of the visit a vote of thanks to the architects was proposed by Lieut.-Col. E. H. Fawckner, T.D., F.R.I.B.A. (President of the South Wales Institute of Architects), and seconded by Mr. W. S. Purchon, M.A., A.R.I.B.A.

Members of the party also visited the Sully Tuberculosis Hospital. Mr. H. M. Fairweather, F.R.I.B.A., representing the architects, Messrs. W. A. Pite, Son and Fairweather, gave a description of the lay-out of the hospital, and the thanks of the visitors were expressed by Mr. W. S. Purchon, Mr. Ivor Jones, F.R.I.B.A., and Mr. T. Alwyn Lloyd, F.R.I.B.A.

TOWN PLANNING INSTITUTE: SCOTTISH BRANCH

At the week-end Conference in Aberdeen of the Scottish Branch of the Town Planning Institute, on May 11 and 12, the annual general meeting of the Scottish Branch of the Town Planning Institute was held, when the following were appointed officers:—Honorary chairman: Sir W. E. Whyte, O.B.E.; honorary vice-chairmen: The Marchioness of Aberdeen and Temair, Lord Provost Alexander; chairman, Mr. F. A. B. Preston, F.R.S.E.; vice-chairmen: Messrs. G. B. Deas, L.R.I.B.A., and T. F. Henderson, M.INST.C.E.; honorary treasurer: Mr. F. C. Mears, F.R.I.B.A.; honorary secretary: Mr. James Macaulay, F.S.I. The Executive Committee: Messrs. G. Calbert, G. Cruickshank, R. S. Hay, J. D. MacIntyre, Dr. W. H. McLean, P. C. Smith, A. Cullen.

ESSEX, CAMBRIDGE AND HERTS. SOCIETY OF ARCHITECTS

The annual dinner of the Essex, Cambridge and Hertfordshire Society of Architects is to be held at the Town Hall, St. Albans, on Saturday, June 16 (6.30 p.m. for 7 p.m.).

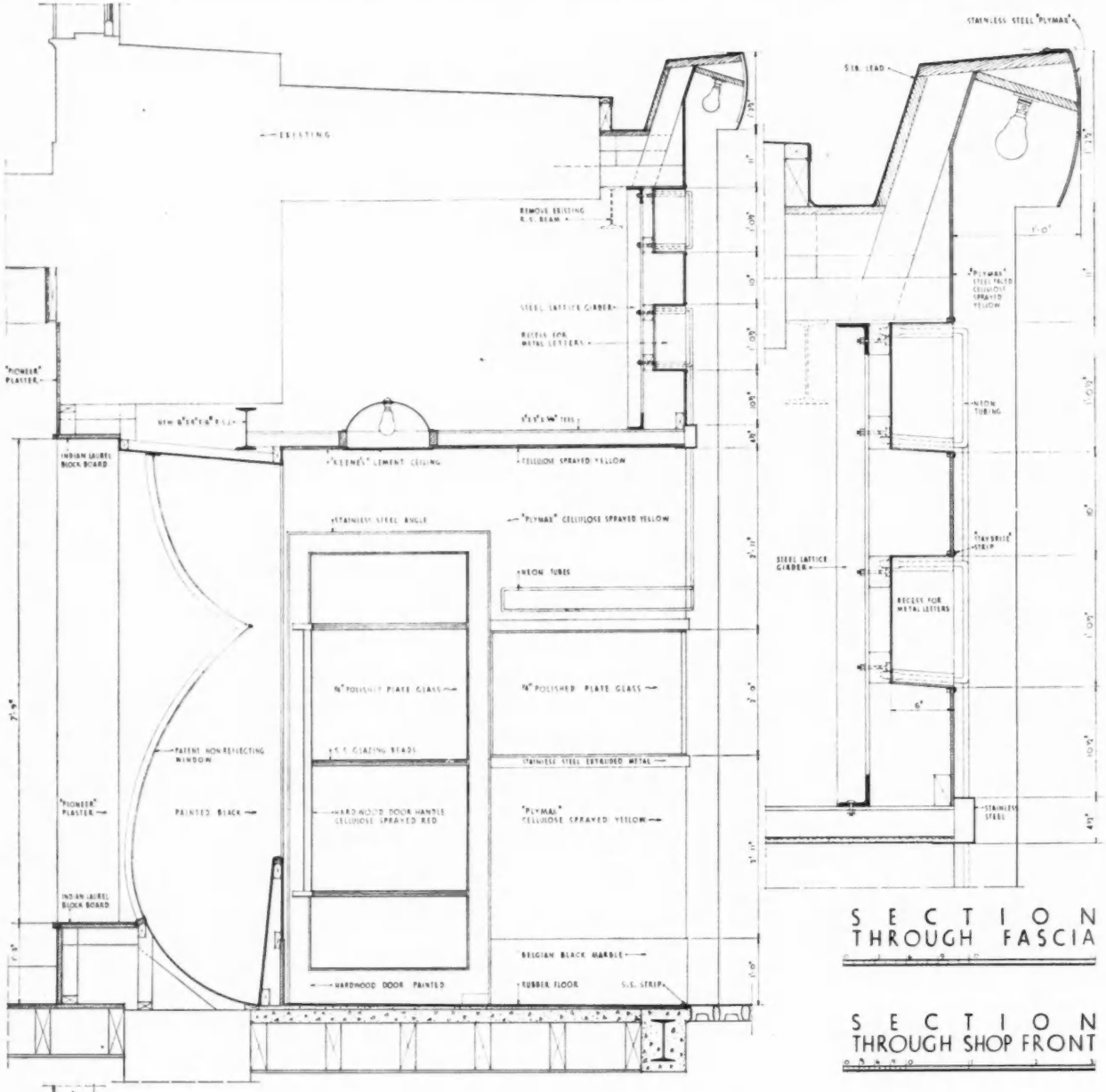
WORKING DETAILS : 57

SHOP-FRONT • SHOWROOMS IN VICTORIA STREET, S.W.1 • ADAMS, THOMPSON AND FRY

Drawings of this shop-front and entrance to electricity showrooms are given overleaf. The shop-front, which has a recessed non-reflecting window, is in metal-faced plywood painted yellow and grey with stainless steel framing members and black marble skirting.

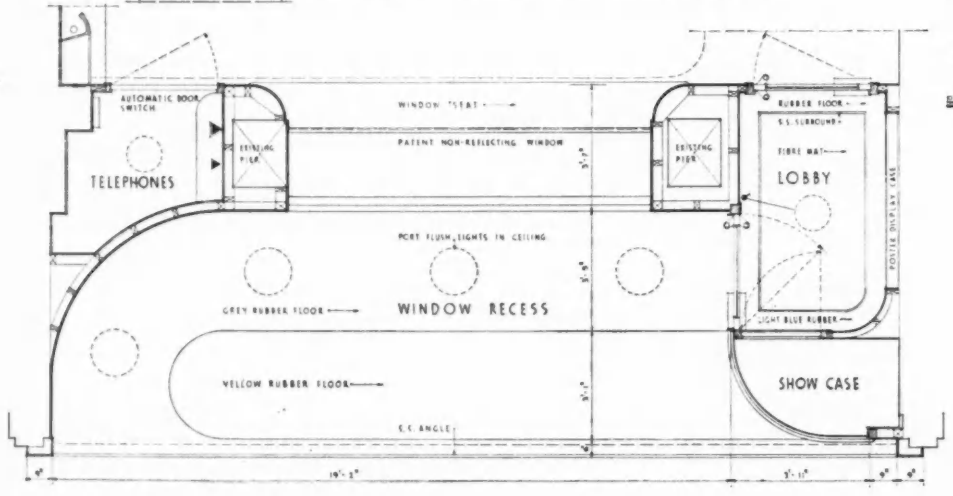
WORKING DETAILS : 58

SHOP-FRONT • SHOWROOMS IN VICTORIA STREET, S.W.1. • ADAMS, THOMPSON AND FRY



SECTION THROUGH FASCIA

SECTION THROUGH SHOP FRONT



PLAN OF SHOP FRONT

Plans and sections of the shop-front and entrance lobby to electricity showrooms.

FILING REFERENCE:

WORKING DETAILS : 59

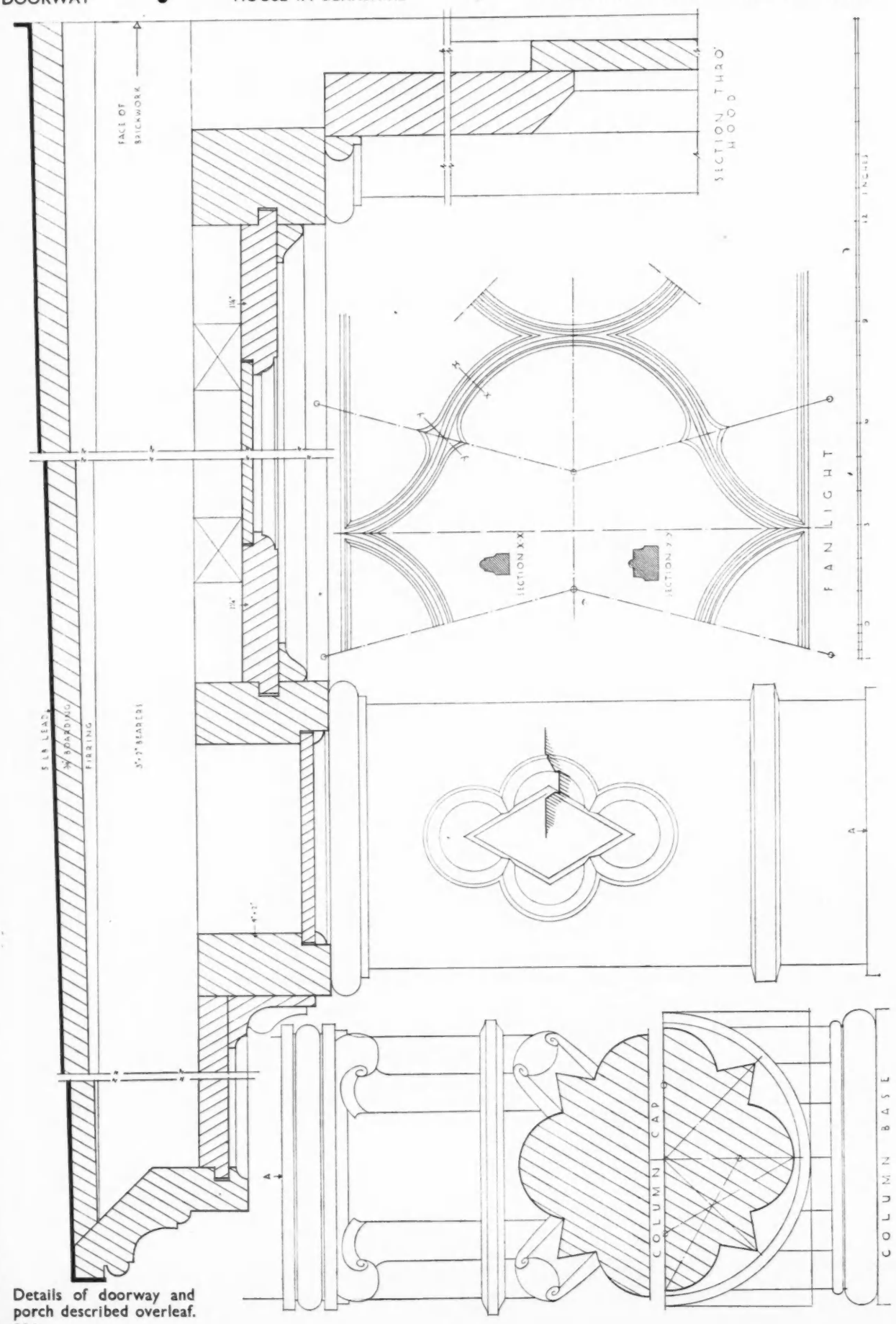
DOORWAY • HOUSE IN BERKSHIRE • WELCH, CACHEMAILLE-DAY AND LANDER

A new doorway and porch to an existing nineteenth-century house in Berkshire. It is constructed in wood with a lead-covered flat roof. Details are given overleaf.

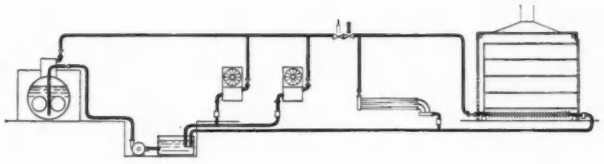
FILING REFERENCE:

WORKING DETAILS : 60

DOORWAY • HOUSE IN BERKSHIRE • WELCH, CACHEMAILLE-DAY AND LANDER



Details of doorway and porch described overleaf.



TRADE NOTES

[BY F. R. S. YORKE, A.R.I.B.A.]

Paint

CEMENTONE No. 7 is the name given to a new range of decorative finishes—having a synthetic resin base—that can be applied to almost any surface, internal or external, on new cement or plaster, clay or shale brick, asbestos-cement, wood or metal. The finish consists of pigmented primer, undercoat and flat or gloss finish, suitable for application by brush or spray. It is said to resist acid, alkali, heat and damp ; and that it has been found impossible to destroy the film by other means than burning off or treating with sulphuric acid.

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For cement or plaster surfaces, typical specification clauses are :

Flat finish.	*Gloss finish.*
1st coat primer	1st coat primer
2nd coat flat finish	2nd coat undercoat
	3rd coat gloss finish

Prices in 1 gallon free cans are :

Primer	21/- per gal.
Undercoat	17/6 ,,
Flat finish (interior or exterior)	17/6 ,,
Gloss finish (interior or exterior)	21/- ,,

Examples of cost are :

Flat finish on smooth plaster rendering, 2 coats, 9d. per sq. yd.

Gloss finish on brick, 3 coats, 1/4 per sq. yd.

Central Heating

Sulzer Bros. have just issued an unusually impressive and intelligently produced brochure dealing with central heating for districts, hospitals, public buildings, churches, factories, etc., by means of hot water, thermal electric storage, oil, gas, coal or coke fired boilers ; heating for industrial purposes by means of steam, or high temperature hot water ; ventilation for all classes of building, air-conditioning for industrial work, dry-cooling of coke, and heat storage plants.

High-temperature water district-heating system : branch from mains to a commercial building.

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Steam, it is said, is still used in the majority of industrial establishments, as a conveyor of heat for heating purposes, but for heating buildings—offices, hospitals, etc.—it has been superseded to a considerable extent by hot water. Recently certain problems in industrial heating have been solved by high temperature water circulation—as distinct from ordinary hot water circulation—in a more economical and scientific way than would have been possible with steam heating, by employing much higher temperatures than is usual in ordinary hot water heating. Opinions still differ as to the relative merits of steam and high temperature water, and it is often asserted that hot water is always the more economical.

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Sulzer Bros., having considerable experience, and having conducted research in both fields, should be in a position to give unbiased advice, and propose the best system for a particular case. In the brochure they set out impartially the advantages and disadvantages of each system. One of the most interesting sections in the book is that dealing with

District Heating

It is becoming more generally recognized that the centralized production of heat and its distribution to a number of installations offers great economical and hygienic advantages. The economy of municipal and industrial district heating is, in the main, due to the fact that it is possible to employ large boiler units of high efficiency, and in many cases to generate power as a by-product. From such combinations very favourable heat tariffs result for the consumer.

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The convenience of operation, constant service readiness, absence of troublesome coal and clinker transport, and the security against risk of fire, are important advantages. Valuable space in the buildings served, which would otherwise be sacrificed for boiler room and fuel-storage, becomes available for other purposes, and especially in densely populated districts, business centres, etc., this may be of considerable economic advantage. The number of chimneys is reduced and the soot and smoke nuisance abated.

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Either high temperature water or steam may be used for district heating. The high temperature water system has the advantage, from the point of view of lay-out, in that the distributing piping can be laid to suit convenience, regardless of undulating ground. No drainage devices or costly inspection pits are required. The daily venting of distributing steam mains, which are out of commission during the night, causes running expenses which are eliminated with high temperature water.

High-temperature water district-heating system : arrangement of pipe trenches in pavements.

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Although it is occasionally possible to design a district steam heating plant as a closed circuit, i.e , without condensate tank and pump on the consumers' premises, the open system must be employed as a rule. This may involve a large number of pumps and steam traps, which, owing to leakage, may pass steam into atmosphere and thus constitute a possible source of heat loss and the expense of constant attention, from which high temperature water is entirely free.

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The great range of temperature regulation in high temperature water heating is of particular importance during early spring and late autumn, since the system can be

worked at temperatures below 212 deg. F., which is impossible in the case of a steam heating plant.

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When designing a combined heating and power plant a number of problems must be analysed, for instance, the most favourable ratio between power production and heat demand ; choice of pressures for boiler and turbine—which in turn govern the design of the steam or high temperature water distributing systems—also investigations must be made as to the number of consumers to be connected to one and the same source of heat supply. Specialized knowledge and experience, not only in steam and high temperature water heating, but also in power engineering is necessary for the solution of all these problems.

The Characteristics of Steam Heating

The steam produced in a boiler flows to the heating apparatus by virtue of a pressure drop, which has to overcome the frictional resistance of the system. This pressure drop is obtained cheaply, as the heat content of the steam rises only slightly with a small increase of pressure.

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One of the chief advantages of steam as a heat conveyor is that it condenses at a constant temperature, and as much as 75 to 85 per cent. of its total heat content is thereby utilized in the heating apparatus. This property of steam is of particular advantage where an even temperature over a large heating surface is to be maintained, as in the case of drying drums, hot plates, etc. With hot water, provision must be made for a certain temperature difference between water inlet and water outlet.

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As, however, variations in boiler pressure are quickly transmitted to the heating apparatus, and the steam entering these, according to load or throttling, becomes either wet or superheated, the above-mentioned advantage may be partly nullified and factors introduced, which are not always as easily dealt with as would be desired. In addition, the condensate forming in the heating apparatus may curtail the effective surface, which, particularly during warming-up periods and in conjunction with variations in pressure, is liable to influence the heating effect adversely.

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In order to obtain good efficiency with steam heating it is most important to drain effectively the condensate from the system. 15 to 25 per cent. of the heat content remains in the condensate, and is lost if the condensate is run to waste. In addition, direct steam losses may occur through defective steam taps, etc.

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There are many ways of recovering the heat contained in the condensate. In the first place there is the method of returning the condensate from the heating apparatus to the boiler in a closed circuit, the condensate being returned directly to the boiler by means of a feed pump without coming into contact with the atmosphere. When there is uniform pressure in the whole system this method is quite successful.

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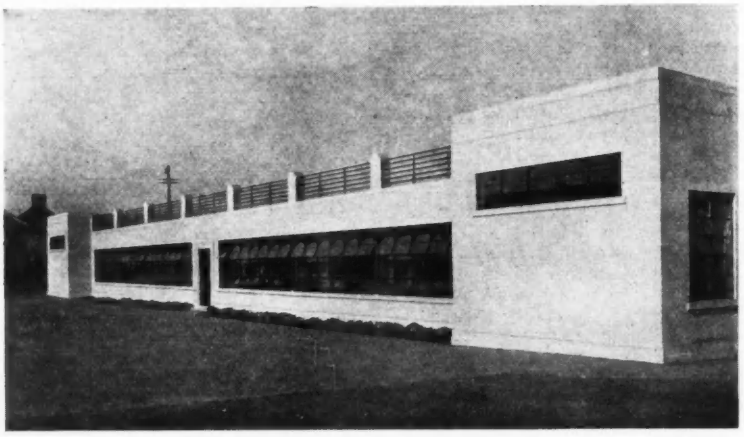
In cases where considerable differences in pressure are required in the various sections, the closed circuit system is unsuitable, as the return of the condensate from the apparatus with the lowest steam pressure is impeded by the back pressure in the common condensate return main. In many cases it becomes necessary to collect the condensate in an open tank ; thus the condensate side of all the heating apparatus is under atmospheric pressure only. The circuit, in this case, becomes an open one and re-evaporation of condensate, which has formed under a pressure higher than atmospheric or through defective steam traps, may cause considerable heat losses. This defect of a system widely employed can be practically eliminated where it is possible to utilize the heat of the condensate in a second lower heat stage, such as, for instance, calorifiers, air heaters or heat exchangers for room heating. The diagram at the head of these notes shows a steam heating system with open condensate tank.

SCHOOL AT LEICESTER

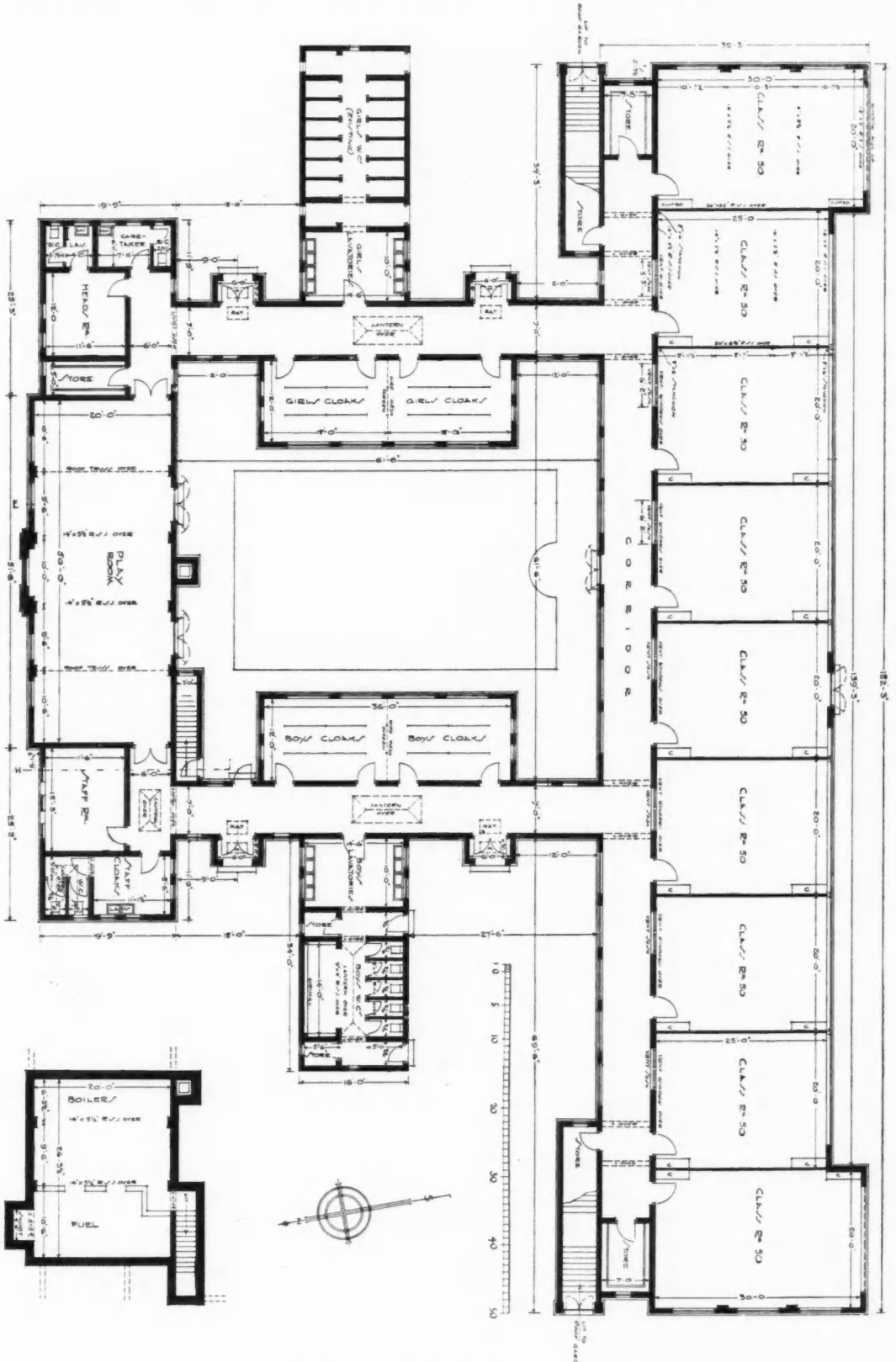


This school provides accommodation for 450 infants in nine classrooms, all of which face south. The whole of the south wall is of glass above dado level, in order to admit all the sunshine possible. The walls opposite to this contain ventilating windows high up, with disappearing sashes in the lower portions of the walls, so that the school can be converted into practically an open-air school at will. Steps at the end of each classroom block lead up to a roof playground over the classrooms, where open-air classes can be held when conditions are favourable.

The floors of the classrooms are laid in jarrah wood blocks, while those of the corridors and cloakrooms are of granolithic cement on concrete. The elevations are finished in white cement. The two photographs show the corridor entrance in the courtyard, and the south or classroom elevation.

DESIGNED BY E. G. FOWLER

SCHOOL AT LEICESTER: BY E. G. FOWLER



GROUND FLOOR PLAN

LAW REPORT

HOUSING ACT, 1930.—POINT OF CONSTRUCTION

West Ham Corporation v. *C. Benabo and Sons, Ltd.—King's Bench Division. Before Mr. Justice Atkinson.*

THIS was an action by the West Ham Corporation against C. Benabo and Sons, Ltd., of Mile End Road, to recover the sum of £165 odd, being the amount expended on repairs by them under the Housing Act, 1930, section 17, to certain property in Wade Road and Grange Road, E.

His lordship said the Corporation came to the conclusion that the property was not fit for habitation and they served upon the defendants notices requiring certain repairs to be executed. Defendants carried out what they considered were sufficient repairs. The Corporation, however, served notice that they intended to carry out additional repairs, and in due course did those repairs. The Corporation then demanded the payment of two sums, but no details were given as to the nature of the work executed. Defendants, however, did not pay, their contention being that the demands did not comply with the requirements of the Housing Acts, inasmuch as the details of expenditure were not set out for each house, and further that the Town Clerk, or his deputy, had not signed the demand notes. The Corporation challenged the contentions of the defendants and now asked for judgment for the amount claimed.

In his lordship's opinion it was clear that the law provided for dwelling houses to be dealt with separately as to work done and further that the demands for payment must be made by the Town Clerk or his deputy. That being the conclusion at which he arrived he could only find that there had been no demand creating a liability to pay.

The next question raised was one of considerable difficulty, viz., that these were all matters which could have been raised in the County Court by way of appeal. After carefully weighing all the arguments advanced he was of opinion that if the document called the demand was one which did not in these two essentials comply with the statute, and did not create liability to pay such expenses, it could not subsequently create such legal liability by a failure to approach the County Court by way of appeal. How failure to appeal could turn a bad notice into a good one was past his understanding.

That being so there must be judgment for the defendants with costs.

His lordship added that should the Corporation desire to go on with the matter they must serve proper demands in respect of each house and go forward in the County Court.

OBITUARY

THE LATE CASS GILBERT

We regret the death, which took place suddenly on May 17 at Brockenhurst, in the New Forest, of Mr. Cass Gilbert, the American architect. He was responsible for the Woolworth Building in New York; and also a number of other buildings, including the Custom House, New York; the Art Museum and Public Library, St. Louis; the New York Life Insurance building; the City Hall, Waterbury, Connecticut; and the new Supreme Court of the United States.

Mr. Gilbert, who was seventy-five years of age, received numerous honours. In 1906 he was elected an honorary corresponding member of the R.I.B.A., and in 1930 the Royal Academy also elected him an honorary corresponding member. In his own country he had been president of the National Academy of Design, of the American Institute of Architects, and of the Architectural League of New York, and had been similarly honoured by other associations of art and letters. He also held many honorary degrees, and was a Knight of the Legion of Honour.

Flats in Lower Kennington Lane, Duchy of Cornwall Estate. By Louis de Soissons.
From THE ROYAL ACADEMY EXHIBITION (No. 1350).

An Architect's Will

Mr. Joshua James Follett, F.R.I.B.A., of Sutton, Surrey, left £17,259 (net personalty £16,327).

THE BUILDINGS ILLUSTRATED

Sub-Contractors' List

Following are the names of the general contractors and some of the sub-contractors for the buildings illustrated in this issue :—

Gustave Tuck Theatre (pages 792-794). General contractors, Dove Bros. P. G. Bentham, A.R.B.S., carving. Sub-contractors: Thomas Elsley, Ltd., special locks and fittings; William Edgar and Sons, heating; Bagues, lamps; Cohen and Sons, furniture; Pollard & Co., showcases.

House in Berks. (pages 798–799). General contractors, E. S. Peranza. Sub-contractors: G. N. Haden & Co., heating; Girdlestone & Co., lighting.

Orchard Court, Worcester Park (pages 795-797). General contractors, Commercial Structures, Ltd. Sub-contractors: Hollis Bros. & Co., Ltd., oak block flooring; James Walker, Ltd., fibrous plaster cornices; B. Holden & Co., Ltd., cork carpet and ruboleum; J. Bartlett & Co., spray painting, etc.; Hitchins Flush Woodwork, Ltd., flush doors; Patent Impervious Stone Co., stone dressings; H. W. Dutton & Co., Ltd., hot water; Twisteel, Ltd., foundation reinforcement; Loft Ladders, Ltd., disappearing loft ladders; George Wright, Ltd., wrought iron work; D. Burkle and Sons, hardwood fireplace surrounds; Lawford Asphalte Co., asphalte generally; O'Brien, Thomas & Co., rainwater heads; Crittall Manufacturing Co., windows; Johnson and Tanner, electrical installations; Summers & Co., wall tiling; Pontifex & Sons, Ltd., Sanitary fittings; India Rubber Gutta Percha and Telegraph Works, Co., rubber paving to staircases; Burn Bros., inspection chambers; Gliksten Doors, Ltd., doors; Bryce White & Co., doors; E. Hill Aldam & Co., Ltd, sliding door tracks to garages; Modern Plastering, Ltd., staircase plaster; A. E. Davis, ironmongery; Parker, Winder and Achurch, Ltd., ironmongery.

Infants' School, Leicester (pages 806-807). General contractors, C. H. Otley and A. Clegg. Sub-contractors, S. Russell and Sons, steelwork; Young, Austen and Young, heating and hot water supply; W. G. M. Robinson, electric lighting; William Freer, Ltd., plumbing; G. Knight, plastering; Fergusson and Son, tiling; Hollis Bros. & Co., Ltd., woodblock flooring; Constone, Ltd., reconstructed stone dressings, staircases and carving; Leicester Asphalte Co., tar paving; Rowe Bros. & Co., Ltd., steel windows; W. Richards and Son, fencing and gates; J. A. Tyler and Sons, painting. Cement Marketing Co., Ltd., "Snowcrete" Cement.

A.A.S.T.A.

At the annual meeting of the above Association held on May 12 the following officers and Council were elected for the Session 1934-35 :—

President: R. Wynn Owen, F.R.I.B.A. Vice-presidents: Messrs. E. S. Brown, F. J. Maynard, A.R.I.B.A., Ivor D. Newton, and P. Whitehead, A.R.I.B.A. Council: Messrs. R. Braybrook, A. N. Cathcart, R. E. Cooper, G. A. Ensor, R. G. Forbes, A.R.I.B.A., F. P. Harrison, A. Hassell, L.R.I.B.A., P. S. Hudson, A.R.I.B.A., L. A. F. Ireland, L.R.I.B.A., G. G. J. Lacy, L.R.I.B.A., C. L. Langshaw, C. G. Manly, V. L. Nash, A.R.I.B.A., C. B. Pope, P.A.S.I., C. H. Rattenberry, L. H. B. Roberts, A.R.I.B.A., Miss D. Rouse, J. H. C. Shatford, W. L. Vinycomb, A.R.I.B.A., A. H. Wood, and W. E. Woolley, L.R.I.B.A. Hon. Editor, *The Keystone*: Mr. E. Stanley Brown.

Metropolitan Water Board

Mr. H. Austen Hall, F.R.I.B.A., has been appointed architect for the additions to the head offices of the Metropolitan Water Board. The work is estimated to cost £38,000.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILE RADIUS)

BERMONDSEY. *Flats.* The B.C. has approved plans for the erection of 113 flats on the Mellicks Place area, at a cost of £57,929.

LEWISHAM. *Houses and Flats.* Plans passed by the B.C.: Two houses, Burnt Ash Hill, for Mr. C. G. Eaglen; two houses, Longton Avenue, for Mr. H. J. Higgins; two houses, Upwood Road, for Messrs. Thos. Allen (Lee), Ltd.; six houses, Sydenham Park Road, for Messrs. Brett and Son; six houses, Bellingham Road, for Mr. G. T. Harman; 10 houses, Sunderland Road, for Messrs. Thos. Sawyer and Son, Ltd.; 42 houses, Butterfield Street, for New Ideal Homesteads, Ltd.; blocks of flats, West Hill and Crystal Palace Road, for Messrs. Waring and Nicholson.

SOUTHERN COUNTIES

BEXHILL. *Houses.* Plans passed by the Corporation: Three houses, Walton Park, for Messrs. Tubbs and Messer; two houses, Wealdon Way and conversion, Beach Hotel, to flats, for Mr. J. E. Maynard; two houses, De La Warr Road, for Messrs. Jeffery and Wyatt; two houses, Turkey Road, for Mr. Lye; four houses, Peartree Lane, for Mr. B. Young; two houses, Oakleigh Road, for Mr. E. Bunce.

BOURNEMOUTH. *Houses.* Plans passed by the Corporation: Two houses, South Road, for Mr. A. Lambert; two houses, Namu Road, for Mr. G. H. Burt; 24 flats, Manor Road, for Bournemouth Property Investment Co.; two bungalows, Caroline Road, for Mr. F. F. Hawkins; two flats, Milburn Road, for Mr. H. L. Brown; four houses, Endfield Road, for Mr. G. C. Marks; three houses, Portland Road, for Mr. H. W. Clark; two houses, Newcombe Road, for Mr. S. Kermode; two houses, Glenville Road, for Mr. O. L. Adams; six houses, Comulbis Trees Road, for Messrs. Luby and Wade; four flats, Haverstock Road, for Messrs. Troke and Groves; four houses, Canford Lane, for Mr. L. A. Johnson; block of offices, Weston Grange, for Chine Investments, Ltd.; three houses, Broughton Avenue, for Mr. A. Pope; four flats, Christchurch Road, for Messrs. Rosser and Sturman.

The Corporation is to erect 14 houses for aged persons in the vicinity of Brassey Road.

BRIGHTON. *Houses and Flats.* Plans passed by the Corporation: Two houses, Princess Terrace, for Mr. J. W. Holloway; two blocks of flats, Freshfield Road, for Mr. L. C. Cohan; two bungalows, Wick estate, for Mr. R. L. Funnell; two bungalows, Falmer Road, for Mr. A. J. Swinger; 60 houses, Dale Crescent estate, for Messrs. Braybons Ltd.; 14 houses, Ladies' Mile estate, Patcham, for Ladies' Mile Estate, Ltd.

BRIGHTON. *Additions to Mental Colony.* The Corporation is to erect buildings to accommodate 500 patients on the Laughton Lodge mental colony estate.

DARTFORD. *Houses.* Plans passed by the Corporation: Four houses, Princes Road, for Mr. R. J. Clifford; Pakfield Lane for Mr. S. T. Wood; two houses, Wilmot Road, for Mr. R. F. Rons; four houses, Watling Street, for Mr. M. Fuller; 45 houses, Oakfield Park Road, for Reliance Construction Co., Ltd.; 21 houses, Princes Road, for Mr. G. H. Giles; seven shops, Lowerfield Road, for Messrs. J. W. Ellingham, Ltd.

HERNE BAY. *Houses.* Messrs. Carters are to develop the Greenhill Grove estate, where 350 houses are to be erected.

SOUTH-WESTERN COUNTIES

PAIGNTON. *Houses and Bungalows.* Plans passed by the U.D.C.: Two houses, Colin Road, for Messrs. Scriven and West; two shops, Higher Polsham Road, for Mr. R. C. Gille; two flats, Barnfield Road; two bungalows, Pines Road, for Mr. J. Maunder; 50 houses, Barton Avenue, for Messrs. Coombe and Son; eight houses, Berry Road, for Messrs. Mitchell Bros.; four bungalows, Pines Road, for Messrs. Lewis and Wills; four shops, Roundham Road, for Paignton Club Committee.

MIDLAND COUNTIES

BURSLEM. *Houses.* Plans passed: Two houses High Street, Milton, for Mr. W. Jones; six houses, Norton Avenue, for Mr. J. Vickers; ten houses, Adkins Street, Cobridge, for Mr. W. Grant.

HANLEY. *Houses and Kilns.* Plans passed: Four kilns, Brook Street, for Diamond Tile Co., Ltd.; two houses, Newlands Street, for Mr. C. Kinson; four houses, Matlock Street, for Mr. A. Gurney; four houses, Werrington Road, for Mr. E. Harris; 14 houses, Leek New Road, for Messrs. Leeke & Co.

STOKE-ON-TRENT. *Streets.* The Corporation has approved plans for the construction of streets off Ashlands Road, Harpfields, for Modern Architectural Estates.

At the Corporation Messrs. Ball and Robinson offered to erect 296 non-parlour three bedroomed type houses on the Blurton Green Estate, for sale to the Corporation at £380 per house, including land, sewers and street works, and the Housing Committee was instructed to inspect the site and report.

SUTTON COLDFIELD. *Houses.* Plans passed by the Corporation: two houses, Chester Road, for Mr. T. A. Glynn; six houses, Clarance Road, for Messrs. Arnold and Hewitt; 12 houses, Eachelhurst Road, for Mr. A. P. Johnson; two houses, Green Lanes, for Messrs. W. J. James and Son; 42 houses, Holland House estate, for Corporation Housing Committee; 31 houses, Highbridge Road, for Messrs. Morris and Jacombs; six flats, Jockey Road, for Mr. W. Lawson; four houses, Tamworth Road, and house, Somerville Road, for Messrs. Davis and Son, Ltd.; 10 houses, Walsall Road, for Edge Hill Investments, Ltd.; 171 houses, off Boldmere Road, for Messrs. T. P. Smith, Ltd.; six houses, Bedford Road, for Mr. R. Winter.

NORTHERN COUNTIES

CHESTER. *Houses.* The Ministry of Health has approved a proposal of the Corporation to erect 216 houses on the Lache Estate.

HYDE. *Houses.* Plans passed by the Corporation: Three houses, Knott Lane, for Messrs. W. Norgrove and Sons, Ltd.; four houses, Harbour Place, for Mr. J. T. Hulme; four houses, Clarendon Road, for Messrs. Dean Bros.; four houses, Slateacre Road, for Messrs. F. Booth and Son; two houses, Apethorn Lane, for Mr. H. L. Farrer; eight houses, Grosvenor Road, for Messrs. G. and S. Ridgway.

JARROW. *Houses.* The Corporation proposes to build a further 160 houses for persons displaced from clearance areas.

MALTON. *Water Supply.* The R.D.C. is to provide a water supply to various parishes at a cost of £19,202.

NORTON. *Water Supply.* The R.D.C. is to provide a water supply to various parishes, at a cost of £15,000.

TYNEMOUTH. *Houses.* Plans passed by the Corporation: Three houses and shop, Coast Road, for Mr. W. K. Waite; 22 houses, Central Avenue, for Mr. S. Pye; five houses, Last Lane Estate, for Mr. R. Chambers; five houses, Sunlea Avenue, for Mr. J. R. Wallace; two houses, Highbury Place, for Messrs. J. W. and D. Brannen; two houses, Heaton Terrace, for Mr. H. P. Woodall; four houses, Sandhurst Avenue, for Mr. L. Mastaglio; 10 houses, Glendall Avenue, for Mr. J. H. Rogers; 16 houses, Spring Gardens Estate, for Messrs. Ball Bros.; 42 houses, Billy Mill Estate, for Messrs. F. R. N. Haswell and Son.

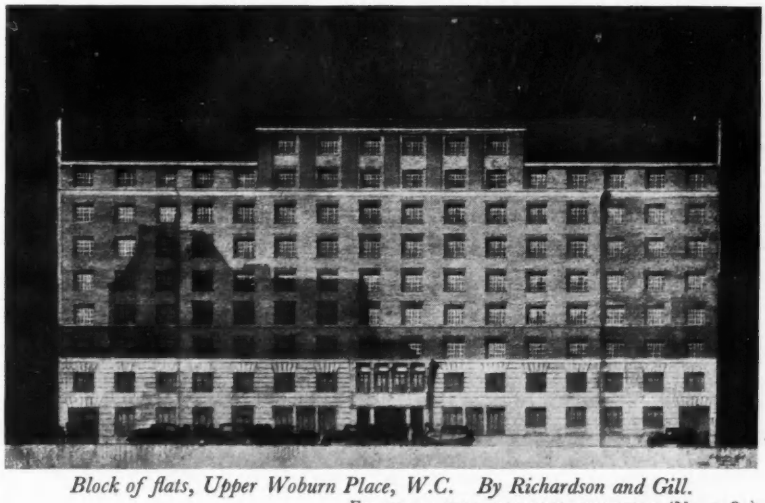
SCOTLAND

GLASGOW. *Schools.* The Education Committee has appointed the superintendent of the property department as architect in connection with the following schools: Cardonald No. 2, school for 800 with library; Carnwadric, primary; East Keppoch, temporary school; Eastbank, gymnasium and dressing rooms, etc.; Hamilton Crescent, extension; North Kelvinside, gymnasium; St. Aloysius', Port Dundas, playground extension; St. Marks, extension, advanced division; St. Michael's, Elba Lane, primary; St. Mungo's (boys), reconditioning and extension; training school for the blind, training centre; Wellpark, drill hall; Whitehill, reconstruction and extension; and Yoker, extension of playground, etc.

WALES

CARDIFF. *Houses.* The Corporation reports that the 1933 Housing Society, Ltd., is considering the question of submitting to the Council a scheme for the erection of 200 houses.

The Corporation is to erect 225 houses on various sites for rehousing tenants displaced from slums.



Block of flats, Upper Woburn Place, W.C. By Richardson and Gill.
From THE ROYAL ACADEMY EXHIBITION (No. 1384)

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I s. d.	II s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A_1	Abergavenny ..	S. Wales & M.	1 5	1 0½
A_2	Abingdon ..	S. Counties	1 4	1 0
A_2	Accrington ..	N.W. Counties	1 5½	1 1½
A	Addlestone ..	S. Counties	1 4	1 0
A_2	Adlington ..	N.W. Counties	1 5½	1 1½
A	Airdrie ..	Scotland	*1 5½	1 1½
C	Aldeburgh ..	E. Counties	1 1½	10½
A	Altrincham ..	N.W. Counties	1 5½	1 1½
B_2	Appleby ..	N.W. Counties	1 2	10½
A	Ashton-under-Lyne	N.W. Counties	1 5½	1 1½
A_2	Atherstone ..	Mid. Counties	1 4	1 0
B_2	Aylesbury ..	S. Counties	1 2½	11
B_1	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_2	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1½
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow ..	N.W. Counties	1 5½	1 1½
A	Barry ..	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke ..	S.W. Counties	1 3	11½
A_2	Bath	S.W. Counties	1 4½	1 0½
A	Batley ..	Yorkshire	1 5½	1 1½
A_2	Bedford ..	E. Counties	1 4½	1 0½
A_2	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_2	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	*1 7	1 2½
A	Birmingham	Mid. Counties	1 5½	1 1½
A_1	Bishop Auckland	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1½
A	Blackpool ..	N.W. Counties	1 5½	1 1½
A	Blyth ..	N.E. Coast	1 5½	1 1½
B_1	Bognor ..	S. Counties	1 3	11½
A	Bolton ..	N.W. Counties	1 5½	1 1½
A_2	Boston ..	Mid. Counties	1 4	1 0
A_2	Bournemouth ..	S. Counties	1 4	1 0
B_2	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1½
A_1	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M.	1 5½	1 1½
B_1	Bridgwater ..	S.W. Counties	1 3	11½
A_1	Bridlington ..	Yorkshire	1 5	1 0½
A	Brighouse ..	Yorkshire	1 5½	1 1½
A_2	Brighton ..	S. Counties	1 4	1 0
A	Bristol ..	S.W. Counties	1 5½	1 1½
B_2	Brixham ..	S.W. Counties	1 2½	11
A_2	Bromsgrove ..	Mid. Counties	1 4½	1 0½
B_2	Bromyard ..	Mid. Counties	1 2	10½
A	Burnley ..	N.W. Counties	1 5½	1 1½
A	Burslem ..	Mid. Counties	1 5½	1 1½
A	Burton-on-Trent	Mid. Counties	1 5½	1 1½
A	Bury ..	N.W. Counties	1 5½	1 1½
A_1	Buxton ..	N.W. Counties	1 5	1 0½
A_1	CAMBRIDGE	E. Counties	1 5	1 0½
B_1	Canterbury ..	S. Counties	1 3	11½
A	Cardiff ..	S. Wales & M.	1 5½	1 1½
A	Carlisle ..	N.W. Counties	1 5½	1 1½
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Carnforth ..	N.W. Counties	1 5½	1 1½
A	Castleford ..	Yorkshire	1 5½	1 1½
B	Chatham ..	S. Counties	1 3½	11½
A_2	Chelmsford ..	E. Counties	1 4	1 0
A_2	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester ..	N.W. Counties	1 5½	1 1½
A	Chesterfield ..	Mid. Counties	1 5½	1 1½
B_1	Chichester ..	S. Counties	1 3	11½
A	Chorley ..	N.W. Counties	1 5½	1 1½
B_1	Cirencester ..	S. Counties	1 3	11½
A	Clitheroe ..	N.W. Counties	1 5½	1 1½
A	Clydebank ..	Scotland	1 5½	1 1½
A	Coalville ..	Mid. Counties	1 5½	1 1½
A_2	Colchester ..	E. Counties	1 4	1 0
A	Colne ..	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_1	Consett ..	N.E. Coast	1 5	1 0½
A_2	Conway ..	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1½
A_2	Crewe	N.W. Counties	1 4½	1 0½
A	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1½
A	Darwen ..	N.W. Counties	1 5½	1 1½
B_1	Deal	S. Counties	1 3	11½
A_2	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby ..	Mid. Counties	1 5½	1 1½
A	Dewsbury ..	Yorkshire	1 5½	1 1½
B	Didcot ..	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1½
B_2	Dorchester ..	S.W. Counties	1 2½	11
A	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley ..	Mid. Counties	1 5½	1 1½
A	Dundee ..	Scotland	1 5½	1 1½
A	Durham ..	N.E. Coast	1 5½	1 1½
A_2	EASTBOURNE	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1½
A_1	E. Glamorganshire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter ..	S.W. Counties	*1 4½	1 0½
B	Exmouth ..	S.W. Counties	1 3½	11½
A_2	FELIXSTOWE	E. Counties	1 4	1 0
A_2	Filey	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1½
B_1	Folkestone ..	S. Counties	1 3	11½
A	Frodsham ..	N.W. Counties	1 5½	1 1½
B_2	Frome	S.W. Counties	1 2½	11
A	GATESHEAD	N.E. Coast	1 5½	1 1½
B	Gillingham ..	S. Counties	1 3½	11½
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole	Yorkshire	1 4½	1 0½
A_2	Gosport	S. Counties	1 4½	1 0½
A_2	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0½
A	Greenock ..	Scotland	*1 5½	1 1½
A	Grimsby ..	Yorkshire	1 5½	1 1½
B	Guildford ..	S. Counties	1 3½	11½
A	HALIFAX ..	Yorkshire	1 5½	1 1½
A	Hanley ..	Mid. Counties	1 5½	1 1½
A	Harrogate ..	Yorkshire	1 5½	1 1½
A	Hartlepools ..	N.E. Coast	1 5½	1 1½
B	Harwich ..	E. Counties	1 3½	11½
B_1	Hastings ..	S. Counties	1 3	11½
A_2	Hatfield ..	S. Counties	1 4½	1 0½
B	Hereford ..	S.W. Counties	1 3½	11½
A_2	Hertford ..	E. Counties	1 4½	1 0½
A	Heysham ..	N.W. Counties	1 5½	1 1½
A	Howden ..	N.E. Coast	1 5½	1 1½
A	Huddersfield ..	Yorkshire	1 5½	1 1½
A	Hull	Yorkshire	1 5½	1 1½
A	ILKLEY ..	Yorkshire	1 5½	1 1½
A	Immingham ..	Mid. Counties	1 5½	1 1½
A_2	Ipswich ..	E. Counties	1 4½	1 0½
B_2	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1½
A	KEIGHLEY ..	Yorkshire	1 5½	1 1½
B	Kendal	N.W. Counties	1 3½	11½
B	Keswick	N.W. Counties	1 3½	11½
A_2	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster ..	Mid. Counties	1 4½	1 0½
B_1	King's Lynn ..	E. Counties	1 3	11½
A	LANCASTER ..	N.W. Counties	1 5½	1 1½
A_1	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester ..	Mid. Counties	1 5½	1 1½
A	Leigh	N.W. Counties	1 5½	1 1½
B_2	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln	Mid. Counties	1 5½	1 1½
	Liverpool ..	N.W. Counties	*1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly ..	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12-15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1½
A	Loughborough ..	Mid. Counties	1 5½	1 1½
A_2	Luton	E. Counties	1 4	1 0
A	Lytham	N.W. Counties	1 5½	1 1½
A_1	MACCLESFIELD	N.W. Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11½
A_2	Malvern	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1½
A	Mansfield ..	Mid. Counties	1 5½	1 1½
B_1	Margate	S. Counties	1 3	11½
A	Matlock	Mid. Counties	1 4	1 0
A_1	Merthyr	S. Wales & M.	1 5	1 0½
A	Middlesbrough	N.E. Coast	1 5½	1 1½
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1 2½	11
A	Morecambe ..	N.W. Counties	1 5½	1 1½
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson	N.W. Counties	1 5½	1 1½
A	Newcastle ..	N.E. Coast	1 5½	1 1½
A	Newport	S. Wales & M.	1 5½	1 1½
A	Normanton ..	Yorkshire	1 5½	1 1½
A	Northampton ..	Mid. Counties	1 5½	1 1½
A	North Staffs ..	Mid. Counties	1 5½	1 1½
A	North Shields ..	N.E. Coast	1 5½	1 1½
A_1	Norwich	E. Counties	1 5	1 0½
A	Nottingham ..	Mid. Counties	1 5½	1 1½
A	Nuneaton ..	Mid. Counties	1 5½	1 1½
A_2	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham	N.W. Counties	1 5½	1 1½
A_2	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	*1 5½	1 1½
B_2	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth	Scotland	*1 5½	1 1½
A_2	Peterborough ..	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	*1 5½	1 1½
A	Pontefract ..	Yorkshire	1 5½	1 1½
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_2	Portsmouth ..	S. Counties	1 4½	1 0½
A	Preston	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate	S. Counties	1 3½	11½
	Retford	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A_2	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1½
B	Rochester ..	S. Counties	1 3½	11½
A_1	Ruabon	N.W. Counties	1 5	1 0½
A	Rugby	Mid. Counties	1 5½	1 1½
A_2	Rugeley	Mid. Counties	1 4½	1 0½
A	Runcorn	N.W. Counties	1 5½	1 1½
A_1	ST. ALBANS ..	E. Counties	1 5	1 0½
A	St. Helens ..	N.W. Counties	1 5½	1 1½
B_2	Salisbury ..	S.W. Counties	1 2½	11
A_1	Scarborough ..	Yorkshire	1 5	1 0½
A	Scunthorpe ..	Mid. Counties	1 5½	1 1½
A	Sheffield ..	Yorkshire	1 5½	1 1½
A	Shipley	Yorkshire	1 5½	1 1½
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton	Yorkshire	1 4½	1 0½
A_2	Slough	S. Counties	1 4½	1 0½
A_1	Solihull	Mid. Counties	1 5	1 0½
A_2	Southampton ..	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport ..	N.W. Counties	1 5½	1 1½
A	S. Shields ..	N.E. Coast	1 5½	1 1½
A_1	Stafford	Mid. Counties	1 5	1 0½
A	Stockport ..	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud	S.W. Counties	1 3½	11½
A	Sunderland ..	N.E. Coast	1 5½	1 1½
A	Swadlincote ..	Mid. Counties	1 5½	1 1½
A	Swansea	S. Wales & M.	1 5½	1 1½
A_2	Swindon	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton	S.W. Counties	1 3½	11½
A	Teesside Dist. ..	N.E. Counties	1 5½	1 1½
A_2	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1½
A_1	Torquay	S.W. Counties	1 5	1 0½
B_2	Truro	S.W. Counties	1 2½	11
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall	Mid. Counties	1 5½	1 1½
A	Tyne District ..	N.E. Coast	1 5½	1 1½
A	WAKEFIELD	Yorkshire	1 5½	1 1½
A	Walsall	Mid. Counties	1 5½	1 1½
A	Warrington ..	N.W. Counties	1 5½	1 1½
A_1	Warwick	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid. Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A	Whitby	Yorkshire	1 4½	1 0½
A	Widnes	N.W. Counties	1 5½	1 1½
A	Wigan	N.W. Counties	1 5½	1 1½
B	Winchester ..	S. Counties	1 3½	11½
A_2	Windsor	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_2	Worksop	Yorkshire	1 4	1 0
A_1	Wrexham	N.W. Counties	1 5	1 0½
A_2	Wycombe	S. Counties	1 4	1 0
B_1	YARMOUTH ..	E. Counties	1 3	11½
B_1	Yeovil	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	11½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	£ s. d.
Bricklayer . . . . . per hour	1 7
Carpenter . . . . . ,,	1 7
Joiner . . . . . ,,	1 7
Machinist . . . . . ,,	1 8
Mason (Banker) . . . . . ,,	1 7
,, (Fixer) . . . . . ,,	1 8
Plumber . . . . . ,,	1 7
Painter . . . . . ,,	1 6
Paperhanger . . . . . ,,	1 6
Glazier . . . . . ,,	1 7
Slater . . . . . ,,	1 7
Scaffolder . . . . . ,,	1 3
Timberman . . . . . ,,	1 3
Navvy . . . . . ,,	1 2½
General Labourer . . . . . ,,	1 2½
Lorryman . . . . . ,,	1 5
Crane Driver . . . . . ,,	1 6
Watchman . . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£ s. d.
Grey Stone Lime . . . . . per ton	2 2 0
Blue Lias Lime . . . . . ,,	1 16 6
Hydrated Lime . . . . . ,,	3 0 9
Portland Cement, in 4 ton lots (d/d site, including Paper Bags) . ,,	1 18 0
Rapid Hardening Cement, in 4 ton lots (d/d site, including Paper Bags) ,,	2 5 6
White Portland Cement, in 1 ton lots ,,	8 15 0
Thames Ballast . . . . per Y.C.	6 3
¾" Crushed Ballast . . . . ,,	6 9
Building Sand . . . . ,,	7 3
Washed Sand . . . . ,,	8 3
2" Broken Brick . . . . ,,	8 0
¾" ,, ,, ... ,,	10 3
Pan Breeze . . . . ,,	6 6
Coke Breeze . . . . ,,	8 9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

	4" s. d.	6" s. d.
Straight Pipes . . per F.R	0 9	1 1
Bends . . . each	1 9	2 6
Taper Bends . . ,,	3 6	5 3
Rest Bends . . ,,	4 3	6 3
Single junctions . . ,,	3 6	5 3
Double . . ,,	4 9	6 6
Straight channels . . per F.R.	1 6	2 6
¾" Channel bends . . each	2 9	4 0
Channel junctions . ,,	4 6	6 6
Channel tapers . . ,,	2 9	4 0
Yard gullies . . ,,	6 9	8 9
Interceptors . . ,,	16 0	19 6

IRON DRAINS:

Iron drain pipe . . per F.R.	1 6	2 6
Bends . . . each	5 0	10 6
Inspection bends . . ,,	9 0	15 0
Single junctions . . ,,	8 9	18 0
Double junctions . . ,,	13 6	30 0
Lead wool . . . lb.	6	—
Gaskin . . . ,,	5	—

BRICKLAYER

	£ s. d.
Flettons . . . . per M.	2 18 0
Grooved do. . . . . ,,	3 0 0
Phorpres bricks . . . . ,,	2 17 3
Phorpres Cellular bricks . . ,,	2 17 3
Stocks, 1st quality . . . ,,	4 11 0
,, 2nd ,, . . . ,,	4 2 6
Blue Bricks, Pressed . . . ,,	8 17 6
,, Wirecuts . . . ,,	7 17 6
,, Bindles . . . ,,	7 0 0
,, Bullnose . . . ,,	9 0 0
Red Sand-faced Facings . . ,,	6 18 6
Red Rubbers for Arches . ,,	12 0 0
Multicoloured Facings . . ,,	7 10 0
Luton Facings . . . ,,	7 10 0
Phorpres White Facings . . ,,	3 17 3
Phorpres Rustic Facings . ,,	3 12 3
Midhurst White Facings . ,,	5 0 0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:	
Stretchers . . . . ,,	21 0 0
Headers . . . . ,,	20 10 0
Bullnose . . . . ,,	27 10 0
Double Stretchers . . ,,	29 10 0
Double Headers . . ,,	26 10 0
Glazed Second Quality, *Less* . ,,	1 0 0
,, Buffs and Creams, *Add* . ,,	2 0 0
,, Other Colours . . ,,	5 10 0
2" Breeze Partition Blocks . per Y.S.	1 7
2½" ,, ,, ,, . . ,,	1 19
3" ,, ,, ,, . . .	2 1
4" ,, ,, ,, . . ,,	2 6

MASON

	s. d.
The following d/d F.O.R. at Nine Elms:	
Portland stone, Whitbed . . F.C.	4 4½
,, ,, Basebed . . ,,	4 9
Bath stone . . . . ,,	2 11
York stone . . . . ,,	6 6
,, ,, Sawn templates . . ,,	7 6
,, ,, Paving, 2" . . F.S.	1 8
,, ,, 3" . . ,,	2 6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£ s. d.
24" × 12" Duchesses . . per M.	28 17 6
22" × 12" Marchionesses . . ,,	24 10 0
20" × 10" Countesses . . ,,	19 5 0
18" × 10" Viscountesses . . ,,	15 10 0
18" × 9" Ladies . . . ,,	13 17 6
Westmorland green (random sizes) . per ton	8 10 0
Old Delabole slates d/d in full truck loads to Nine Elms Station:	
20" × 10" medium grey per 1,000 (actual)	21 11 6
,, green ,, ,,	24 7 4
Best machine roofing tiles . . ,,	4 10 0
Best hand-made do. . . . ,,	5 0 0
Hips and valleys . . . each	9½
,, hand-made . . . ,,	10
Nails, compo . . . . lb.	1 4
,, copper . . . . ,,	1 6

CARPENTER AND JOINER

	s. d.
Good carcassing timber . . F.C.	2 2
Birch . . . . as 1" F.S.	9
Deal, Joiner's . . . ,, ,,	5
,, ,, 2nds . . ,, ,,	4
Mahogany, Honduras . . ,, ,,	1 3
,, African . . ,, ,,	1 1
,, Cuban . . ,, ,,	2 6
Oak, plain American . . ,, ,,	1 0
,, Figured ,, . . ,, ,,	1 3
,, Plain Japanese . . ,, ,,	1 2
,, Figured ,, . . ,, ,,	1 5
,, Austrian wainscot . . ,, ,,	1 6
,, English . . . ,, ,,	1 11
Pine, Yellow . . . ,, ,,	1 0
,, Oregon . . . ,, ,,	4
,, British Columbian . . ,, ,,	4
Teak, Moulmein . . . ,, ,,	1 3
,, Burma . . . ,, ,,	1 2
Walnut, American . . ,, ,,	2 3
,, French . . . ,, ,,	2 3
Whitewood, American . . ,, ,,	1 1
Deal floorings, ¾" . . . Sq.	18 6
,, 1" . . . ,,	1 1 6
,, 1¼" . . . ,,	1 2 0
,, 1½" . . . ,,	1 5 0
,, 2" . . . ,,	1 10 0
Deal matchings ¾" . . . ,,	14 0
,, 1" . . . ,,	15 6
Rough boarding ¾" . . . ,,	1 4 0
,, 1" . . . ,,	16 0
,, 1¼" . . . ,,	18 0
Plywood, per ft. sup.	1 6 0

Thickness	¼"			½"			¾"			1"		
Qualities	AA.	A.	B.	AA.	A.	B.	AA.	A.	B.	AA.	A.	B.
	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.
Birch	4	3	2	5	4	3	7½	6	4½	8½	7	6
Alder	3½	3	2	5	4	3	6½	5½	4½	8	7	6
Gaboon Mahogany	4	3	3	6½	5½	4½	9½	7½	–	1/0½	10	–
Figured Oak 1 side	8½	7	–	10	8	–	11½	–	–	1/6	–	–
Plain Oak 1 side	6½	6	–	7½	7	–	9½	–	–	1/–	–	–
Oregon Pine	5	4	–	5½	5	–	6	–	–	–	–	–

	d.
Scotch glue . . . . . lb.	8

SMITH AND FOUNDER

Tubes and Fittings:

(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	¼"	⅜"	½"	¾"	1"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9
,, 3"-11½" long ,,	7	9	1/3	1/8	3/–
Long screws, 12"-23½" long ,,	11	1/3	2/2	2/10	5/3
,, ,, 3"M-½" long ,,	8	10	1/5	1/11	3/6
Bends . . . . ,,	8	11	1/7½	2/7½	5/2
Springs not socketed . ,,	5	7	1/1½	1/11½	3/11
Socket unions . . ,,	2/–	3/–	5/6	6/9	10/–
Elbows, square . . ,,	10	1/1	1/6	2/2	4/3
Tees . . . . ,,	1/–	1/3	1/10	2/6	5/1
Crosses . . . ,,	2/2	2/9	4/1	5/6	10/6
Plain Sockets and nipples ,,	3	4	6	8	1/3
Diminished sockets . ,,	4	6	9	1/–	2/–
Flanges . . . ,,	9	1/–	1/4	1/9	2/9
Caps . . . . ,,	3½	5	8	1/–	2/–
Backnuts . . . ,,	2	3	5	6	1/1
Iron main cocks . ,,	1/6	2/3	4/2	5/4	11/6
,, ,, with brass plugs ,,	—	4/–	7/6	10/–	21/–

Discounts:

TUBES.

	Per cent.		Per cent.
Gas . . .	65	Galvanized gas .	52½
Water . . .	61½	,, water	47½
Steam . . .	57½	,, steam	42½

FITTINGS.

Gas . . .	57½	Galvanized gas .	47½
Water . . .	52½	,, water	42½
Steam . . .	47½	,, steam	37½

SMITH AND FOUNDER—*continued*

	s. d.
Rolled steel joists cut to length . . cwt.	10 9
Mild steel reinforcing rods, ⅜" . . ,,	8 6
,, ,, ½" . . ,,	8 3
,, ,, ⅝" . . ,,	8 0
,, ,, ¾" . . ,,	7 6
,, ,, ⅞" . . ,,	7 6
,, ,, 1" . . ,,	7 6
,, ,, 1¼" . . ,,	7 6
,, ,, 1½" . . ,,	7 6

Cast-iron rain-water pipes of ordinary thickness metal .	3" s. d.	4" s. d.
	F.R 8	10
Shoes	each 2 0	3 0
Anti-splash shoes . .	,, 4 6	8 0
Boots	,, 3 0	4 0
Bends	,, 2 7	3 9
,, with access door . .	,, —	6 3
Heads	,, 4 0	5 0
Swan-necks up to 9" offsets .	,, 3 9	6 0
Plinth bends, 4½" to 6" .	,, 3 9	5 3

Half-round rain-water gutters of ordinary thickness metal .	4" s. d.	5" s. d.
	F.R. 5	6
Stop ends	each 6	6
Angles	,, 1 7	1 11
Obtuse angles . . .	,, 2 0	2 6
Outlets	,, 1 9	2 3

PLUMBER

	£ s. d.
Lead, milled sheets . . cwt.	18 6
,, drawn pipes . . ,,	17 0
,, soil pipe . . ,,	18 6
,, scrap . . . ,,	10 6
Solder, plumbers' . . lb.	9½
,, fine do. . . . ,,	1 0
Copper, sheet . . . ,,	8½
,, tubes . . . ,,	11

L.C.C soil and waste pipes:	3"	4"	6"
Plain cast . .	F.R. 1 0	1 2	2 6
Coated . .	,, 1 1	1 3	2 8
Galvanized . .	,, 2 0	2 6	4 6
Holderbats . .	each 3 10	4 0	4 9
Bends . . .	,, 3 9	5 3	10 3
Shoes . . .	,, 2 10	4 4	9 6
Heads . . .	,, 4 8	8 5	12 9

PLASTERER

	£ s. d.
Lime, chalk . . . per ton	2 5 0
Plaster, coarse . . . ,,	2 10 0
,, fine . . . ,,	4 15 0
Hydrated lime . . . ,,	3 0 9
Sirapite . . . . ,,	3 6 0
Keene's cement . . . ,,	5 0 0
Sand, washed . . . Y.C.	11 6
Hair . . . . lb.	6
Laths, sawn . . . bundle	2 4
,, rent . . . ,,	3 9
Lath nails . . . lb.	3½

GLAZIER

	s. d.	s. d.
Sheet glass, 21 oz., squares n/e 2 ft.	s. F.S.	2½
,, ,, 26 oz. ,,	,, ,,	3½
Flemish, Arctic, Figured (white)*	,,	7
Blazoned glasses . .	,,	2 6
Reeded; Cross Reeded	,,	11
Cathedrals: eleven varieties (white)*	,,	6½
Crown sheet glass (n/e 12 in. x 10 in)	,,	2 0
Flashed opals (white and coloured)	,, 1 0 and 2	0
¼" rough cast; rolled plate .	,,	7
¼" wired cast; wired rolled .	,,	10
¼" Georgian wired cast . .	,,	11
¼" Polished plate, n/e 1 ft. .	,, †10 to ‡1	1
,, ,, 2 . .	,, †1 2 ,, ‡1	4
,, ,, 4 . .	,, †2 3 ,, ‡2	6
,, ,, 8 . .	,, †2 9 ,, ‡3	2
,, ,, 20 . .	,, †3 7 ,, ‡4	2
,, ,, 45 . .	,, †3 11 ,, ‡4	7
,, ,, 100 . .	,, †5 0 ,, ‡5	7
Vita glass, sheet, n/e 2 ft. .	,,	1 3
,, ,, over 2 . .	,,	1 9
,, ,, plate, n/e 2 ft. .	,,	3 0
,, ,, 7 . .	,,	5 0
,, ,, 15 . .	,,	6 0
,, ,, over 15 . .	,,	7 6
"Calorex" sheet 21 oz., and 32 oz.	,, 2 6 and 3	6
,, rough cast ½" and ¾"	,, 8½ ,, 1	0
Putty, linseed oil . . .	lb.	3

*Colours 1d. F.S. extra.

†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

	£ s. d.
White lead in 1 cwt. casks . . cwt.	2 6 0
Linseed oil . . . . gall.	2 2½
Boiled oil . . . . ,,	2 4½
Turpentine . . . . ,,	4 1½
Patent knotting . . . ,,	14 0
Distemper, washable . . . cwt.	2 6 0
,, ordinary . . . ,,	2 0 0
Whitening . . . . ,,	4 0
Size, double . . . firkin	3 0
Copal varnish . . . gall.	13 0
Flat varnish . . . ,,	14 0
Outside varnish . . . ,,	16 0
White enamel . . . ,,	1 15 0
Ready-mixed paint . . ,,	13 6
Brunswick black . . ,,	7 6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR		£ s. d.
Digging over surface n/e 12" deep and cart away	Y.S.	2 9
" to reduce levels n/e 5' 0" deep and cart away	Y.C.	8 6
" to form basement n/e 5' 0" deep and cart away	"	9 0
" " 10' 0" deep and cart away	"	9 6
" " 15' 0" deep and cart away	"	10 0
If in stiff clay add	"	2 6
If in underpinning	"	4 0
Planking and strutting to sides of excavation	F.S.	1 0
" " to pier holes	"	5
" " to trenches	"	5
" " extra, only if left in	"	3
Hardcore, filled in and rammed	Y.C.	10 0
Portland cement concrete in foundations (6-1)	"	1 6 0
" " (4-2-1)	"	1 12 6
" " underpinning	"	1 16 0
Finishing surface of concrete, spade face	Y.S.	7

DRAINLAYER		4" s. d.	6" s. d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1 6	2 3
Extra, only for bends	Each	2 8	3 9
" junctions	"	3 9	4 6
Gullies and gratings	"	16 6	18 0
Cast iron drains, and laying and jointing	F.R.	4 9	6 9
Extra, only for bends	Each	10 6	15 6

BRICKLAYER		£ s. d.
Brickwork, Flettons in lime mortar	Per Rod	27 10 0
" " in cement	"	28 15 0
" Stocks in cement	"	35 0 0
" Blues in cement	"	52 0 0
Extra only for circular on plan	"	2 0 0
" backing to masonry	"	1 10 0
" raising on old walls	"	2 0 0
" underpinning	"	5 10 0
Fair Face and pointing internally	F.S.	1½
Extra over fletton brickwork for picked stock facings and pointing	"	8½
" " " red brick facings and pointing	"	11
" " " blue brick facings and pointing	"	1 4
" " " glazed brick facings and pointing	"	3 6
Tuck pointing	"	7
Weather pointing in cement	"	3½
Slate dampcourse	"	10
Vertical dampcourse	"	1 1

ASPHALTER		s. d.
½" Horizontal dampcourse	Y.S.	4 6
½" Vertical dampcourse	"	6 9
½" paving or flat	"	4 0
1" paving or flat	"	5 6
1"×6" skirting	F.R.	1 0
Angle fillet	"	2
Rounded angle	"	2
Cesspools	Each	5 0

MASON		s. d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C.	17 9
Bath stone and do., all as last	"	13 6
Artificial stone and do.	"	13 0
York stone templates, fixed complete	"	10 6
" thresholds	"	13 6
" sills	"	1 0 6

SLATER AND TILER		£ s. d.
Slating, Bangor or equal, laid to a 3" lap, and fixing with compo nails, 20"×10"	Sqr.	3 10 0
Do., 18"×9"	"	3 7 0
Do., 24"×12"	"	3 17 0
Westmorland slating, laid with diminished courses	"	6 0 0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course	"	3 0 0
Do., all as last, but of machine-made tiles	"	2 16 0
20"×10" medium Old Delabole slating, laid to a 3" lap (grey)	"	4 6 0
" " " " " (green)	"	4 15 0

CARPENTER AND JOINER		£ s. d.
Flat boarded centering to concrete floors, including all strutting	Sqr.	2 5 0
Shuttering to sides and soffits of beams	F.S.	8
" to stanchions	"	8
" to staircases	"	1 8
Fir and fixing in wall plates, lintols, etc.	F.C.	3 9
Fir framed in floors	"	4 6
" " roofs	"	6 6
" " trusses	"	7 6
" " partitions	"	8 6
⅞" deal sawn boarding and fixing to joists	Sqr.	1 14 6
1" " " " "	"	1 17 6
1½" " " " "	"	2 3 0
2"×2" fir battening for Countess slating	"	9 6
Do. for 4" gauge tiling	"	12 0
Stout feather-edged tilting fillet	F.R.	4½
Patent inodorous felt, 1 ply	Y.S.	2 3
" " " 2 "	"	2 9
" " " 3 "	"	3 3
Stout herringbone strutting to 9" joists	F.R.	10½
1" deal gutter boards and bearers	F.S.	1 2
1½" " " " "	"	1 6
2" deal wrought rounded roll	F.R.	8
1" deal grooved and tongued flooring, laid complete, including cleaning off	Sqr.	2 1 0
1¼" do.	"	2 10 0
1½" do.	"	2 17 0
1" deal moulded skirting, fixed on, and including grounds plugged to wall	F.S.	1 6
1¼" do.	"	1 9

CARPENTER AND JOINER—*continued*		s. d.
1¼" deal moulded sashes of average size	F.S.	1 9½
2" " " " "	"	1 11½
1¼" deal cased frames double hung, of 6"×3" oak sills, 1¼" pulley stiles, 1¼" heads, 1" inside and outside linings, ⅝" parting beads, and with brass faced axle pulleys, etc., fixed complete	"	3 7
2" " " " "	"	3 10
Extra only for moulded horns	Each	6
1¼" deal four-panel square, both sides, door	F.S.	2 0
2" " " " "	"	2 8
1¼" " but moulded both sides	"	2 4
2" " " " "	"	3 0
4"×3" deal, rebated and moulded frames	F.R.	1 0
4½"×3½" " " "	"	1 4
1½" deal tongued and moulded window board, on and including deal bearers	F.S.	1 9
1¼" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	"	2 6
1¼" deal moulded wall strings	"	2 1
1¼" " outer strings	"	2 4
Ends of treads and risers housed to string	Each	1 9
3"×2" deal moulded handrail	F.R.	1 3
1"×1" deal balusters and housing each end	Each	2 0
1½"×1½" " " "	"	2 9
3"×3" deal wrought framed newels	F.R.	1 3
Extra only for newel caps	Each	6 0
Do., pendants	"	6 0

SMITH AND FOUNDER		£ s. d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt.	15 6
Riveted plate or compound girders, and hoisting and fixing in position	"	19 6
Do. stanchions with riveted caps and bases and do.	"	19 0
Mild steel bar reinforcement, ½" and up, bent and fixed complete	"	17 6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S.	11
Wrot-iron caulked and cambered chimney bars	Per cwt.	1 10 0

PLUMBER		£ s. d.
Milled lead and labour in flats	cwt.	1 12 0
Do. in flashings	"	1 15 6
Do. in covering to turrets	"	2 3 0
Do. in soakers	"	1 7 6
Labour to welted edge	F.R.	3½
Open copper nailing	"	3
Close " "	"	4

Lead service pipe and fixing with pipe hooks	½" s. d.	¾" s. d.	1" s. d.	1½" s. d.	2" s. d.	4" s. d.
	F.R. 10	1 0	1 3	2 0	2 10	—
Do. soil pipe and fixing with cast lead tacks	—	—	—	—	—	5 6
Extra, only to bends	Each —	—	—	—	2 0	6 9
Do. to stop ends	" 6½	8	9	11	1 0	—
Boiler screws and unions	" 3 3	3 9	5 0	8 0	—	—
Lead traps	" —	—	—	6 3	8 9	—
Screw down bib valves	" 6 9	9 6	11 0	—	—	—
Do. stop cocks	" 7 0	9 6	12 6	—	—	—

4" cast-iron ½-rd. gutter and fixing	F.R.	1 0
Extra, only stop ends	Each	1 0
Do. angles	"	1 6
Do. outlets	"	2 9
4" dia. cast-iron rain-water pipe and fixing with ears cast on	F.R.	1 2
Extra, only for shoes	Each	1 3
Do. for plain heads	"	5 6

PLASTERER AND TILING		s. d.
Expanded metal lathing, small mesh	Y.S.	2 0
Do. in n/w to beams, stanchions, etc.	"	2 9
Lathing with sawn laths to ceilings	"	1 3
½" screeding in Portland cement and sand for tiling, wood block floor, etc.	"	1 5
Do. vertical	"	1 7
Rough render on walls	"	1 2½
Render, float and set in lime and hair	"	1 9
Render and set in Sirapite	"	1 11
Render, backing in cement and sand, and set in Keene's cement	"	2 9
Extra, only if on lathing	"	4
Keene's cement, angle and arris	F.R.	6
Arris	"	1½
Rounded angle, small	"	3
Plain cornices in plaster, including dubbing out, per 1" girth	"	1½
1" granolithic pavings	Y.S.	3 6
1½" "	"	4 6
6" × 6" white glazed wall tiling and fixing on prepared screed	"	17 6
9" × 3" " " " "	"	1 2 6
Extra, only for small quadrant angle	F.R.	8

GLAZIER		s. d.
21 oz. sheet glass and glazing with putty	F.S.	7½
26 oz. do. and do.	"	8½
Flemish, Arctic, Figured (white) and glazing with putty	"	1 1
Cathedral glass and do.	"	1 2
Glazing only, British polished plate	"	7
Extra, only if in beads	"	2
Washleather	F.R.	4

PAINTER		s. d.
Clearcolle and whiten ceilings	Y.S.	6
Do. and distemper walls	"	9
Do. with washable distemper	"	1 1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	"	3 3
Do. on woodwork	"	3 6
Do. on steelwork	"	3 9
Do. and brush grain and twice varnish	"	5 6
Stain and twice varnish woodwork	"	1 11
Stain and wax-polish woodwork	"	4 6
French polishing	F.S.	1 2
Stripping off old paper	Piece	2 0
Hanging ordinary paper	from "	2 9

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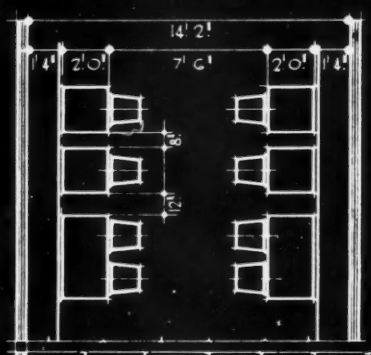
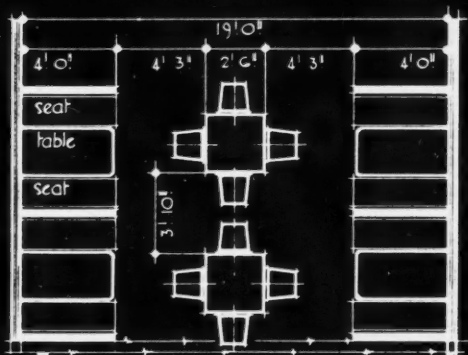
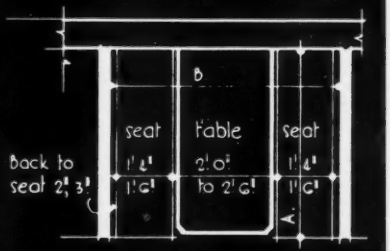
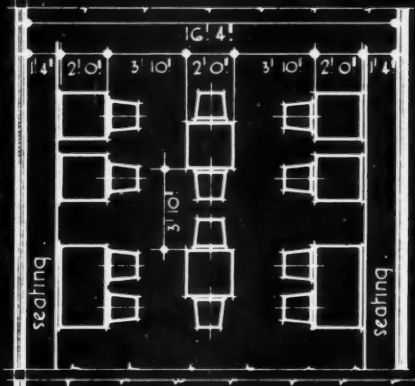
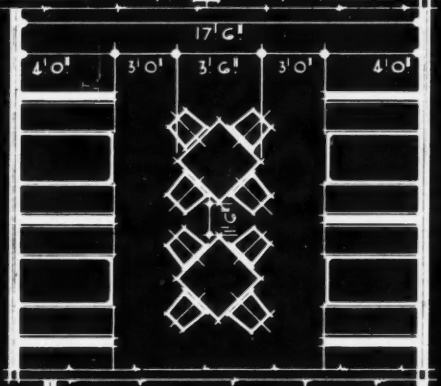




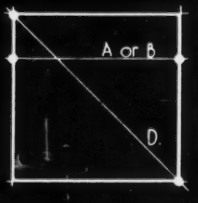


A : one person at side, 2' to 2' 6"
A : two persons at side, 4' to 4' 6"
B : without back to seat, 4' 8" to 5' 0"
B : with back to seat, 5' to 5' 6"
B : with upholstered back, 6' c. to c.
Tables are often made 3" or 4" shorter than seats, with rounded corners.
For heights of partitions refer to building regulations.



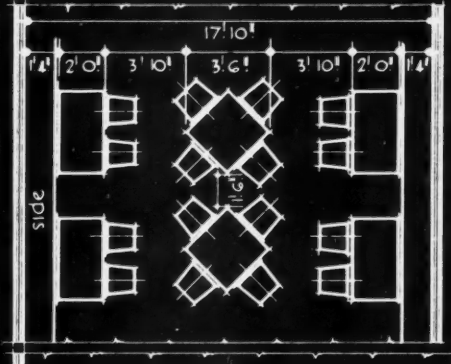


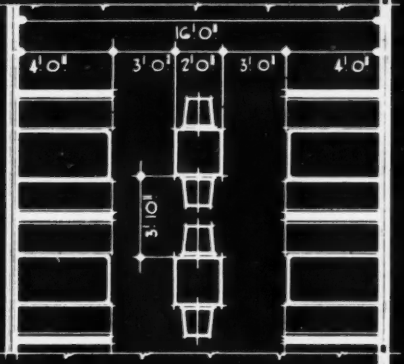
Tables:

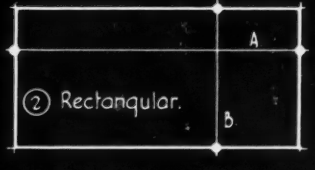


① Square.

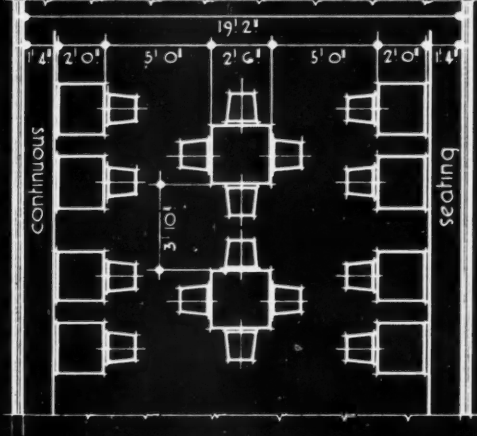
Persons	A or B	D
2	2' to 2' 6"	2' 10" - 3' 6"
4	2' 6" to 3'	3' 6" - 4' 3"







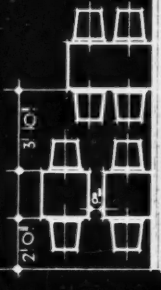
Persons	A	B
2	2' 6"	2' 0"
4	3' 6"	2' 3"
4	4' 0"	2' 6"
5 to 6	5' 0"	2' 9"
6	6' 0"	3' 0"



ABOVE: Diagrams showing desirable room widths for continuous side booths in conjunction with various arrangements of seating to centre aisle.

Spacing for tables against wall.

Two smaller tables as shown are more desirable than the single type above.



③ Round.

Persons	A
2 to 4	2' 6"
2 to 4	2' 8"
5 to 6	3' 0"
5 to 7	3' 6"
2	2' 0"
6 to 8	4' 0"

Diagrams showing desirable room widths for continuous side seating in conjunction with various arrangements of seating to centre aisle.

Note: For convenience and efficient service the clearance dimensions shown throughout should be considered as being the minimum.

Tables: minimum sizes are satisfactory for drink service, use larger for food service. Tables wider than 2' 6" will seat two extra persons at ends. Heights 2' 6" occasionally 2' 7".

Scale for wall seating and booth diagrams: 1/8 inch equals 1 foot.

INFORMATION SHEET: BOOTHS, TABLES AND SEATING ARRANGEMENTS.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.1

Supplement to THE ARCHITECTS' JOURNAL for May 31, 1934

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

• 113 •

RESTAURANT SEATING

THIS Sheet gives the essential seating dimensions for restaurants and the sizes of tables to seat a given number of persons. All the figures given on the $\frac{1}{8}$ scale plans are minima, adequate service particularly being impossible if the gangway dimensions are reduced; the table sizes are suitable for the service of drinks and sandwiches; sizes for more elaborate meals are given in the right-hand column.

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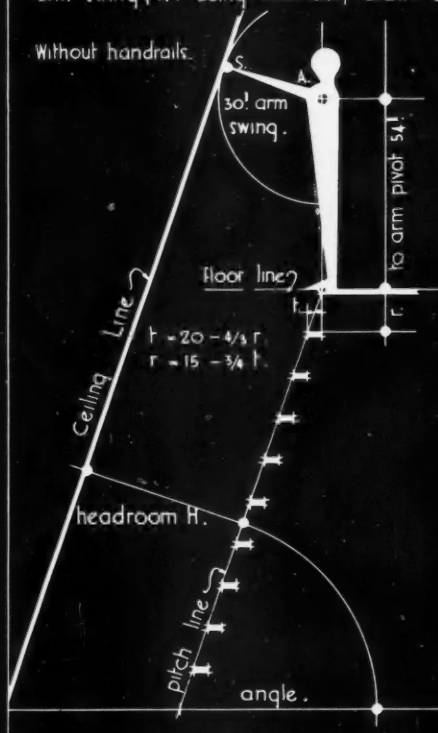
Notes : The headroom and handrail heights for all gradients are established by three definite dimensions : (1) The average walking stride of an adult - 24! (2) Average height from shoe heel to upper arm pivot - 54! (3) The average arm swing from pivot to tip of midfinger - 30! In all diagrams the ceiling line is parallel to the pitch line of the gradient and tangential to the arm circle at point 'S'. Note that 'S' changes position with change in gradient, the arm swing, AS being invariably drawn at right angles to the line of the gradient.

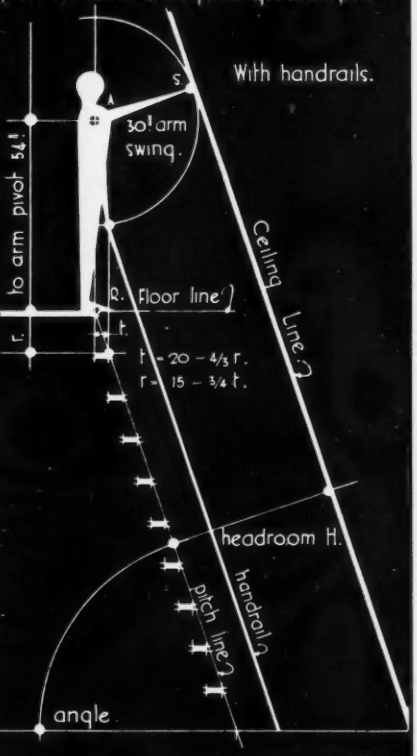
Without handrails.



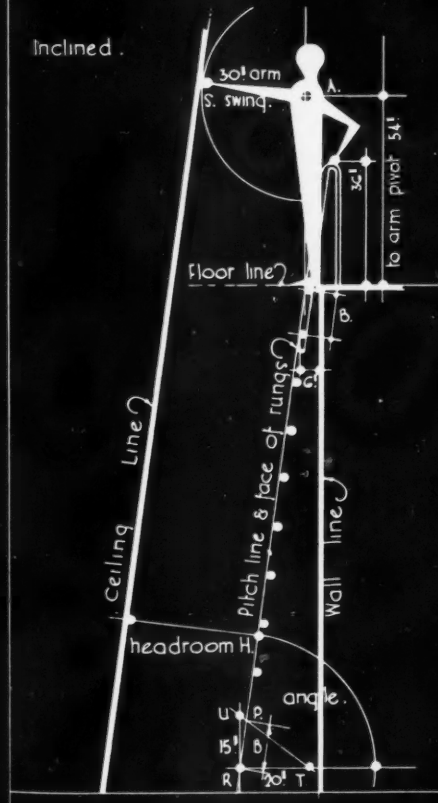
Notes :
For step-ladders with or without hand-rails, to trapdoors, fire escapes, boiler rooms, fly galleries, belfries, garrets, decks, etc. If risers are not open, hand rails should be provided on both sides for safety, with maximum ladder width of 24! and minimum of 21! Without hand-rails risers must be left open for hand holds. Building codes should be consulted.

Riser r in inches.	Tread t in inches.	Angle in degrees & minutes.	Headroom H in inches.	Handrail R in inches.
9 3/8	7 1/2	51.21	64	34 1/2
9 3/4	7	54.19	62	34 1/2
10 1/8	6 1/2	57.18	59	35
10 1/2	6	60.16	57	35
10 7/8	5 1/2	63.10	54	35 1/2
11 1/4	5	66.2	52	35 1/2
11 5/8	4 1/2	68.50	50	36
12	4	71.34	47	36
12 3/8	3 1/2	74.12	45	36 1/2
12 3/4	3	76.46	42	37

With handrails.



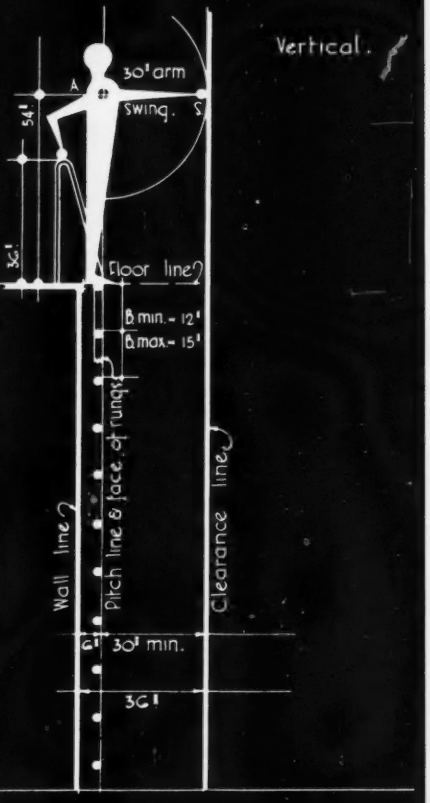
Inclined.



Notes :
For permanent rung ladders inclined or vertical, where access is limited. If not confined between side walls ladders may be as narrow as 15! but 18! is more desirable. When mounted from a walled passageway such approach should have minimum width of 24! to give elbow room and use of ladder-frame as handrails. Ladders should stand at least 6! clear of wall for finger and toe room. For escapes and other special uses building codes should be consulted.
Rung spacing for fixed rung ladders of given inclination : set off RT horizontally equal to 20! then RU vertically equal to 15! UT now fixes point P on pitch line, giving RP as rung spacing, B.

Pitch. Ratio.	Angle in degrees & minutes.	Rung spacing B in inches.	Headroom H in inches.
12 : 2 1/2	78.14	13 1/4	41
12 : 2	80.33	13 1/2	39
12 : 1 1/2	82.53	13 3/4	37
12 : 1	85.14	14 1/4	35
12 : 1/2	87.37	14 1/2	32
vertical	90.0	15 max. 12 min.	30

Vertical.



INFORMATION SHEET : DATA FOR HEADROOM ETC. TO FIXED STEP & RUNG-LADDERS.

SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.1

Supplement to THE ARCHITECTS' JOURNAL for May 31, 1934

THE ARCHITECTS' JOURNAL
LIBRARY OF PLANNED INFORMATION

INFORMATION SHEET

• 114 •

STAIRWAYS AND LADDERS

THIS Sheet gives the minimum dimensions for stairways and fixed ladders in limited spaces. All dimensions are based on the measurements and average walking stride of a normal adult, 5 ft. 9 in. high, but small variations in height will not appreciably affect the results. Handrails should always be provided if the risers are not open, but for vertical, or nearly vertical, rung ladders the ladder frame is used as a handrail and extended to provide a grip at the top.

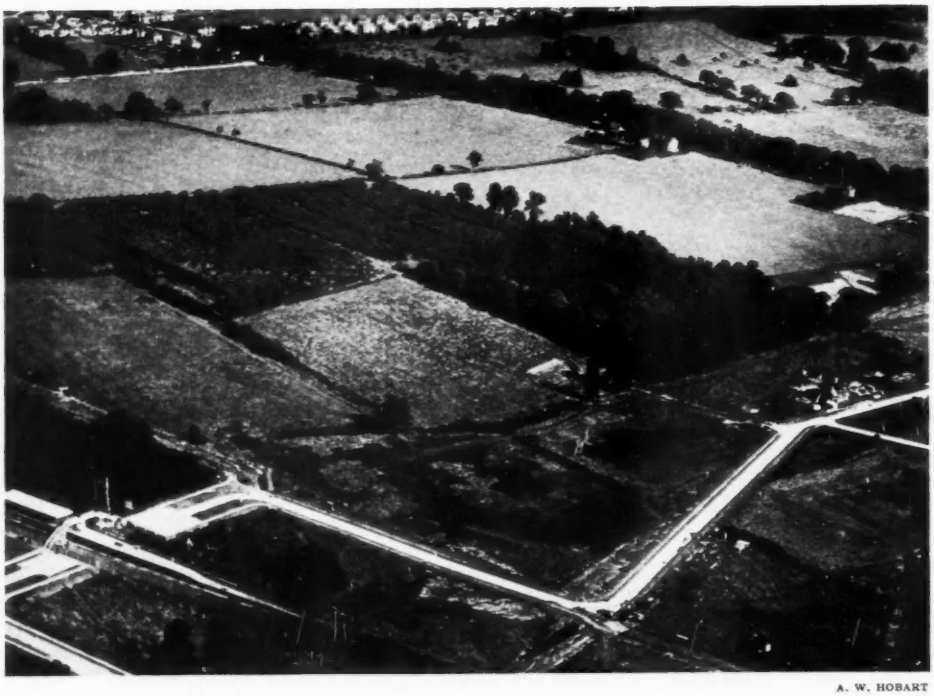
A previous Sheet (No. 111) dealing with passages and stairways, was presented with our issue for May 24.

THE NEW VILLEURBANNE

FORMALLY OPENED ON JUNE 1

A PART of Villeurbanne, an industrial suburb of Lyons, in France, has been rebuilt as a concentrated urban community with eleven-storey blocks of flats as the basic residential unit. The project has taken three years to complete; it was formally opened on Friday of last week.

The buildings are seen in the above photograph rising behind some earlier houses and factories that are typical of the kind of development the new centre is planned to replace. The scheme is illustrated and its financial and administrative organization described elsewhere in this issue.

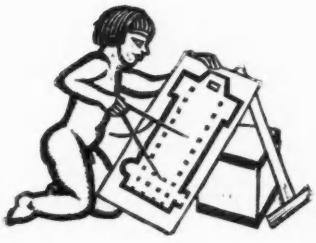


A. W. HOBART

AERIAL PHOTOGRAPHIC CO.

PROGRESS PHOTOGRAPHS

These pictures show what can happen in eighteen months. Both were taken from the same view-point, near Ewell in Surrey; the upper one at the end of 1932 and the lower one last week. The pictures tell their own story of a kind of development in which neither the seclusion of rural nor the collective convenience of urban living are provided, and the maximum amount of desirable countryside is spoilt, both for the dweller in it and the townsman desiring access to it. Existing trees, it appears, have not even been preserved in the surviving open spaces where preservation could only have been a question of forethought. Where changes like this are taking place the Panel system could be of real value.



THE RUISLIP PANEL LETTER

LAST week we printed an article giving the full history of the Ruislip case. Therein we were able to include the text of the letter which the local Advisory Panel sent to the Ruislip-Northwood Urban Council. This letter set forth the Panel's reasons for recommending that the Council should persist in their refusal to sanction the plans of the pair of houses by the architects, Messrs. Connell and Ward. In previous issues we have discussed the danger to the profession of using the Panel system for the ventilation of intra-professional disagreements. The presence of this danger does not necessarily mean that the Panel system is a failure ; it still remains a potential instrument of good in spite of the unfortunate events that have marked its birth. Its deplorable results in the Ruislip case were almost wholly due to abuse of the system ; and further examination of the Panel letter, which is reprinted on page 819, provides the clearest possible illustration of the extent to which the members of the Ruislip Panel—in their detestation of a kind of architecture they had been brought up to dislike—were led to stray beyond their function. Their function, we repeat, is to advise on the improvement of design below the level of literacy, i.e., of designs that are not by architects. As they went beyond this the Panel members were tempted into the uncomfortable position of being compelled to find justification for their own prejudices, and it is on their own evidence that they are most effectively condemned.

In this letter their dislike of this particular design on personal rather than on pragmatic grounds is early apparent in the epithet they use : " deliberately odd." Some credit would be due to them if one could believe that they intended to present " consciously modern " and " ignorant " as a direct antithesis ; but the rest of the letter unfortunately shows that they are here only indicating their regret that they cannot even concede to this design ignorance as an excuse. It is, in their opinion, the result of sheer perversity. They show, too, their lack of appreciation of the rational basis of modern architecture by their failure to realize that " consciously modern " and " deliberately odd " are contradictory terms. Oddity for its own sake is the opposite of modernity and could be applied more aptly to the eclectic outlook that they themselves presumably approve. However, it is not our purpose here to prove that their opinion of the designs was wrong, so much as their presentation of it. Every one has a right to his own opinions, and the Panel members, having once decided that an æsthetic criticism of the designs of another qualified architect was called for, no doubt gave it honestly in the light of their own beliefs (though their right to give it at all when the authors of the designs are equally well-qualified members of the profession cannot be too strenuously denied) ; but it is when we come to the parts of the letter in which dubious assumptions and quite unsupportable statements of fact are made in order to justify their opinion that the inexcusable nature of the letter is revealed ; for it must be remembered that the Panel members were in the position of expert advisors to an architecturally uninstructed Council, who had no reason to suspect that the Panel's pronouncements on, for instance, the properties of a material could not be relied upon. The letter's very controversial generalizations, therefore, that reinforced concrete is cold and noisy, based, presumably, on a false assumption (that the laymen on the Council could not be expected to detect) that proper insulation was not being provided, was definitely misleading ; and, even though it was subsequently withdrawn at the arbitration proceedings, it was prejudicial to the fair consideration of the case and far outside the proper province of Panel advice. So, too, were the suggestions that the type of design is of Continental origin, that " there is little work of this character being built in this country," that " isolated examples are likely to prove unacceptable to tenants," and that this kind of design is likely to become unfashionable. Questions of comfort, convenience, cost and attractiveness to tenants are questions for the client and architect alone. Opinion and criticism on these points are an unwarrantable interference with professional freedom on the part of an Advisory Panel.

We hold no brief for one kind of design rather than another. It is the general principle of the use or abuse of the Panel system that is at stake, and all architects should read this letter to realize the extent and nature of the criticisms that may one day be publicly made of their work in their neighbourhoods if the purpose of the Panel system continues to be misinterpreted in this manner. It is within the power of the architectural profession by collective action to insist that the Panel system is administered on more responsible lines ; and for their own interest, as well as for the protection of proper freedom for architecture, it is important that they should do so.

The Architects' Journal
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Westminster, S.W.1
Telephones: Victoria
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Telegrams:
Buildable
Parl
London

NOTES & TOPICS

THE KING'S BIRTHDAY HONOURS

A SINGLE familiar name will always jump at one out of a list, however long. Architects who opened their Monday morning papers at the Honours List must very quickly have been caught by Ian MacAlister's name amongst the new knights. I think there can be nobody in the ranks of the R.I.B.A. who will not feel that the honour has been well earned, because MacAlister has piloted the Institute for so many years (and through one or two crises) with such indefatigable energy and extraordinary tact.

*

There will be some provincial members who know him personally only slightly; but they, too, should feel satisfaction in that the King, in honouring MacAlister, honours the body which he administers.

*

By the way, I wonder how many people knew that MacAlister has a second Christian name. I had no idea until Monday; and he spells it in brackets, too—like this: (George).

*

The Birthday Honours List contains several other names of people well known to be architectural world: R. E. Stradling, Director of Building Research, gets a C.B.; A. R. Powys, the C.B.E.; Lancelot Keay, the Director of Housing at Liverpool, the O.B.E.; and J. C. Wynnes, of the Office of Works, the O.B.E.

*

Apart from the personal element of gratification which the list gives, it shows that architecture and building are receiving, in high quarters, some of the recognition which they deserve.

THE RUISLIP CASE

The most tragic thing about the Ruislip case is the sabotage by architects themselves of the opportunities for leadership in the field of speculative building. It is tragic because the principles which Messrs. Connell and Ward invoke in their designs are exactly those which must eventually control the housing situation, and find favour with the gradually-being-educated public.

*

This Panel has obstructed the progress of ideas which are architectural in their essence for no better reason than that ideas which rise strongly from the *structure* of building come strange to them.

*

But I think the R.I.B.A. must go over the Panel machinery very carefully. It was worked out for the purpose of correcting the worst faults due to the ignorance of small builders and private persons. Its moving idea was education. What I would ask the R.I.B.A. is whether in the light of early expectations the machinery is working according to plan, and if not, what they are going to do to prevent the R.I.B.A. itself stultifying its own progress.

SLUM AT THE SAVOY

More than one of us thought it a little odd, just a trifle incongruous shall we say, to sit amid the privileged splendours of the Savoy, an expensive dinner seen away, the table congested with bottles and glasses and the air heavy with the scent of cigars—discussing slums! Ha, ha! Discussing slums.

*

And a whimsical fate ordained that the well-dressed crowd that pushed its way up the staircase should separate into two parties—on the upper floor the Derby Race Club diners—on the lower floor the Architectural Club diners: basement diners if not dwellers.

*

I sat near a celebrated official architect who has been responsible for building 60,000 dwellings. He fumed and he grumbled and asked me how I thought cigars and wine went with slums, and what we had brought our womenfolk here for.

*

He missed the final scene when the parties joined again on leaving. I can say definitely that Lord Castlerosse and slum-clearing diners don't mingle well. There was something unaffectedly hearty in the leavetaking of those Derby Race Club fellows that took the edge off our little prayer-meeting.

ROADSIDE ADVERTISEMENTS

I observe, with mingled jealousy and satisfaction, that in Germany roadside advertisements are being prohibited: jealousy because it is happening in Germany and not here; satisfaction because it is being done at all, thereby proving the idea to be well within the bounds of practicability.

*

Under the new regulations no signs will be allowed in the open country. At the approaches to towns of not fewer than 30,000 inhabitants advertisements will be allowed, but will be limited to subjects which are of definite value or information to road users, e.g. petrol and oil, hotels, etc. Over the next few months all other signs are to disappear.

*

Germany has approached the matter from the aspect of rural preservation. So have we in this country, but in

In the Birthday Honours List: Ian MacAlister, Secretary to the R.I.B.A.

what a pathetically uncertain and timid fashion. County Councils have " powers " to do certain things ; how many ever do anything ? How can they when the local bench probably consists of the friends of the advertisers ? " Shell " has done more than all our half-baked, quarter-considered legislation ; now some other enlightened firms are following suit.

*

Before long, apart from compromising about rural districts, something " official " will have to be done about towns. Traffic signals are already in some places becoming a farce. When I am driving a car after dark I almost long for a policeman's white cuff which, though capricious in its periods, cannot, at least, be confused with an advertisement for toffee.

*

But we shall want a Royal Commission or so before anything coherent can be done. Meanwhile why not use the signals themselves for deriving advertisement revenue ? " STOP—and have a coffee and bun at the Brown Owl ! " " GO—and turn first left and second right for the Aladdin Picture theatre." I can't think of anything for the amber off-hand, but the glass might have those little bubbles in it, and then it would do for the brewer of the locality.

LOOKING DOWN ON ENGLAND

One thing the Exhibition of Aerial Photography and Survey, which was opened at Irving Hall, Bush House, London, on Monday, brought home to me was the enormous amount of open space and agricultural land that is still interspersed with urban areas. The Exhibition also emphasizes the hectic congestion from which nearly every residential and industrial area in England suffers.

*

It is a fascinating Exhibition, although the exhibits are so ill-lit that they are most difficult to examine.

*

It closes on Saturday, and a visit to it will not waste your time. In particular, the air photo survey of the Thames Valley is an awful warning. It should be studied in detail. There is still time to do a little belated planning.

SUBSTITUTION

Architects are often stabbed in the back without realizing that their professional reputation has been wounded. The most subtle form of attack upon an architect's technical integrity is when a builder or contractor takes it upon himself to substitute for a specified material, either something cheaper or more immediately convenient to the builder or contractor.

*

This form of substitution is a menace. An architect is let down by the failure of materials ; and upon investigation that failure is attributable to substitution, and consequently the architect's reputation is damaged in the eyes of his client who feels that greater vigilance should have been exercised in carrying out the specification exactly.

*

Many manufacturers of building materials today take a most conscientious amount of trouble in testing and standardizing their products ; and when substitution is practised by a contractor the architect loses the benefit of that work.

*

What is going to be done about it ? Several architects have mentioned this to me, and there is a vague general feeling that the R.I.B.A. ought to take steps.

*

In fact we have come, as usual, to the good old English decision : *that something ought to be done.* So far nobody has made any practical suggestions about it.

A NEW STANDARD BATH

The International Bath Association announces the appearance of a new standard bath for housing schemes. I have not seen the designs, which will not be available until July ; but here are some claims.

*

The bath has been designed on logical lines (and high time). It fits easily into a 5 ft. by 4 ft. bathroom, with basin. It increases the length of bath, but takes less water. It is easier to clean. And—now then—it is *modern* in appearance !

*

I do not want to pre-judge, but that last remark makes me feel rather uncomfortable. However, we shall see. Anyway, it is something to feel that the bath is at last receiving proper attention ; hitherto the good bath has been the expensive one ; if this new-comer is satisfactory there is going to be a very useful demand for it.

ANOTHER INFLUENCE ON ARCHITECTURE

Reporting the recent performance of Lily Pons, the coloratura singer, *The Manchester Guardian* said :

> She is, without apologies or any dissembling, the typical prima-donna, save that she is not stout but, according to the fashion of the age cultivates smallness. There was probably some connection between the vast girth of the old prima-donnas and the three-volume novel, and the architectural style that produced the Albert Hall.

*

Somebody once described the Albert Hall as the Kensington Gasworks, and the variety of political and other meetings that are held in it might entitle it to be called a gasholder. Gasholders, of course, in those old days, was a term of reproach. Today the Albert Hall, built by an engineer, is one of the few Victorian buildings we really admire.

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

Under the new regulations in Germany no signs will be allowed in the open country. At the approaches to towns of not fewer than 30,000 inhabitants advertisements will be allowed but will be limited to subjects which are of definite value or information to road users *816*

The London County Council debate on the proposal to build a new Waterloo Bridge entirely out of rates has been fixed for June 12 .. .. .. *818*

"In my opinion the single-family house, with a garden of one-twelfth to one-sixteenth of an acre, is the ideal condition in which the working-class family should live": L. H. Keay *818*

The system of rubbish disposal compulsory in Stockholm for all housing blocks with more than four flats on each floor *840*

I.A.A.S. AND THE R.I.B.A.

The following statement appears in the current issue of *The Parthenon*, the journal of the Incorporated Association of Architects and Surveyors :

"In view of certain statements which have appeared in the daily Press and which might give rise to misconception concerning an action for alleged libel in which the I.A.A.S. and its President (among others) are mentioned, the facts should be made clear :

"A writ has been issued by Mr. D. H. Bramall, of Messrs. T. L. Wilson & Co., Solicitors, on behalf of the Association, Sir Edwin Lutyens, President of the I.A.A.S., Sir Robert Tasker, Chairman of Council, and Major G. B. J. Athoe, Secretary. The defendants are the Royal Institute of British Architects and Mr. MacAlister, the Secretary of that body.

"The alleged libel is contained in a letter sent out by, or on behalf of, the R.I.B.A. The writ was served on May 25."

BRITISH ART IN INDUSTRY

A booklet containing full particulars concerning the personnel and organization of the Royal Academy Exhibition of British Art in Industry, to be held in January-March, 1935, has just been issued. It is obtainable on application to the Honorary Organizing Secretary, Royal Academy Exhibition of British Art in Industry, 1935, Royal Academy of Arts, Piccadilly, London, W.1.

WATERLOO BRIDGE : THE NEXT STEP

On Monday last the Highways Committee of the L.C.C. decided that

"Subject to the concurrence of the Finance Committee, a recommendation should be submitted by the Highways Committee to the Council at its meeting on June 12 to demolish the existing Waterloo Bridge, and to replace it with a new bridge of not more than five arches over the river, and of width sufficient to take six lines of vehicular traffic, the cost to be charged to revenue account.

As the House of Commons has refused to make any grant, the cost will be borne by London ratepayers.

The cost of the new bridge is estimated at £1,295,000, equivalent to a penny rate spread over six years. Sir Giles Gilbert Scott's design is the one favoured.

A report of the debate on Waterloo Bridge in the House of Commons last week is given on page 828.

THE ARCHITECTS' DIARY

Thursday, June 7

VICTORIA AND ALBERT MUSEUM, *South Kensington, S.W.7. In the Central Hall. Exhibition of English Silversmiths' Work, old and modern, showing the development of various domestic types. Open during June and July.*

Friday, June 8

INSTITUTION OF STRUCTURAL ENGINEERS. *At Bath. Annual Summer Conference. Last day.*

Saturday, June 9

R.I.B.A. *9 Conduit Street, W.1. Last day for receiving Voting Papers.*

ARCHITECTURAL ASSOCIATION. *At 36 Bedford Square, W.C.1. Exhibition—the Work of W. M. Dudok. Last day.*

Tuesday, June 12

ST. PANCRAS HOUSE IMPROVEMENT SOCIETY, LTD. *(North St. Pancras Group.) At Lyndhurst Hall, Warden Road, N.W.5. A meeting in support of the work of the North St. Pancras Group and the newly formed South-West St. Pancras Group, and to view the progress of the building of the second and third blocks of the Litcham Street scheme, and the plans for 20 flats in reinforced concrete to be erected in Ferdinand Street, Chalk Farm. 4 to 6.30 p.m.*

THOSE WRETCHED BRIDGES"

The Bishop of London, at the London Diocesan Conference on Monday last, discussed the work of the Ecclesiastical Commissioners. The Bishop said : "We are the model landlords of London. We have been much misunderstood. We were prepared to spend half a million on our property in South London, but what has put our noses out of joint is the shilly-shally of the nation and the County Council and Parliament as to whether they are to build those wretched bridges or not. We cannot develop our property there until we know where the bridges are going to go. The Ecclesiastical Commissioners are as keen on housing as ever they were."

THE FUTURE SAFETY OF ST. PAUL'S

The Court of Common Council last week endorsed the recommendation of the committee charged with the investigation of the site of St. Paul's Cathedral that a Bill should be promoted in Parliament conferring power upon the Corporation to create three safety areas surrounding the Cathedral. The object of the Bill is to ensure the future safety of the foundations and fabric against potential danger that might emanate from structural developments in the neighbourhood.

APPOINTMENT OF ARCHITECT TO THE STOKE C.C.

Mr. J. R. Piggott, A.R.I.B.A., has been appointed Chief Architect to the Stoke City Council, at a commencing salary of £650 per annum.

THE ARCHITECTURE CLUB : ANNUAL DINNER

The twenty-third annual dinner of the Architecture Club was held at the Savoy Hotel, London, on Thursday last. Mr. R. Holland Martin (President) occupied the chair.

Among those present were Lord Balfour of Burleigh, Major and Mrs. Harry Barnes, Mr. and Mrs. Darcy Braddell, Mr. and Mrs. S. Chermayeff, Mr. and Mrs. Wells Coates, Mr. G. Topham Forrest, Mr. and Mrs. E. Maxwell Fry, Mr. H. Austen Hall, Mr. and Mrs. Stanley Hamp, Mr. L. H. Keay, Professor and Mrs. A. B. Knapp-Fisher, Captain S. D. Meadows, Mr. and Mrs. Erich Mendelsohn, Mr. and Mrs. Oswald P. Milne, Mr. H. Greville Montgomery, Col. and Mrs. Val Myer, Lady Pentland, Mr. and Mrs. G. L. Pepler, Mr. and Mrs. Stanley C. Ramsey, Professor C. H. Reilly, Mr. E. A. A. Rowse, Sir Giles Gilbert and Lady Scott, Sir Raymond Unwin, Mr. and Mrs. G. Grey Wornum, Lady Hilton Young and the Secretary of the Club, Mr. J. H. Elder-Duncan, and Mrs. Elder-Duncan.

Lord Balfour of Burleigh opened the discussion on slum clearance. He said that what they wanted was something which would give them a constant housing policy which should be carried on by any Government, of no matter what party, in the future. He and Lord Amulree had drawn up a plan for a housing commission which ought to be under the control of the Ministry of Health. They needed a million houses at a weekly rent of ten shillings and under. Finance, he said, was the easiest part of the whole scheme, and if his scheme were taken up on a 3½ per cent. basis the necessity for a subsidy would disappear.

The principal contribution to the discussion was made by Mr. L. H. Keay, F.R.I.B.A., Director of Housing, Liverpool. He dealt with the housing conditions in such cities as Liverpool, Manchester and London, and suggested that although in his opinion the single-family house, with a garden of one-twelfth to one-sixteenth of an acre, was the ideal condition in which the working-class family should live, the only practicable solution to the problem was to build vertically rather than to spread laterally. "What are the reasons which can be put forward against the building of flats?" he asked. "So far as I have been able to understand they are briefly as follows :—1 : Englishmen do not like this type of dwelling. 2 : They are more costly than the single-family cottage. 3 : There is a lack of privacy and an absence of any separate garden space for rest and recreation. 4 : Because they are built at such high densities, an unreasonable number of people are crowded together on every acre of land developed by this method.

"To these objections, I would answer, first, the Englishman has seldom had the opportunity of living on an estate of sufficient size to show the benefits which can arise from this type of development. By that I mean an estate accommodating from 2,000 to 5,000 flats, and provided with all the necessary amenity buildings, with adequate communal open space for recreative purposes and, if necessary, for small gardens for those who desire them. Before we condemn the flat system in this country, I feel that an experiment on sufficiently large lines should be tried out.

"Secondly, as to the cost of flats, it has now

been proved that the same accommodation in the flat form need not cost more than 25 per cent. above the cost of similar accommodation in the single-family house. That is the difference in the *capital cost* of the accommodation provided; but what are the savings involved about which we hear very little? I can rightly assume that the schools and other amenity buildings already exist in the areas that it is suggested should be replanned and redeveloped. The expense of providing these buildings on some estate on the outskirts is, therefore, avoided. When an area is redeveloped, if I may coin a word, it will be 'de-roaded,' for 100 flats do not require the same road frontage as is necessary for 100 single-family houses. Every mile of 36 ft. road costs annually about £400 to maintain. Here is a saving which is not often realized. In addition to this, the health services are less costly to effect: ash-shutes, taking the rubbish from the superimposed flats, are provided at intervals along the buildings, and, from an estimate which I prepared recently, no less than three-fourths of the cost of collection is saved. By reason of the fact that the occupants of the flats reside within easy reach of their places of work, it is not necessary to provide transport accommodation, which, in these days, is a consideration. If it were possible to prepare a proper balance sheet, it is my impression that the flat would stand comparison in cost with the single cottage development.

"Thirdly, when it is suggested that the flat has no privacy, it should be remembered that we are speaking of a density of development of about 60 dwellings per acre. If the blocks are properly planned, and in short lengths rather than long continuous buildings, I see no reason why privacy should be less than in single house development of even half that density. At 30 houses to the acre, the house has to be built abutting on the back of the pavement, and there is very little room for any private yard at the rear of the building. If it is considered unreasonable that 250 people should live on each acre, I can only say that they are doing it now without the advantages of the vast amount of open space that can be provided in a properly laid out flat scheme, for we must remember that, even at 60 flats to the acre, no less than 61 per cent. of each acre can be left entirely free from any buildings, back streets or pavements.

"What we are suffering from today is timidity, and if we fail to tackle this problem, as it demands to be tackled, on the broadest lines possible, irrespective of the interests of many who will oppose big redevelopment schemes, then we shall merely make a hotch-potch and repeat what was done in the last century. Success will depend on unification of control under one Executive Committee and one executive officer, free from interference or change of policy until the whole problem is solved."

The other speakers were Lady Pentland, Mr. E. A. A. Rowse, A.R.I.B.A., Professor A. M. Carr-Saunders, M.A. and Mr. W. M. Dudok.

INSTITUTION OF STRUCTURAL ENGINEERS

The Constitution of the Council of the above Institution for the 1934-1935 session is as follows: President, Mr. Ewart S. Andrews, B.SC., M.INST.C.E. Past Presidents (ex officio): Messrs. F. E. Wentworth-Sheilds, O.B.E., H. D. Searles-Wood, F.R.I.B.A., H. J. Deane, B.ENG., R. H. Harry Stanger, F.C.S., Major E. C. P. Monson, T.D., F.R.I.B.A., and Major A. H. S. Waters, V.C. Vice-Presidents: Mr. J. T. Saunders, F.R.I.B.A., Lt.-Colonel C. H. Fox, O.B.E., Professor J. Husband, M.ENG., Mr. Oscar Faber, O.B.E., Professor Sir Thomas Hudson Beare, B.A., B.SC., and Lt.-Colonel H. S. Rogers, C.M.G. Hon. Treasurer, Captain M. B. Buxton, M.C., M.A.; Hon. Secretary, Mr. J. Stuart Lewis; Hon. Librarian, Mr. A. J. Taylor, F.R.I.B.A.; Hon. Editor, Mr. H. R. Cox; Hon. Curator, Mr. J. F. Butler.

Members: Messrs. P. J. Black, L.R.I.B.A., S. Bylander, W. Cyril Cocking, H. J. Collins, M.SC., A. Kirkwood Dodds, M.C., L.R.I.B.A., M. B. Duff, R. F. Galbraith, M.C., B.SC., W. F. Hutchinson, C. J. Jackaman, R. Travers Morgan, M.ENG., A. Scott, M.B.E., F.R.I.B.A., and Professor C. E. Inglis, O.B.E.

Associates: Messrs. W. Douglas May and C. Roland Woods, M.B.E., LL.D.

Associate-Members: Messrs. F. M. Easton, C. S. Gray, B.SC., and A. S. Lowe, M.C., B.SC., A.M.INST.C.E.

ARCHITECTS' (REGISTRATION) BILL

On the motion of Lord Crawford, the Bill to amend the Architects' (Registration) Act was formally read a second time in the House of Lords last week.

NEW TUBE TO ROMFORD

Sir George Hamilton, M.P., has arranged a meeting of M.P.'s to be held on June 28, to discuss concerted action in Parliament to press the Government to give the necessary financial assistance towards the cost—estimated at 12 million pounds—of the proposed tube railway from the City to Ilford, Barking and Romford.

LEICESTER SOCIETY OF ARCHITECTS

The bronze medal offered by the Leicester and Leicestershire Society of Architects for the best building erected in Leicestershire and Rutland during the three years ended December 31 last, has been awarded to Messrs. Symington, Prince and Pike, of Leicester, for the premises of Messrs. Kimberlin and Brown, Charles Street, Leicester.

Mr. T. Trevor Sawday, A.R.I.B.A., has been elected President of the above Society for the second year in succession.

EDINBURGH ARCHITECTS AND PUBLIC WORK

On May 31 a deputation from the Edinburgh Architectural Association (led by Mr. James Arnott, F.R.I.B.A., the President) made an appeal to the Lord Provost's Committee of the Edinburgh Corporation that a proportion of the Corporation's architectural work should be allocated to outside architects. In a memorandum presented by the deputation it was pointed out that the Association realized that much of the public architectural work in the city must pass through the City Architect's Department, and the members desired to avoid anything that would savour of criticism of the attitude so far adopted by the Corporation. It was suggested, however, that there must be a distinct risk of the department reaching such dimensions, and having to deal with so great a volume of work, as to render it extremely difficult to produce the best results.

What the Association respectfully desired to submit, tated the memorandum, for the sympathetic consideration of the Town

THE RUISLIP LETTER

The following is the text of the letter sent to the Ruislip-Northwood Urban Council by the local Advisory Panel in reference to the houses designed for that neighbourhood by Messrs. Connell and Ward. The letter is discussed in this week's leading article.

To the Clerk to the Council.

Plan No. 4179.

Submitted by Messrs. Connell and Ward.

Dear Sir,—At a meeting of the Harrow Advisory Panel held today the above Plan referred to us by your Council was carefully considered, particularly in regard to the points to which attention was specially directed and it was decided to advise the Council to persist in their disapproval.

The Council no doubt already realizes that this is not an ignorant, but a consciously modern, design which, in external form, is deliberately odd. We see nothing in the planning which would render it necessary that it should be treated in this fashion which is not new but of Continental origin. We are satisfied that, despite full publicity for all discoverable examples in the technical Press, there is in fact little work of this character being built in this country and if, as appears likely, it becomes unfashionable the isolated examples are likely to prove unacceptable to tenants and may even become derelict, to the disadvantage of surrounding property.

The proposed material, reinforced concrete, has been found cold, noisy and no cheaper or quicker than brick, so that there appears to be nothing to justify its use in domestic work. From experience of the district we consider the apparent intention to rely on isolated foundations to be risky and likely to develop uneven settlement which would be further prejudicial to the houses.

As a matter of detail, the prominence given to the unimportant staircases by projection and enclosure within walls of glass does not seem evidence of proportionate design, though whether it is good or bad Art is, of course, a matter of opinion.

Architects might be interested to see these designs carried out, but we conceive it to be the duty of elected representatives to have some regard to the feelings and wishes of the community which they represent and, in our opinion, nine out of ten of the Ruislip population would view these houses in their proposed situation with active disfavour.

Yours faithfully,

(Signed) Edwin Gunn.

Council, was the possibility of the employment of outside practising architects in the city for the carrying out of, at least, a certain proportion of the work at present undertaken by the City Architect's Department. The memorandum was remitted to a sub-committee for consideration.

LIVERPOOL HOUSING DIRECTOR

The Liverpool Housing Committee have proposed that the salary of the Director of Housing, Mr. L. H. Keay, F.R.I.B.A., should be increased by £1,000 to £2,500. The proposal has been referred to the Salaries Committee, who will report to the City Council.

HOUSING IN SOUTH WALES

At a conference of local authorities, held at Cardiff last week, a resolution was passed urging the Government to introduce a Bill at an early date giving Exchequer assistance to local authorities to deal with the problem of overcrowding. Local authorities were being pressed by the Minister of Health to accept a lower standard of houses both as regards superficial area, construction, equipment, and amenities, and they urged the Ministry to give them full freedom of action.

ANNOUNCEMENT

Mr. A. L. Abbott, F.R.I.B.A., has removed his offices to 6 Queen Anne's Gate, Westminster, S.W.1. Telephone No.: Victoria 8971.

We regret that in our issue for May 3 we inadvertently stated that the scheme for the Birmingham Civic Centre was the work of Mr. S. N. Cooke and the Borough Surveyor. The architects responsible for the scheme were Messrs. S. N. Cooke, F.R.I.B.A., and Mr. James A. Swan, F.R.I.B.A.

The late William Davidson

We regret to record the death, after a long illness, of Mr. William Davidson, F.R.I.B.A., of Edinburgh.

Born in 1875, Mr. Davidson studied at the School of Applied Art and the Herriot Watt College, Edinburgh; and also in Italy, France and Belgium. In 1904 he was awarded the R.I.B.A. Owen Jones Studentship. Mr. Davidson made an exhaustive study of East Anglian rood screen painting, on which he was an acknowledged authority, and various collections, including the South Kensington Museum, have examples of his reproductions of these 15th-century paintings. Mr. Davidson designed a number of war memorials, and he was responsible for several schemes of church decoration.

THIS ARSHETECTURE

Sir Enoch Hill, who was chairman of the association for 12 years, was presented with a silver model of Shakespeare's house at Stratford-on-Avon made exactly to scale and containing a cigar cabinet, and Lady Hill was given a platinum watch set with diamonds.—*From* THE TIMES *account of the Harrogate Conference of the National Association of Building Societies.*

COMPETITION NEWS

THE SWINTON AND PENDLEBURY COMPETITION

THE CONDITIONS REVIEWED

[*By Iodos*]

Urban District of Swinton and Pendlebury. Competition for Proposed Municipal Offices, etc. Assessor—J. R. Adamson, F.R.I.B.A. Premiums: £150, £100, £75. Last day for questions: June 11, 1934. Sending-in day: August 17, 1934. Conditions (deposit one guinea) from the Clerk to the Council, Council Offices, Swinton, Manchester.

THE PROBLEM IN OUTLINE

TWO separate, though inter-related, pieces of work face the entrants for this competition. First, they are required to lay out, on a site of ample size though not altogether easy shape, a scheme for a general civic centre, which will probably (but not certainly) be developed in stages over a term of years. The buildings involved, which are only required to be shown as blocks on a 1/500 scale plan, are (1) municipal offices, (2) a public library of which the main unit is a 40,000 volume lending library, (3) a Petty Sessions Court, and (4) a public assembly hall for an audience of 1,000. The remainder of the site, not covered by these buildings, is to be laid out as a park with ornamental gardens, and is to include the provision of a car park, apparently limited to the use of members of the council. Out of this scheme the municipal offices alone are to be built in the first instance, and for them only is there any guarantee, subject to Ministry of Health sanction for the necessary loan, of employment for the successful competition.

The second piece of work is the competition design proper for the Municipal Offices, which competitors are required to work out in full detail and to present in a full set of $\frac{1}{16}$ in. scale drawings, typical $\frac{1}{2}$ in. scale details and a descriptive report and estimate of cost.

ACCOMMODATION REQUIRED

The requirements of the very fully listed schedule of accommodation conform, in general, very closely to the normal practice for municipal offices. Stress is laid on the need for easy future extension without interference with the main fabric (presumably extension for any one of the main departments is envisaged), and on the need for easily removed partitions between offices to allow of future internal adaptation. It is directed that all main corridors should be of adequate width (not less than 6 ft.) and that "consideration should be given to the natural lighting and ventilation of these." Construction should be fireproof and the planning straightforward and economical. The one unusual feature is the requirement of a dining room for members and a common room and a dining room for the staff, with the necessary kitchen equipment.

The accommodation falls into the following main divisions:—

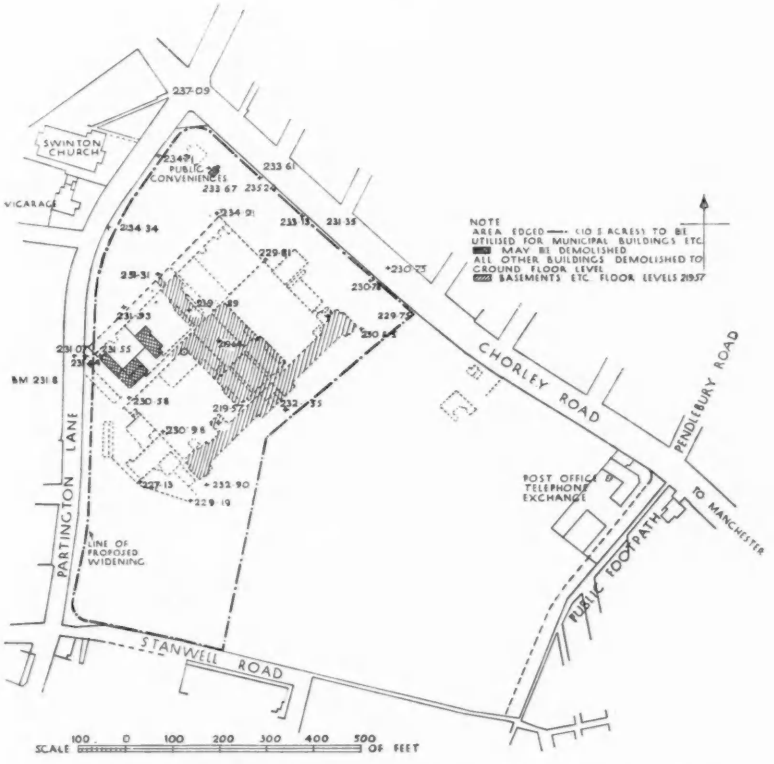
1: *Council Suite*, totalling about 6,000 sq. ft. This is on a generous scale, with a Council Chamber of 1,600 sq. ft., three Committee Rooms separated by movable partitions, the already mentioned Members' Dining Room, a "Mayor's Parlour," Members' Rooms and Lavatories for both sexes, etc.—the whole so arranged "en suite" (whatever that means) preferably on the first floor.

2: *Clerk to the Council's Department*, totalling about 2,800 sq. ft. This is to be "conveniently near" the Council Suite.

3: *Surveyor's Department*, totalling about 2,300 sq. ft. and including a north-lighted or top-lighted Drawing Office, of 750 sq. ft.

4: *Accountant's Department*, totalling about 3,500 sq. ft. and including a Rates Office of 1,250 sq. ft. with direct public access, near to an entrance. The department should preferably be on the ground floor.

5: *Education Department*, totalling about 1,000 sq. ft.



Competition for Municipal Offices, etc., Swinton and Pendlebury : Site Plan.

6 : *Public Health Department*, totalling about 2,200 sq. ft.

7 : *Miscellaneous Accommodation*, mainly in the basement and totalling perhaps about 4,000 sq. ft. (the sizes of most of the rooms are not specified). The requirements comprise the Electricity Department (one office only), Enquiry Office, Telephone Room, "two or three" Spare Offices, Staff Common Room and Dining Room, Kitchen, etc., Strong Rooms and Stores for all Departments, "one or two" spare Stores, Heating and Plant Rooms, and Staff Lavatories and Cleaner's Rooms on every floor.

8 : *Caretaker's Quarters* (Living Room, two Bedrooms, etc.) totalling about 700 sq. ft.

GENERAL REQUIREMENTS

The site, as already noted, is ample not only for the offices but also for the other projected future buildings. Most of the buildings formerly on the site have already been demolished to ground level but extend downwards to a basement floor which will require to be cleared away; the few remaining buildings may be assumed to be demolished at the competitors' discretion. The surface of the site, disregarding existing basements, is fairly level and can perhaps reasonably be assumed to be completely level for designing purposes. The whole area is undermined by coal workings, a fact which competitors are warned to take account of by providing for a reinforced concrete raft extending under the whole of the building. Subject to this a satisfactory foundation may be assumed at basement level, approximately 10 ft. below the surface.

The offices are required to face either to Chorley Road or to the cross-roads at the northern corner of the site (see site plan) and to be set back about 150 ft. from the road, with an ornamental garden treatment intervening. In elevation they are to be "dignified" and "free from over-elaboration" and the use of a suitable brickwork with stone dressings is suggested.

Competitions Open

June 23.—Sending-in Day. Venesta, Ltd., invite architects resident in Great Britain and under the age of 30 on January 31, 1935, to submit in competition designs for an exhibition stand to display Venesta plywoods at the Building Trades Exhibition at Olympia in September, 1934. Assessors: H. de C. Hastings, Editor, *The Architects' Journal*, W. L. Wood, Editor, *The Architect and Building News*; W. T. Plume, Editor, *The Builder*; Henry Rutherford; John Gloag; and E. Maxwell Fry, A.R.I.B.A., (nominated by the Editor of *The Architectural Review*). Premiums: £100 and four of £10 each. Conditions of the competition may be obtained from Messrs. Venesta, Ltd., Vintry House, Queen Street Place, London, E.C.4.

June 26.—Sending-in Day. Proposed Council Offices, Slough, for the Slough U.D.C. Assessor: H. S. Goodhart-Rendel, V-P.R.I.B.A. Premiums: £250, £150 and £100 for designs placed first, second and third, respectively. Conditions, etc., may be obtained from F. R. Duxbury, Clerk to the Council, Council Offices, Slough. (Deposit £1 1s.). Last day for submission of designs: June 26.

July 16.—Sending-in Day. Proposed Council School, Dudley. The competition is limited to architects having an office within 15 miles radius of Dudley. Assessor, H. T. Buckland, F.R.I.B.A. Premiums: £150, £100 and £50. The last day for application for questions was May 7. Designs should be submitted to the Director of Education, Education Offices, St. James' Road, Dudley.

July 31.—Sending-in Day. Proposed Municipal Sanatorium and Children's Hospital, Belfast. Competition limited to architects who have resided in Northern Ireland since March 1, 1933. Assessor: R. S. Wilshere, F.R.I.B.A, Premiums: 500, 200 and 100 guineas. The last day for questions was April 28. Designs should be submitted to the Town Clerk, City Hall, Belfast.

August 11.—Sending-in Day. Proposed new Municipal Offices for the Swinton and Pendlebury Urban District Council. (The conditions are reviewed on this and the facing page.)

October 1.—Sending-in Day. Proposed Municipal Assembly Halls, Wolverhampton, for the Wolverhampton Corporation. Assessor: C. Cowles Voysey, F.R.I.B.A. Premiums: £350, £250 ond £150. Conditions from the Town Clerk, Town Hall, Wolverhampton. Last day for questions was May 21. (Deposit £1 1s.

R. I. B. A.

ROME SCHOLARSHIP IN ARCHITECTURE

The designs submitted in the Final Competition for the Rome Scholarship in Architecture will be on exhibition in the Galleries of the R.I.B.A., between the hours of 10 a.m. and 8 p.m. (Saturday 10 a.m. and 5 p.m.) from June 22 to June 30.

The scholarship is provided by the R.I.B.A., which makes a grant of £750 a year to the British School at Rome. It is awarded by the Faculty of Architecture of the British School at Rome, and is contested annually by students selected from the various architectural schools in the country. The scholar is required to go to Rome to study for a period of two or three years at the British School at Rome.

This year the subject of the competition was "A Building for a Permanent Exhibition of Art in Industry." Fourteen students, drawn from the following Schools, took part:—Royal Academy Architectural School; Bartlett School of Architecture, University of London; School of Architecture, The Architectural Association, London; Armstrong College School of Architecture, University of Durham; Liverpool School of Architecture, University of Liverpool; School of Architecture, University of Manchester; School of Architecture, Edinburgh College of Art and the Leeds School of Architecture.

COUNCIL OFFICES, ROMSEY:

S. A. CHANDLER (SOUTHAMPTON)

The problem here was to provide, at a cost not exceeding £4,500, a Council Chamber and as much accommodation as possible for the Council's officials; the solution is simple and straightforward, with a minimum of waste space, and the stipulated cost was not exceeded. The building is faced with dark cherry-red fine sand-faced bricks, with a base of dark purple coarse bricks and stone dressings; the roof is mixed dark red tiles on boards and felt.

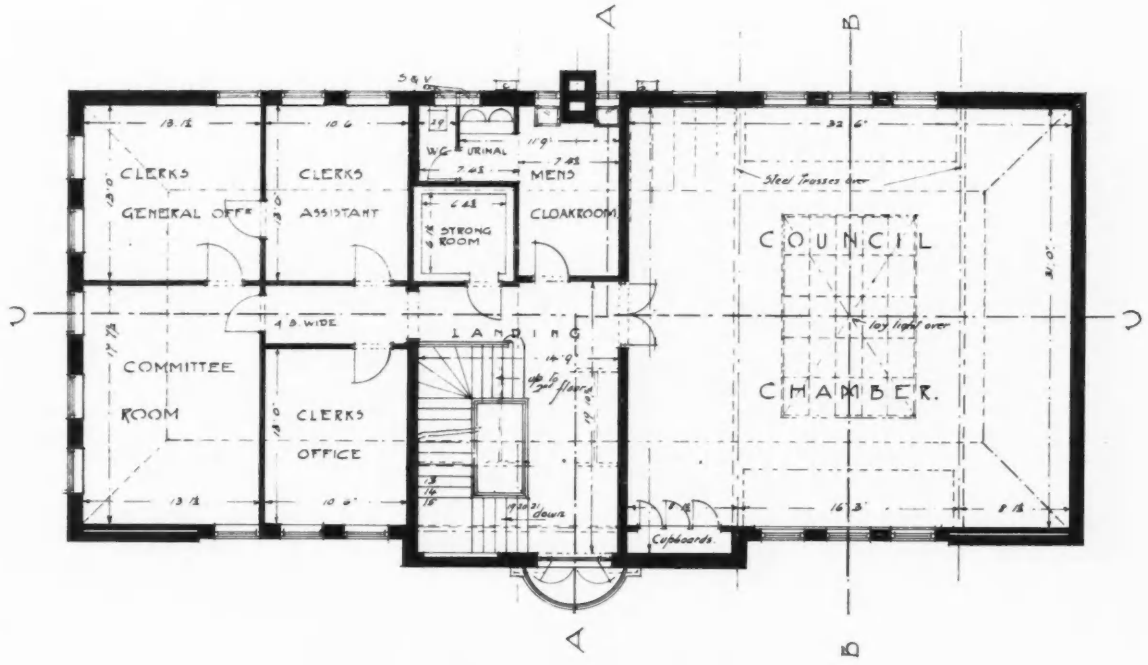
Internally, the entrance hall and cloakroom floors are in terrazzo, the remainder of wood covered with linoleum; all doors are flush, with bronze furniture.

To give an impression of greater height and spaciousness, the Council Chamber ceiling has a raised barrel vault carried on light steel trusses and the laylight is glazed with slightly amber-tinted glass. The councillors' desks are constructed in sections for easy storage when the room is required for other purposes.

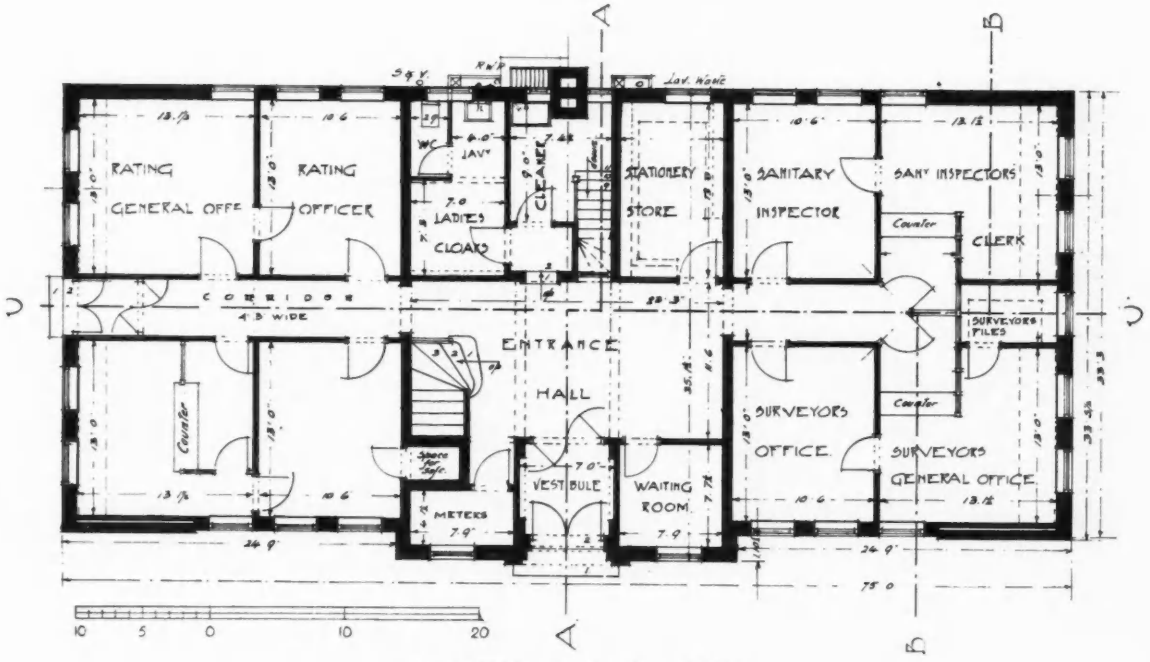
The building was erected for the Romsey and Stockbridge R.D.C.

The Council Chamber has buff walls and green curtains, with a floor in two shades of green. The furniture is in oak and brown hide.

DESIGNED BY FRANCIS W. B. YORKE



FIRST FLOOR PLAN



GROUND FLOOR PLAN

Ground and first floor plans. Heating is by a low pressure hot-water system from an oil fired boiler in the basement.

LETTERS FROM READERS

A VISITOR FROM ABROAD
EDWIN GUNN, A.R.I.B.A.
RAYMOND WALKER
G. R. HILTON
EDWARD McDONALD, F.R.S.A., F.I.A.A.
C. H. HIGNETT, F.R.I.B.A.
R. W. TOMS
ARCHICONOMIST

The Ruislip Case

SIR,—I was recently granted the privilege of visiting the exhibition at the R.I.B.A. of the works of Professor Gropius. I found them as I remembered them, sensible buildings, and charming—for good sense is full of charm—which any architect might be proud to claim. Then I turned to the architectural journals and I found just such another building (not a copy, for in England they no longer, I am told, make copies of other men's work) but possessing those qualities of good sense, good planning and good design which I had admired. And I learned not that this was a model, designed to inspire the builder with distaste for pretentions and a respect for simplicity (showing him how noble and how right the perfect solution of a problem must be, for it produces a building classical in the sense that it gives everything that is needed, but no more) ; instead it was an outcast, rejected by the arbiter appointed by your Society. I have always believed, Sir, that the English people who are accused in my country of illogicality, possess in reality a deeper logic to which we are strangers. But the explanation of these two voices, the one holding up for emulation that which the other condemns, defies all my sophistry. Will some member of your Society please make it clear to me ? Not, however, with an explanation such as we read in the writings of Sir Reginald Blomfield, who explains only to himself.

A VISITOR FROM ABROAD

SIR,—As to the conclusions put forward in the abundant editorial matter relating to this case which appeared in your last issue, I do not propose to say more than that I regard it as a pity that modesty prevented you from stating that you, Sir, were among the imposing list of experts who gave evidence on the side of the builders ; and that my impressions of the nature and effect of the evidence and cross-examination differ from yours.

But I do seriously take exception to the statement that " Mr. Gunn did not think it necessary to inform the Arbitrator that he was shortly leaving the district to reside in Minehead." This statement is strictly true, but, if it means anything, conveys the implication that something was concealed from the Arbitrator which might have influenced his decision. I am not so conceited as to think that my subsequent personal movements could possibly have done so —to volunteer such information would have been egotistical.

I must also ask you to correct your statement (however unimportant) that the two members of the panel of over 22 years' residence were " unnamed." Their names were given in evidence, and the fact that you presumably failed to note them does not justify a sneer, the only possible implication of which is that they could not be traced.

EDWIN GUNN
Minehead

[*Mr. Gunn asks us to correct our statement that two members of the Panel were unnamed, and suggests that the only possible implication is that we were unable to trace them. We would point out that the complete list of Panel members was given on page 788 of the issue of the* JOURNAL *which Mr. Gunn is criticising. We gratefully acknowledge Mr. Gunn's tribute to our modesty, but find ourselves disappointed that he totally fails to answer any of the more serious points raised in our article.*—Ed., *A.J.*]

SIR,—Your Ruislip revelations bring to light some very serious matters : is it possible or credible that Mr. Gunn, a member of the R.I.B.A. Council, can have criticised reinforced concrete construction and the engineering principals of design when he was called upon to adjudicate on matters of form and æsthetic appearance ?

Is Mr. Gunn's professional mentality representative of the minds of the R.I.B.A. Council as a whole ?

If so, architects must soon set about rescuing themselves from this unbalanced tyranny ; the letter you publish from Mr. Widdows seems to point the way.

Would it be too much to ask you to publish some illustrations of the work of Mr. Gunn and of his fellow-members on this Panel, for the sake of interest ?

Is it indeed within the law for a Council to reject plans on the recommendation of a handful of individuals, who to the best of my knowledge have no authority under statute. Alternatively, if such powers are indeed vested in the R.I.B.A., is that body trying to establish a Dictatorship of Style ? Such Dictatorship is obviously not in the public interest, and should this be the case, the matter will have to be raised in another place.

RAYMOND WALKER
London

SIR,—Lately being in Derbyshire and walking in the grounds of famous Hardwicke Hall, the day being hot, I lay down beneath a tree hard by a cascade, whose murmur lulling my ears with the old jingle " Hardwicke Hall, more glass than wall," I quickly fell asleep. In my dream I was sitting in a dark corner of a chamber with star-painted ceiling, where a portentious gathering appeared to be engaged in trying a man arraigned before them for some more than usually foul and hideous crime. Before long I had picked out the offender. He appeared to me at first of decent enough and sober appearance, indeed not without nobility in his countenance. But I was soon remembering the deceit of appearance when I began to hear the indictment : "Romish practices—deliberate monstrosity—corrupting the youth—meddling with secrets not meant for human knowledge — unsettling the peasants—tampering with the canons of our fathers—debauching the countryside."

As I conned the bearded features of the accused man to see what sort of crime he could be capable of, they seemed to be changing before me and taking on from time to time resemblances (each vanishing before I could recall the name of its original) to various of the most famous characters of history. It was some time before I could discover the exact charge. You will not perhaps, Sir, remembering a recent case, be as surprised as I was in my dream, to learn that it consisted simply in his having been the designer of that very edifice in whose park my sleeping body was then reposed ; but you may care to hear the penalty. There was some difference of opinion on this matter, as the complex nature of the offence seemed to demand a variety of treatment. I caught the words " hemlock," " burning," " crucifixion," " castor-oil " ; but it was finally agreed that, for the present, the man should pay the court the sum of £945 6s. 8d., and rebuild the edifice

in the Tudor style, a careful watch being kept on his further activities.

G. R. HILTON

The Place of the R.I.B.A.

SIR,—Mr. Widdows has courage ; he has also a fine record in the public service. Hundreds share his dissatisfaction with present conditions ; not many have his lucid powers of expression. The position of public service architecture staffs wants clarifying. If organized they would be in a position to get a square deal. Hundreds of assistants who have worked for years in the public service know from personal experience that the highly-placed salaried architects are men of exceptional abilities. They have one great fault—modesty. This is being misunderstood in certain quarters for mental inertia. If they will give the support of their names and prestige to a movement to secure proper status in the professional association to which most of them belong, their staffs will follow them to a man. Without the leaders little in a practical way can be accomplished.

EDWARD MCDONALD
Chelmsford

Fascist Architecture

SIR,—Mr. John Barton's view—as expressed in your last issue—appears to have been through the thick end of the telescope. Why take such pains and time to compose a diatribe on such matters as finance, State control of everything appertaining to everybody every day, Jews and Lord Rothermere, when but one member of the British Union of Fascists is known, now, to be an architect ? Mr. Barton's gnat becomes, in a column and a quarter, as momentuous and provoking as the rejected houses at Ruislip.

No doubt, Mr. Barton is competent to express himself lucidly on "Architecture," but that is only a part of the subject under review. He obviously ought to know more of the aims and objects of the British Union of Fascists so that he might realize how mistakenly near the truth he comes when he states that "There is growing political enlightenment among all constitutional parties in this country . . ."

CECIL H. HIGNETT
Letchworth

Economics and Re-housing

SIR,—I feel I must congratulate you on the splendid work your JOURNAL is doing in connection with slum clearance and re-housing. You are giving vital and necessary information on a problem that cannot be tampered with, but must be dealt with drastically on a national scale if we really mean to remove that modern scourge, slums, and house all our fellow-countrymen in a decent manner.

In your survey you have now come to the stage of the analysis of work that has been done, and are making suggestions for the lines future work should take. But my impression on reading your issue on re-housing London was that you had not carried your principle of fearless analysis far enough.

Let us consider the problem fundamentally, without being led away by preconceived ideas, or fear of facing real facts. This should appeal to us as modern architects, for the characteristic of modern architecture is its attempt to get down to fundamental principles untrammelled with traditional ideas.

The problem then resolves itself into :—

(*a*) Proposals for clearance, relief of overcrowding, re-housing, etc., built up on a basis of facts and figures of existing conditions.

(*b*) The means of carrying out these proposals.

Now, as far as (*a*) is concerned the work your JOURNAL is doing is extremely useful and necessary. You have made a thorough survey of conditions as they are, and are now commencing to analyse work that has been done, pointing out the desirability of national housing boards, large scale planning, etc., giving to architects the confidence to grapple with the problem and plan the great reconstruction successfully.

But when the immediate problem is approached, that is, the means of carrying out these proposals, or in other words, "where will the money come from," your analysis seems to stop short. There seem to be vague ideas of raising large loans at small interest and the like, but clearly the principle of considering the problem fundamentally has not been carried as far as this. Possibly many architects think that after this point the problem is out of their sphere and that it can be dealt with by monetary experts and bankers. As long as that attitude continues nothing will be done. For if nobody questions or interferes with them, one can hardly blame them if they run the whole monetary system for their own ends, regardless of the needs of the community.

Now, practically the last thing that can be said of the monetary system is that it is functional. The function of money is to be a convenient means of exchange, a distributing agent, to see that the building materials come into the hands of the workmen, to carry out our re-housing schemes. But unfortunately money has become a commodity, manufactured or destroyed by the banks at will. Unluckily the interests of the bankers happen to be directly opposed to the interests of the community. It is to the bank's advantage, as to any money-lender's, to keep money scarce, because it is then more valuable, while the country as a whole wants an increased amount, until there is no man out of work, or no slums to be cleared or further improvements made.

Further, consider that bugbear, the problem of rent of the new houses or flats. Now, rent practically wholly consists of interest on loans, interest being "money paid for the use of money." But as the loan that is causing the interest is simply an entry in a bank's book, its real cost being that of the ink and a fraction of a clerk's wages (the cost of writing it down), it will be seen that there is something fundamentally wrong with such a system that has absolutely forgotten its real function and instead is the chief cause of the inability to get anything done, even though there are the slums, architects to plan the reconstruction, unemployed building hands and surplus materials.

Of course monetary reform is not the only reform needed, but I think it must be perfectly clear that it is not possible to superimpose a planned scheme of slum clearance and re-housing on a monetary system which is functioning as badly as the worst of the slums we are trying to destroy.

RICHARD W. TOMS
London

SIR,—There is no professional man in greater need today of what the Germans call "weltanschaung" than the architect. It is natural to suppose that as a practical man with a certain social status, he would have something to say concerning the present ridiculous state of the world—a suggestion, at least, of its cause and possible cure. But who among the profession has lifted his voice in words of sanity in this political madhouse, where there is poverty in the midst of plenty, where another war is imminent, where there is everything we desire—except money ? Most of London should be rebuilt ; are there not sufficient bricks, labour and architects to create a reasonable city within a few years ? Certainly. But where is the money—those small slips of printed paper, those figures in ink ? Ask the bankers, or better, ask Major C. H. Douglas.

I write as an advocate of the Douglas Social Credit proposals. It is obvious that the goods exist and that the potential consumers exist, but there is lacking the medium to bring the two together. There is today in every industrialized country (except Russia—at present) a purely artificial state of poverty due to a lack of purchasing power in the hands of the community, caused by a flaw in the economic system, which has failed to adjust itself to the ousting of human labour by scientific production and machine labour. The "wages of the machine" under our present system are not distributed.

C

Hitler, Mussolini, our so-called democratic government, are powerless in the hands of the hidden world dictatorship of the bankers' combine, a pyramidal structure at the apex of which is the Bank of International Settlements. By controlling credit it controls production and its distribution, hence it can dictate to any government and virtually owns every country (90 per cent. of this country's wealth is mortgaged to the banks).

Production, which has hitherto been our problem, has now been solved for all time. The problem today is the purely technical one of *distribution*. Having answered the question that has been troubling us since the beginning of the world—how to produce the necessities of life with the minimum of human effort, having attained the possibility of freedom (work in itself is not a virtue), we contradict ourselves by maintaining that unless a man work he shall not eat. Meanwhile, machine production, a vast cornucopia of wealth, continues producing limitless quantities of all we need, which, like madmen, we proceed to burn or cast like rubbish into the sea.

It would seem reasonable to claim that the sole object of production is consumption. Why, then, is the consumer taxed, why is he insulted by the presentation of a mere pittance in the form of the dole when there is so much wealth to be consumed? He should be *subsidized* either indirectly through the retailer or directly in the form of the "National Dividend" by a State controlled institution—the National Credit Office (it is significant that at present we have only a National Debt Office).

War, be it added, is at bottom caused today by one thing only—the artificial competition between nations to secure foreign export markets, receiving in exchange credit, which will give the recipient country a "favourable balance of trade," in other words, a few more slips of paper, a few more figures written in a book. Besides which, in war-time, the economic system (for the time being) goes by the board, and there is a period of relative prosperity. Moreover, as those in power know, war is a useful sidetrack to revolution.

Freedom is ringing; why don't we get up and answer the telephone? Because we are in an opium dream, and around us are the sickly fumes of sentimentality and false morality. What is that at the side of the bed? A copy of *The Daily Expression*—"No work, no money!" The hot-water cylinder downstairs is about to explode, and if we don't wake up and attend to it soon it will be too late.

ARCHICONOMIST
London

G W Y N N H O U S E,

The Sloane Street elevation.

The saloon bar.

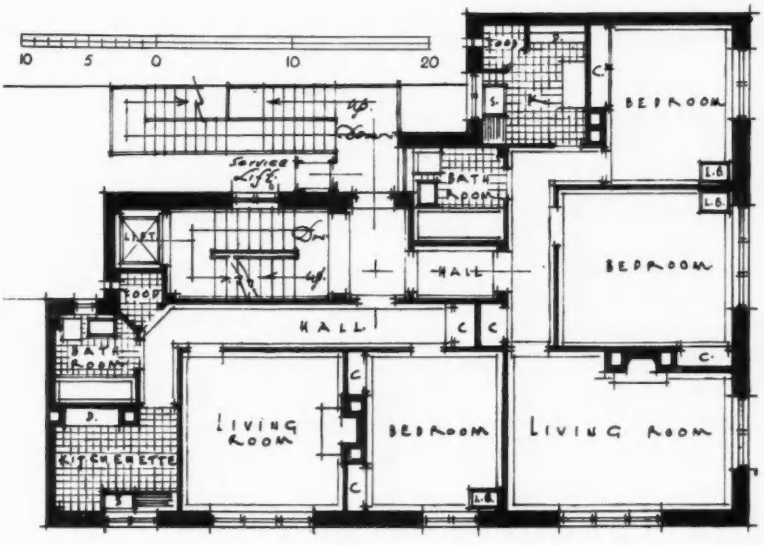
J. SOMERSET MURRAY

LOWER SLOANE STREET, LONDON

J. SOMERSET MURRAY

Standing on a very restricted site and hemmed in by a block of late Victorian flats, the "Rose and Crown" has been a landmark in Lower Sloane Street for nearly a century. The public house has now been rebuilt with five floors of flats above it, two flats on each floor. The requirements of the new building made it impossible to carry through the lines of the existing blocks of flats, and it was thought better to allow a simple and carefully proportioned elevation to provide a contrast with the restless outlines of the rest of the street. Two flats (a two-room and a three-room) are provided on each floor, reached from a central staircase with a lift at half-landing level; there is also a service lift for tradesmen and luggage, and a service staircase at the back.

DESIGNED BY G. G. MACFARLANE



Right: a typical floor plan showing the flats.

On the opposite page: the Sloane Street elevation of the "Rose and Crown," and a detail of the fireplace in the saloon bar. More lavish seating accommodation than is usual has been provided, since the house is largely used by old soldiers.

IN PARLIAMENT

WATERLOO BRIDGE

[BY OUR SPECIAL REPRESENTATIVE]

A LONG and interesting debate took place in the House of Commons last week on the subject of Waterloo Bridge, and there was, eventually, a majority of 35 for the preservation of Rennie's masterpiece.

After the London County Council (Money) Bill had been read a second time, Sir William Davison moved that it be an instruction to the Committee to which the Bill would be referred to omit from the schedule to the Bill the reference to the demolition of Waterloo Bridge and the erection of a new bridge in its place. He said that the effect of his motion would be that the decision arrived at by that House two years ago, when the same question was discussed at length, should stand, and that, as far as Paliament was concerned, Waterloo Bridge should be reconditioned for four lines of traffic and should not be demolished with a view to the erection of a new bridge.

Some apology was due to Parliament that it should again be troubled with discussing a matter which was considered so fully and decided so decisively on June 1, 1932, almost two years ago. Mr. Herbert Morrison was now suggesting that Parliament decided two years ago that Waterloo Bridge should be reconditioned rather than pulled down, without having the case of the Port of London Authority and river users generally put before them. This was a travesty of the facts of the case. In the memorandum which was sent round by the promoters the case of the river users was put fully. Secondly, that side of the question was discussed at length in the Press at the time. Thirdly, and most important, the conclusions of a Royal Commission on cross-river traffic were referred to in the debate two years ago. Lord Ritchie, the chairman of the Port of London Authority, said before the Royal Commission that he did not come there as an advocate of the destruction of Waterloo Bridge. The bridge was an impediment, Lord Ritchie said, but not so serious an impediment as to warrant the destruction of one of the most beautiful things we had in this country. That was Lord Ritchie's view, and he (Sir W. Davison) asked the House to consider whether anything had occurred in the last two years which had materially altered the position of the river. The Port of London Authority would rather have no bridges; if there must be bridges they preferred suspension bridges; but of all they dislike most the tunnel bridge, which was exactly what Mr. Morrison wanted. Four lines of traffic going into the Strand would be as much as the Strand could take. No one knew what could happen if six lines went into that thoroughfare. The cost of reconditioning the bridge would be, according to the estimates of the L.C.C., between £600,000 and £700,000. Erecting a new bridge would run into some £2,200,000, including the removal of the present temporary bridge and the erection of a new temporary bridge. If the scheme of the L.C.C. were adopted it would involve pulling down 100,000 tons of granite, the removal of which by barges and lighters, plus the coffer-dams that would have to be sunk for the removal of the piers, would most seriously obstruct all river traffic. That work would occupy from seven to nine years. On the other hand the reconditioning of the present bridge would occupy only three and a half years. The bridge was a monument, and, as Lord Ritchie had said, the most beautiful monument in Great Britain. He asked the House to adhere to the decision of two years ago, and refuse to grant public money for the pulling down of this historic national monument.

Sir J. Withers, who seconded, said that the new bridge should be built at Charing Cross, and he hoped that when prosperous times came it would be. If by corbelling out the sides of Waterloo Bridge they could provide four traffic lines, that would be ample. To recondition the bridge would cost about half what a new bridge would cost, and would interfere less with the river traffic.

The case for the L.C.C. was put by Mr. J. Wilmot, who said that part of the propaganda against the building of a new Waterloo Bridge had taken the form of casting doubt on the competence of the Council's engineers and advisers. It had been stated that the cost of building a new bridge in accordance with the design of Sir Giles Gilbert Scott would be £2,200,000. The Council's engineers and advisers' own estimate for building a bridge to that design—although the Council was not committed to that design, or any other, was £1,295,000. Sir W. Davison had made a trifling inaccuracy of nearly £1,000,000. It was further suggested that the time which would be occupied in building a new bridge, during which there would be interference with navigation and cross-river traffic, would be greatly in excess of the time that would be occupied in reconditioning the bridge. The most exaggerated statement he had seen was seven years, but the hon. member now threw in another couple of years and made it nine. The original estimate for reconditioning the bridge was £620,000, plus £65,000 for overhead charges, etc. The L.C.C. had received 29 tenders from 17 firms. The estimates ranged from £574,000 to £615,000. The lowest tender was thus within 7½ per cent. of the Council's own estimate. The time it would take to do the work had been estimated by the Council's engineers as accurately as the cost. They estimated the time would be about five years. The 29 tenders varied from four to six and a-half years, the average being five years four months. None of the tenderers would undertake to fulfil the minimum requirements of the Port of London Authority with regard to navigation. The Council engineers, whose competency and accuracy had been established, said that they could maintain all that the P.L.A. asked for in building a new bridge, and that they could build it within five years.

Those who followed the proceedings of the L.C.C. would see that they had it in mind to set about the job of replanning and developing the south bank of the Thames. It was necessary to that development that this long-drawn-out question of Waterloo Bridge should be settled once for all. No one proposed that six lines of traffic should be emptied into the Strand; it would be three emptied in and three emptied out. The chance to preserve Waterloo Bridge had already gone, and for more than 10 years it had been in splints. Were they to acknowledge that it had served its purpose and let it go, or were they to recondition it so that it would be a mere shadow and distortion of its previous beauty?

Mr. Clarke said that Waterloo Bridge had a certain æsthetic value, but to-day it menaced industrial development and the livelihood of many people. He spoke on behalf of the Port of London Authority, the Association of Master Lightermen, the Thames River Users' Association, the British Chamber of Commerce, and the men who worked the river, all of which bodies were united in the opinion that the opportunity should be taken to abolish the existing bridge and to erect in its place a bridge with greater facilities for navigational progress.

Sir M. MacDonald supported the motion. He said that it was unnecessary to go to the expense of building a new bridge when the present one could be adapted to fit the circumstances of the area it was intended to serve. This was a practical engineering problem, and the question was: What was required to be served by a bridge across the river at this point? Any work of this sort should form part of a co-ordinated scheme of development. It had been suggested that Waterloo and Charing Cross Bridges should be constructed to carry 10 lines of traffic. These bridges, however, were not parallel but converged rapidly as they crossed the river, so that if they were extended they would, soon after crossing the river, meet on the south side, and at that point there was one main artery to lead traffic away.

Sir W. Ray appealed for support for the L.C.C. because he believed that the essential thing in London to-day was the development of the south bank of the river. That was entirely dependent on a Charing Cross Bridge scheme and the establishment of a great railway terminus on the other side of the river.

Mr. Stanley, Minister of Transport, said that if the House altered the decision it took two years ago he would regard the ban as removed. He would regard himself then as being in the position to offer a grant for a new Waterloo Bridge. The L.C.C. was not tied to any particular bridge; therefore his discretion was in no way affected, nor was he in any way committed. There were, however, two considerations which would have to be remembered. The first was that from the point of view of its architectural merits any scheme for a new bridge, before he could consider it for a Road Fund grant, would have to receive the approval of the Fine Arts Commission; the second was that discussions between his predecessor and the L.C.C. of the time proceeded on the basis of a new bridge which would cost something in the neighbourhood of £1,300,000. If he were asked to sanction a scheme for a new bridge which exceeded substantially the basis on which his predecessor discussed the matter, and upon which he gave a tentative approval, he would, of course, have to reconsider the whole position. As on the previous occasion, the decision on this matter was left entirely to the free vote of the House. The ultimate test of a bridge must be its suitability for the purpose for which it was built. He would say, frankly, that on the basis of the present state of traffic he could not suggest that a six-line bridge was a necessity. It would undoubtedly be an advantage because, the capacity of the other London bridges being occupied to the full, there was thus no reserve if one of those bridges had to be partially or completely closed. Even if on the basis of the present traffic a four-lined bridge were enough to accommodate it, would it be wise to forget the possibility of expansion in the future? Were they also to assume that Covent Garden would continue in its present form during the whole life of this reconstructed bridge? If, in the days to come, instead of the present northern exit the motorist were faced with a well-planned area with a large street running through it instead of the present congested small streets of the market, would they not see an immense increase in the present traffic? The roundabout system which had been introduced had immensely decreased the congestion in the Strand. They had a reserve capacity for more traffic across the bridge. A six-line approach from the bridge to the Strand would of itself facilitate traffic and would prevent the hold-up which now occurred in the one-line traffic between the corner of the Strand and the bridge itself. If they were faced with a great increase of traffic over the bridge, the possibility of a subway still remained. There was no foundation for saying that it had been found impracticable. If there was a need for six lines of traffic across the bridge, it would be possible to deal with it with comparative facility when it debouched at either end.

The Charing Cross Bridge scheme suggested the possibility of creating a community of interest between the two banks of the river which did not exist at present, and that would create a greater cross-river traffic. He voted on the last occasion for the new bridge, and he was going to vote for it again; but he had tried to put before the House as judicially as possible the considerations affecting his Department.

Sir W. Davison's motion was carried by 194 votes to 159—majority 35.

An aerial drawing of the complete lay-out.

A FRENCH SUBURBAN COMMUNITY

DESIGNED BY MAURICE LEROUX

[*By A. Bailey Cutts*]

DURING the last three years, the citizens of Lyons, France, have watched with the somewhat sceptical interest of a foster parent the impressive white skyline of a model city rising in serrated tiers across the river at the heart of the great industrial suburb of Villeurbanne. For more than a decade now, French architects identified with the International Style have been prophesying such developments in the realm of city planning. Among these Corbusier, the Swiss Parisian, is particularly prolific and consistently visionary. Yet without the sociological fantasies of this leader of the new pioneers, we should hardly have had the more plausibly conceptions of others, notably André Lurçat, whose large-scale projects have shown an interesting and authentic evolution, both as regards practical virtues and æsthetic expression, following his workmen's housing scheme built at Villeneuve-et-Germain in 1926.

A *parti* by such contemporary city-planners usually has as its focal point a large open space located near one end of the site and approached by an avenue about or along which are placed (in the case of Corbusier) a majestic array of separate sky-scraping "prisms perfect in form and aspect," 88 per cent. of the land being reserved for gardens, playgrounds and thoroughfares. Lurçat, who has never subscribed wholly to the functionalist theory that materials expressed in design and construction necessarily satisfy the æsthetic requirements of modern architecture, writes in his new book soon to be published, "the rôle of the architect is amplified greatly when he undertakes the rational organization of cities, for as an urbanist he can create order or provoke disorder and he moulds the life of citizens for long years to come. Either he prepares or combats their rightful destiny." Latterly Lurçat has outdone even Corbusier in the application of radical sociological philosophy to architectural form; although his own work never defies the laws of gravity as do those of many Internationalists. Resting securely upon the ground, his "skyscrapers of to-morrow" are formidable objects retaining much of the buttressed massing that characterizes the more advanced work of Holabird and Root, or Hugh Ferris in the United States. With so many champions of carefully spaced high buildings as the solution of the twentieth-century housing problem, it is not surprising that the first of these urban Utopias should be influenced by their theories. Advanced architectural thought in France shows none of the English antipathy to height, but it is perhaps more significant that when the actual creation of such a centre took place, it adhered far more to a trans-Atlantic pattern than any of the developments leading functionalists conceived on paper. Perhaps then the great "prisms" with hermetically sealed walls of double glass are yet to come, and Villeurbanne will go down in history only as a preliminary step towards the ultimate solution. That remains to be seen. Certainly it is not without faults both in plan and detail, but its formal opening on the first of June is an event of sufficient importance to warrant careful study.

In order to understand the four-fold problem with which the rebuilders of Villeurbanne were faced, one must bear in mind that since the turn of the century its population has increased from 21,000 to 85,000, and that a group of separate hamlets without unity of plan, their streets converging toward Lyons, have expanded and coagulated, as it were, into a city dependent upon

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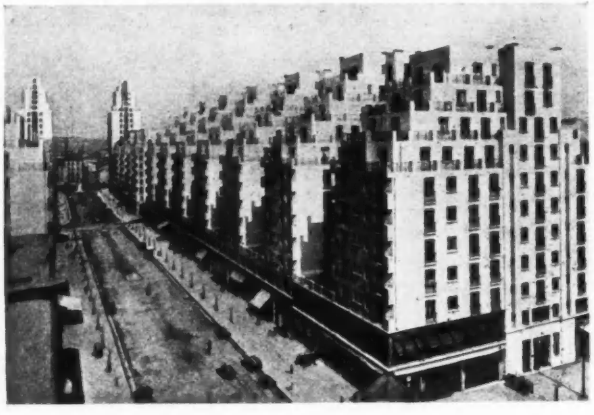

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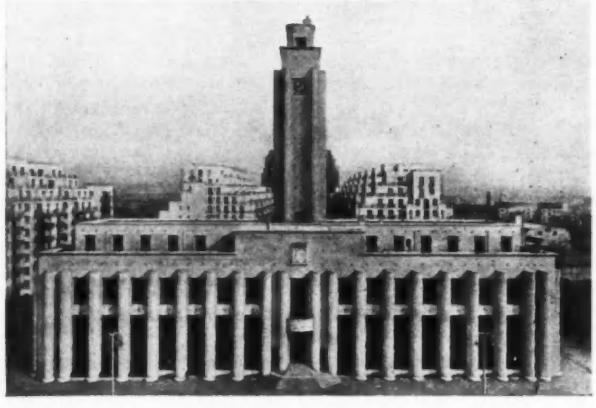

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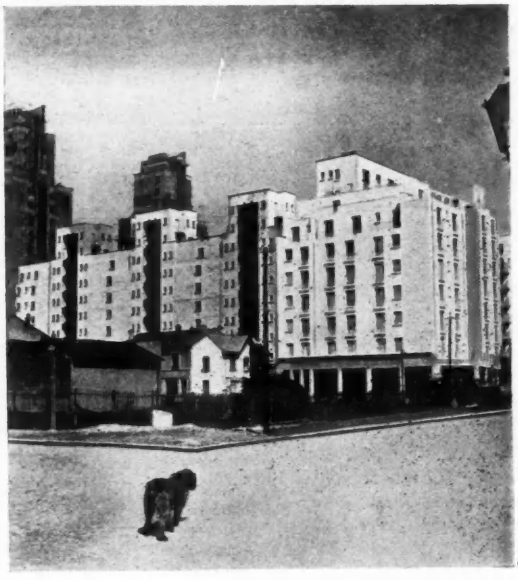

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The industrial suburb of Villeurbanne, Lyons; supervising architect: Maurice Leroux. The photographs on this page show:
1: *The rear of the blocks of flats, with continuous staircase window running up eleven flights.* **2**: *Looking across the pool in the Place Albert Thomas, showing on the right the Hotel de Ville which stands on the central axis of the lay-out.* **3**: *Looking down the main avenue away from the Hotel de Ville. The skyscraper flats at the end, eighteen storeys high, mark the entrance to the suburb.* **4**: *The Hotel de Ville, designed by Robert Giroud, of Lyons, a French winner of the Prix de Rome.* **5**: *Showing the position of the new civic centre in a typical French industrial neighbourhood.* **6**: *Standard eleven-storey flats with the skyscraper blocks in the background.*

a greater neighbour but politically separate from it.

Acute pains accompanied this rapid growth, while the increase in the number of factories brought in its train all of the evils of a smoke-laden atmosphere, intolerable housing conditions, congested thoroughfares and inadequate public buildings.

It was to alleviate such a state of affairs that the urbanization society of Villeurbanne was formed in 1931.

This is a private corporation composed of citizens of Villeurbanne in accordance with rules set down in a decree of the President of the Republic. It has a capital of 10,000,000 francs divided into 10,000 shares of 1,000 francs each, of which 3,400, comprising a sum of 3,400,000 francs, were set aside for the City of Villeurbanne, and 250, making a total of 250,000 francs, for the welfare organizations of the city. The other loans have been subscribed in cash by a powerful group of backers, either individuals or corporations, and actively engaged in the construction. They agreed to receive shares in payment for services rendered, which has resulted in an enormous reduction in construction costs. An administrative council composed of 10 members is headed by the mayor. The Society (chartered for 60 years) is entrusted with the following:

1 : Expenditure of not more than 9,000,000 francs on a new Hotel de Ville, which will automatically become the property of the city.

2 : Expenditure of 7,000,000 francs on a Palace of Public Works, also to be the property of the city. The Palace shall include : in the basement, a warmed municipal swimming bath, 200 metres square, with the same equipment as the outdoor pool. On the ground floor a large public hall. On the floor above a municipal theatre seating 1,500, air cooled and equipped for talking pictures. The west wing exactly balances that of the Department of Public Health and Instruction, and contains offices as well as meeting and conference rooms for civic organizations, public welfare societies, and artistic and sporting clubs.

3 : Purchase of a condemned factory with all dependencies for 3 million francs.

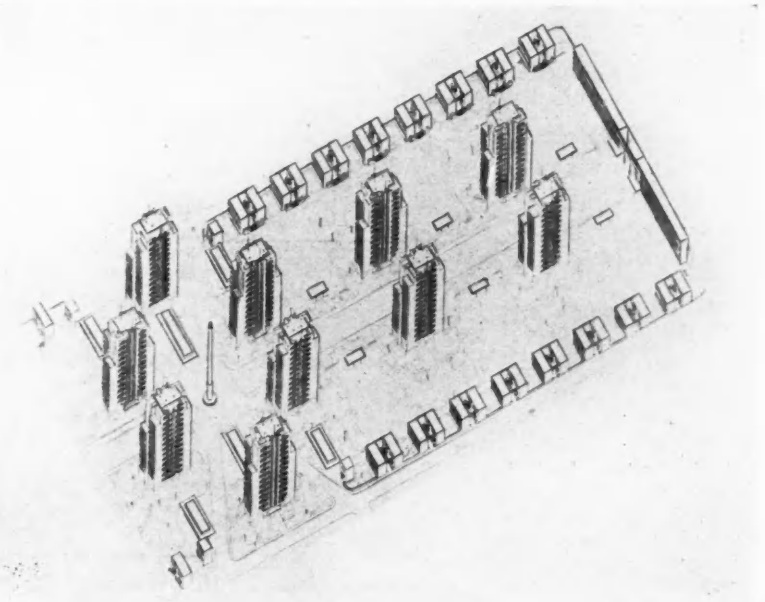
4 : Appropriation of 2 million francs for transportation and street repairs.

5 : Finally, on 20,000 square metres of ground leased by the city for 60 years, construction of buildings, costing 426,000,000 francs, for rental at moderate rates. The city will benefit by the income only in proportion to the number of shares it holds. After the expiration of the 60 years' lease, buildings and ground revert unconditionally to the city. Flat rent, according to location and size from 700 to 1,200 francs per room per year—the kitchen and all accessories such as bathroom, vestibules, washrooms and w.c.'s counting together as a room. Stores rent from 100 to 150 francs per square metre of floor space, offices for 100 francs per square metre.

Every flat is supplied with water, gas, electricity, automatic refuse shutes at all floors, double speed lifts, central heating for the entire quarter from one municipal plant and hot water in all sinks and bathrooms. The tenants have a choice of electricity or gas for cooking. Chimneys are non-existent, smoke has been reduced to a minimum, and the set-back design assures a maximum of sun and air with terraces for the children. In the public square are two large wading pools for children, supplied with a constant flow of fresh water. Behind the theatre a vast summer swimming pool and gardens make one forget the dullness of the old town stretching for miles around.

Reinforced concrete was used in the construction of the Hotel de Ville and the central part of the Palace of Public Works. The remaining buildings have steel framework with curtain walls of hollow tile covered by a coating of waterproof cement.

One may remark that the stepped towers of Manhattan have only too little affinity with the broad landscape of central France, and one may deplore the gaucherie of a town planner who deliberately blocks the main axis with a building altogether incompatible with the site, and modern only as regards materials and the decadence of the forms it revives. One would have preferred perhaps more rationalized lay-out and design. But whatever its shortcomings the New Villeurbanne rises clean, efficient and confident above one of the dreariest industrial housing sections in the Republic. Moreover, one such treatise in steel and concrete will do more to " mould the destiny " of the working classes than a hundred on paper or in the clouds.



Two projects, also French, for urban centres on similar lines to the one at Villeurbanne described in the accompanying article. The upper one is by le Corbusier, for a centre in Paris ; the lower one is by André Lurçat, for the Paris suburb of Villejuif.

L I T E R A T U R E

SOUTH AFRICAN COLONIAL

[*By H. H. MacWilliams*]

Eighteenth Century Architecture in South Africa. By G. E. Pearse. London: Batsford, Price £2 10s. net.

IT is curious that until the publication of this new work the subject of Cape Dutch Architecture has never been written about purely from an architectural point of view.

It is true that Mrs. A. F. Trotter's collection of drawings of farmhouses appeared at the beginning of the century and that in 1922 Miss Dorothea Fairbridge's book *Historic Houses of South Africa* was published, but neither of these can be said to relate solely to the style in a manner valuable to architects and interesting to all who are keen to trace its origin and study its examples. Mrs. Trotter's pencil and pen sketches are not accurate enough to be of any value in this direction, though her efforts were worthy in that they brought consciousness of the number of fine buildings still surviving in the country and, more important, of the way in which they were being allowed to fall into disrepair or to suffer demolition. Miss Fairbridge saw the picture with the eyes of a romantic, and though her knowledge of architecture was extensive she wrote in such a sentimental strain that, except for the splendid illustrations, her book is not of great value to architects and students.

Prof. G. E. Pearse, of the University of the Witwatersrand, has been engaged for some years in collecting and editing material, and with the publication of *Eighteenth Century Architecture in South Africa*, a real need has been met; for this finely presented collection of measured drawings and photographs is a praiseworthy attempt to illustrate the characteristics and usages of the style.

It is a successful attempt. There is a chapter on architectural character, a chapter dealing with materials and craftsmanship, and a section giving details of the few known architects whose work at the Cape was carried out and some of which still exists. There are over a hundred plates of excellent photographs and measured drawings—apart from a number of sketches, diagrams and maps. Typical examples of town houses, country houses, civic buildings and churches, as well as summer-houses, gateposts and interior fittings are given, and though there are a very large number of buildings of great architectural and historic interest in the country the selection is good and covers a wide range of variation in the style of the period.

Matters of special importance to architects, such as sizes of common elements, methods of construction and so on, are included; and among the measured drawings are to be found sections of woodwork mouldings, details of panelling, and particulars of door and window furniture.

The beautifully drawn plates make the book. They are chiefly the work of a young South African architectural student who worked under the guidance of Prof. Pearse, though a number were lent by other architects in the country. It is worth mentioning that when news of the proposal to bring out a book on the subject of Cape Dutch architecture was circulated, both the students and architects of South Africa set to work with enthusiasm to collect and submit material; so much so that it was difficult to condense the large amount accumulated. Perhaps some day another volume of measured drawings and photographs may be produced, and so help to bring to the notice of architects abroad the charming details of what is actually the only outstanding Dominion style.

Prof. Pearse traces the derivation of the character of architecture at the Cape from its main source—Holland—and points out that it was essentially influenced by the extreme limitations of material. No doubt, had there been suitable clay for brickmaking and good building stone at hand, the style would differ only slightly from its prototype; it is possible to discern the striving to repeat the elaborate curves of Amsterdam gables in the modified plaster volutes of a typical Cape Dutch farmhouse, and in the towns the attempt to recapture the atmosphere of the Netherlands would have been seen in classical doorways, small-paned sashes—even in the names of the streets. But the Heerengracht is now Adderley Street, and there are fewer surviving examples of homesick colonists in the towns than there are among the vineyards.

Although the price of this book is high it is well worth it; binding, paper, type and reproduction are excellent, and it is as handsome as it is valuable.

A HOUSING GLOSSARY

International Glossary of Technical Terms used in Housing and Town Planning. In English, French, German and Italian. London: International Federation for Housing and Town Planning. Prices 5s. net (to members of affiliated societies, 2s. 6d.).

THIS glossary is the work of a sub-committee of the International Federation for Housing and Town Planning, the members of which are Mr. G. L. Pepler, Professor A. Bruggeman, Dr. R. Schmidt and Dr. Virgilco Testa, with Mr. H. Chapman, who has edited the work. It is not intended to be a dictionary, neither is it intended to include all the terms used in housing and town planning, for the equivalents of many of these can be found quite clearly stated in an ordinary bi-lingual dictionary. It is a handy reference work in four languages (English, French, German and Italian) to enable one to find quickly equivalents or definitions of housing and town planning terms not usually included in non-technical bi-lingual dictionaries.

Reference to the work is quite a simple matter, as all the terms are in a single list in alphabetical order and therefore an index is unnecessary. A reader requiring to find an equivalent for a particular term has only to refer to this term in its alphabetical order, where he will find all the equivalents in the three other languages and, if necessary, a definition also.

Publications Received

Modern Practical Building. 4 Vols. By HARRY BRYANT NEWBOLD, F.R.I.B.A. London: Caxton Publishing Co., Ltd. Price £3 10s.

Empire Municipal Directory and Year Book. London: "Municipal Engineering." Price 13s.

The Work of Duncan Grant. Revaluation No. 1. By JOHN ROWDON. Hayward J. W. Marks. Price 2s.

Fine Art. By H. S. GOODHART-RENDEL. London: Humphrey Milford, Oxford University Press. Price 3s. 6d.

European Quarterly. London: Stanley Nott, Ltd. Price 1s.

Pharos of Alexandria. London: Humphrey Milford, Oxford University Press. Price 2s. 6d.

Brave Enterprise. A history of the Shakespeare Memorial Theatre, Stratford-on-Avon. By A. K. CHESTERTON. London: J. Miles and Co., Ltd. Price 2s.

International Association for Bridge and Structural Engineering. Vol. 2. General Secretariat in Zurich. Agents, A. G. Gebr Leemann and Co.

Local Government Annual, 1934. London: Local Government Journal, Ltd. Price 4s. 6d.

Quantities in Architectural Building Construction. Volume 1. By E. E. Drury and Graham Doyle. Cambridge University Press. Price 6s.

Structural Engineering. London: Institution of Structural Engineers. Price 6d.

The Principles of Heating and Ventilation. By H. M. Vernon. London: Edward Arnold & Co. Price 14s.

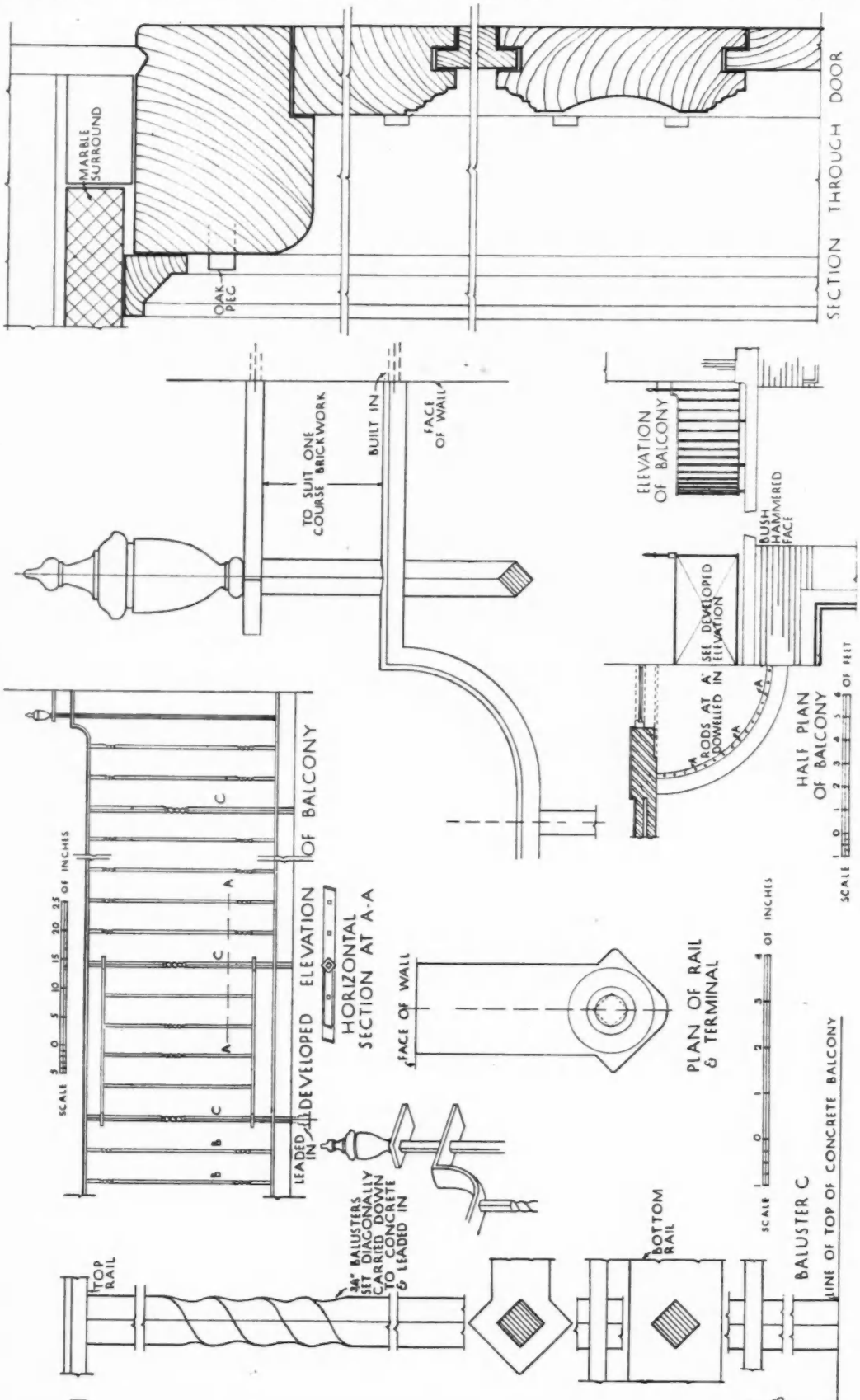
WORKING DETAILS : 61

BALCONY • COUNCIL OFFICES, ROMSEY • FRANCIS W. B. YORKE

The balcony over the main entrance at the Romsey District Council Offices is in reinforced concrete with a bush-hammered face; and the railings are executed in wrought iron. The aggregate used for the balcony was broken brick. Drawings of the balcony and door mouldings will be found overleaf.

WORKING DETAILS : 62

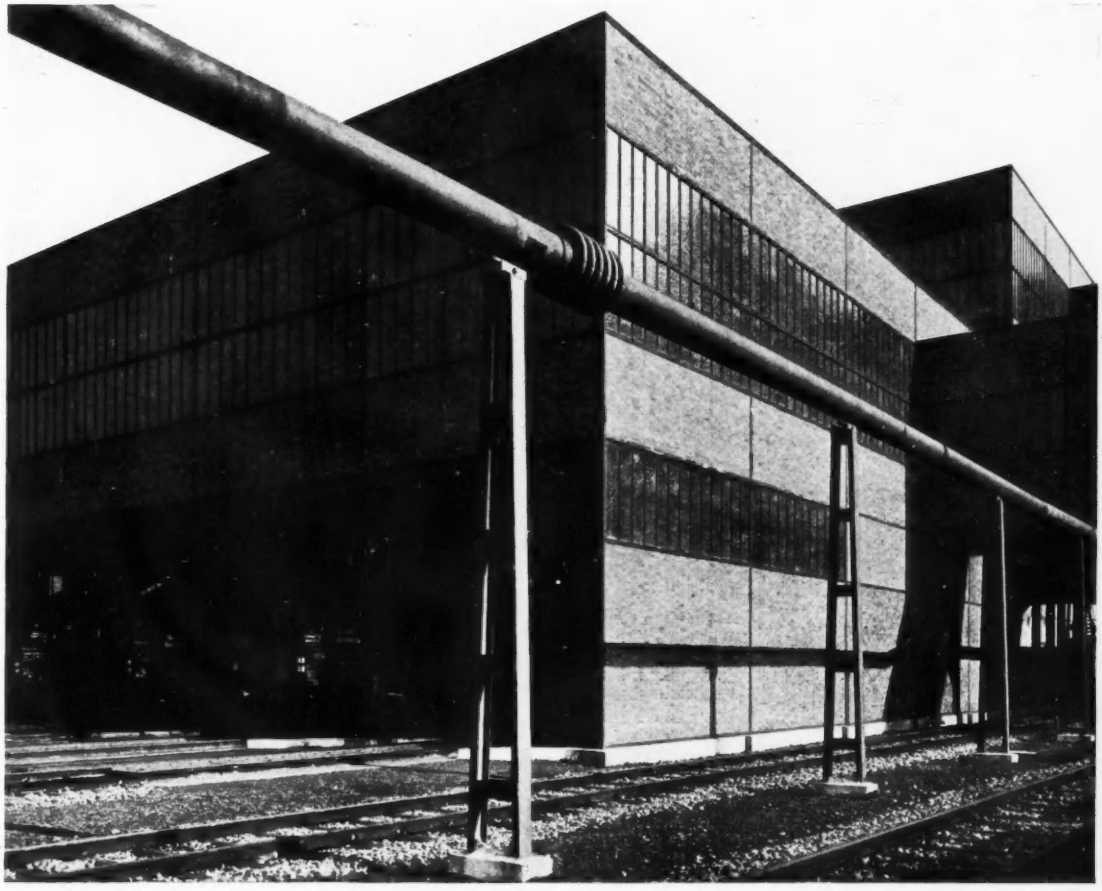
BALCONY • COUNCIL OFFICES, ROMSEY • FRANCIS W. B. YORKE



Sections and elevations of the balcony and entrance doorway illustrated overleaf.

WORKING DETAILS : 63

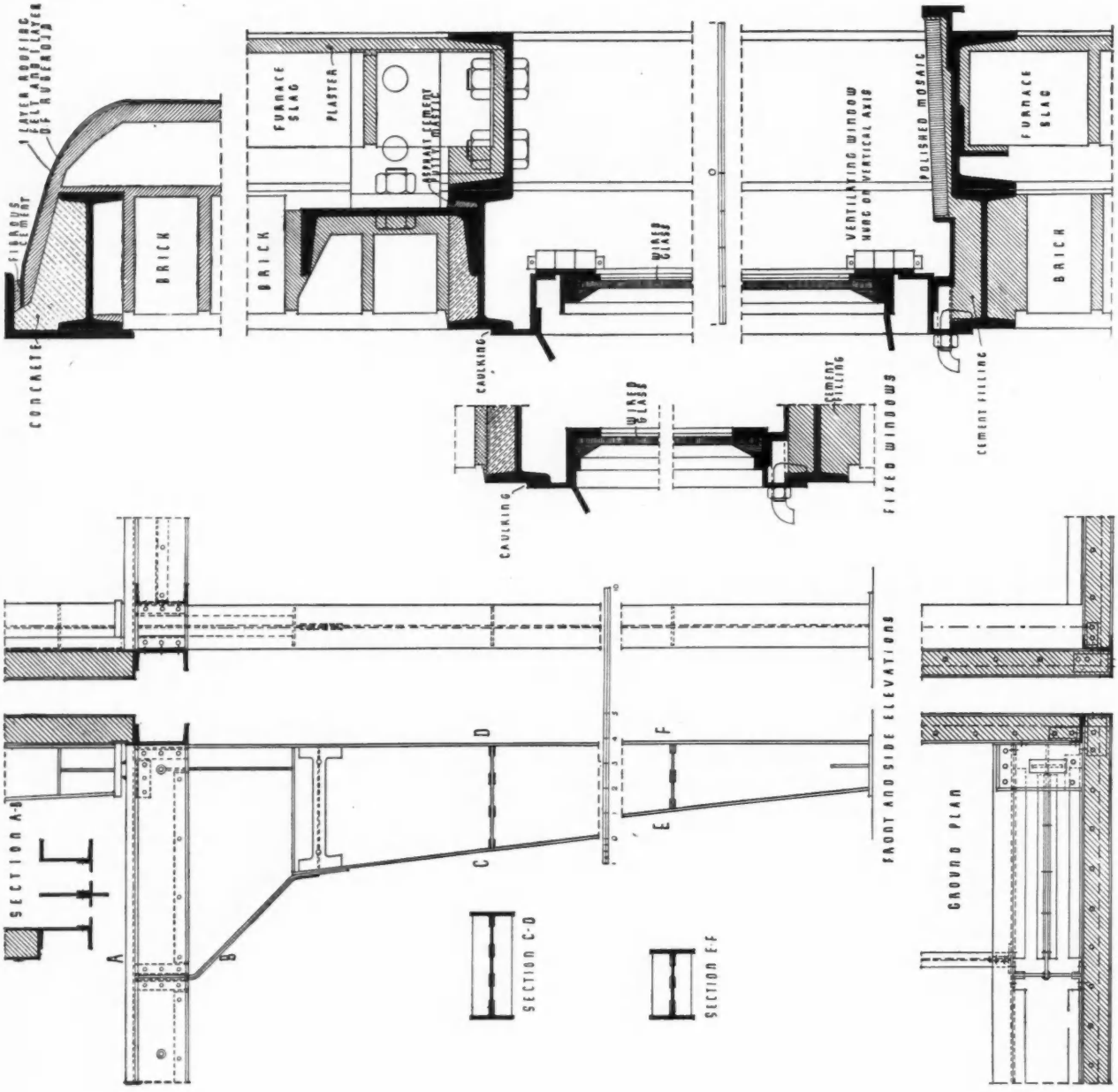
STEEL FRAME CONSTRUCTION • FACTORY IN BERLIN • FRITZ SCHUPP AND MARTIN KREMMER

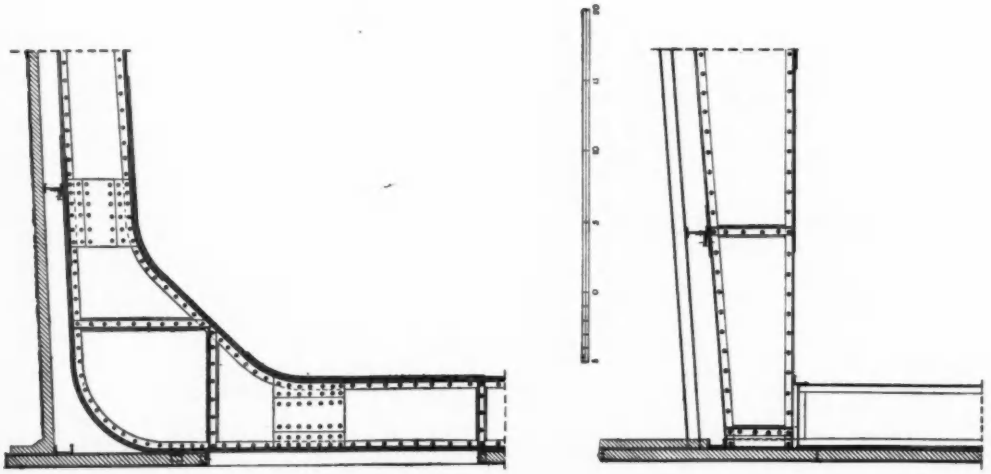


This factory has a partly welded and partly riveted steel frame with a brick infilling. The wall section, overleaf, shows that part of the frame is visible above and below the windows, and at roof level ; all external joints round window frames are caulked. The infilling is made up of an outer leaf of brickwork, the inner leaf being furnace slag for insulation.

WORKING DETAILS : 64

STEEL FRAME CONSTRUCTION • FACTORY IN BERLIN • FRITZ SCHUPP AND MARTIN KREMMER

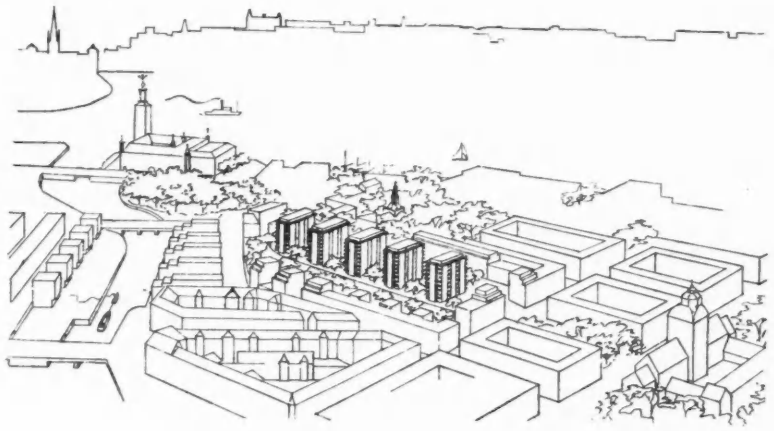




Wall and frame details of the factory illustrated overleaf.

HOUSING SUPPLEMENT : 3

Following our special HOUSING ISSUE *which was published on May 17, we now resume our series of* HOUSING SUPPLEMENTS *of which this is the third. It describes the work of a Swedish Building Society—the Tenants' Saving and Building Society of Stockholm, and illustrates some of the blocks of workers' flats which the Society has put up. The first two* HOUSING SUPPLEMENTS *appeared in our issues for April 12 and April 26 respectively.*



HOUSING IN SWEDEN

THE WORK OF THE TENANTS' SAVING AND BUILDING SOCIETY

[*By L. N. YAKOBSON, Dr.phil.*]

THE Tenants' Saving and Building Society (Hyresgästernas Sparkasseoch Byggnadsförening), founded in the year 1922 in Stockholm, has from the very beginning deliberately opposed irresponsible speculation in land and buildings. Branches have sprung up in all the larger towns of Sweden—a striking proof of the importance of this Society which, under the leadership of its architect, Mr. Sven Wallander, is steadily undertaking new projects along the same lines.

The constitution of the H.S.B. is as follows: The Central Organization buys the land, provides the money, plans and builds the blocks, and sells them when finished to its daughter associations, who then become the owners of the blocks of dwellings and control all further matters connected with their management. Each separate group of houses thus becomes a separate association. The ultimate control, however, remains with the head organization, which undertakes all the heavier work in connection with the buildings, such as repairs, purchase of fuel, etc., on behalf of the daughter associations, the latter dealing with the management of the blocks by means of a committee elected by the tenants.

Before taking possession of the flats the tenants—i.e., the members of the Building Society—pay a premium of 10 per cent. of the value of the flat. This instalment is recoverable only at the end of 20 years (unless the tenant sublets the flat), and at the end of this period the deposit is repaid with interest at 6½ per cent. When the members can prove that their financial circumstances do not allow them to pay the full amount, their share is reduced to 5 per cent., or they are even excused any payment. In cases such as these the Society is assisted by the municipality, which places cheaper plots of land at their disposal, and arranges special credits for the erection of dwellings of a simpler type.

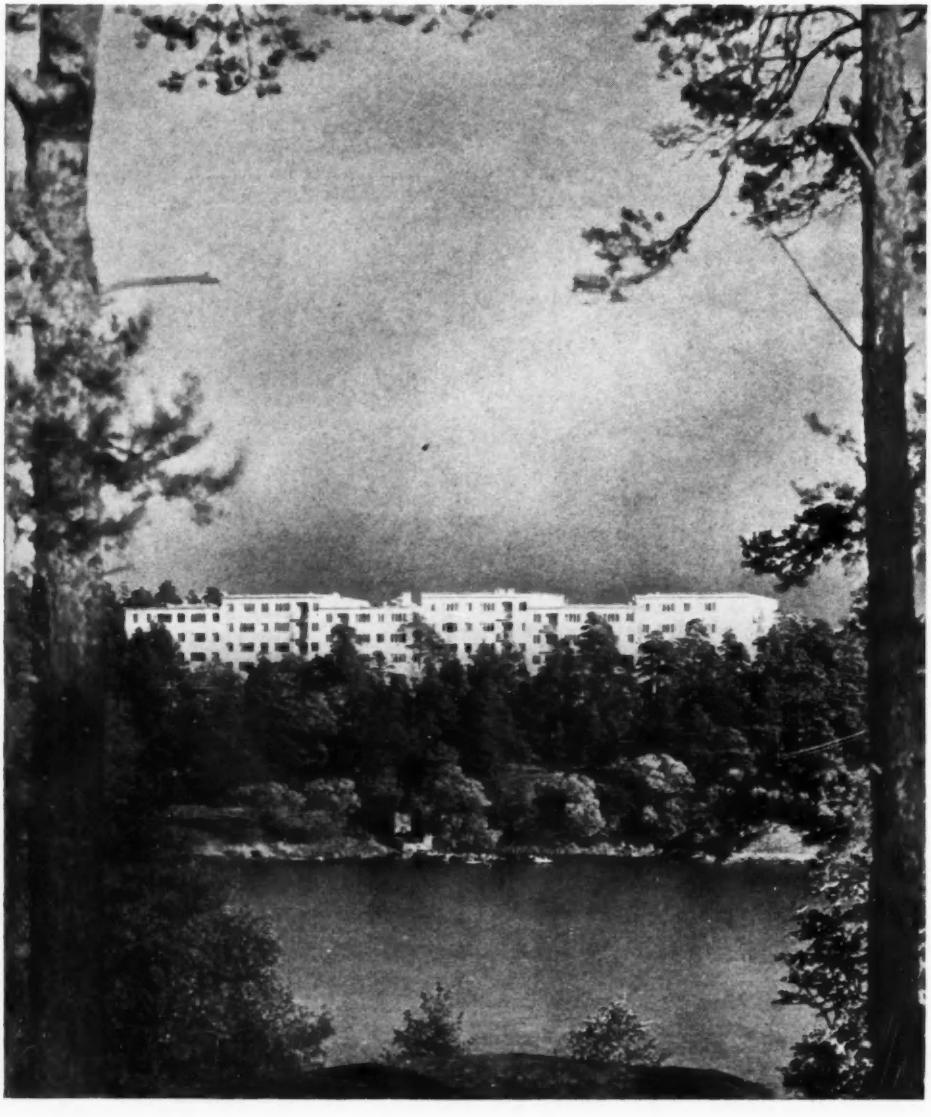
The scale of payment varies according to the size and position of the flats, but is approximately as follows :—

	Premiums at 10 per cent. (Rents in pounds per year)
1 room and kitchenette ..	35-50
1 „ „ kitchen	50-80
2 rooms and kitchenette ..	70-90
2 „ „ kitchen	95-120
3 „ „ kitchenette ..	100-130
5 „ „ kitchen	200-220

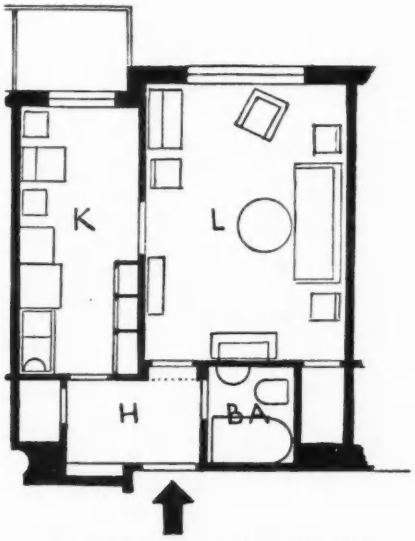
In order to maintain the value of the houses for as long as possible the H.S.B. is compelled to give its blocks the most up-to-date and labour-saving equipment. Each flat has a small entrance hall, a kitchen or kitchenette, a bathroom with w.c., and cellar. The kitchen or kitchenette gets its light either direct from the street or through a glass door leading to the sitting-room. It is provided with a gas-cooker, a white-enamelled or stainless steel sink and built-in cupboards. The bathrooms always lie in the middle of the blocks, so that the water-pipes are secure from frost, and have only indirect light and ventilation. In order to save space they are, with the exception of the larger flats, equipped with a short sitting type bath. Each flat has central heating throughout, with a constant hot-water supply in the kitchen and bathroom and electric points for wireless in the sitting-room.

All the buildings have a simple system of artificial ventilation, which apparently works well in practice. Small air inlets are placed in the cill of the living-room and bedroom windows immediately above the radiators, and there is an extract fan in the kitchen (see page 842). The kitchen door is finished about three-quarter-inch clear of the floor, and there is thus a constant flow of air through the living rooms

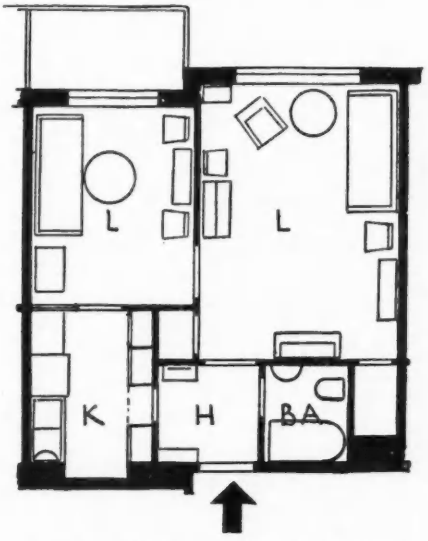
A block of flats erected by the Tenants' Saving and Building Society on the Södermalm, Stockholm.



Another Stockholm block, in Kungsholm.

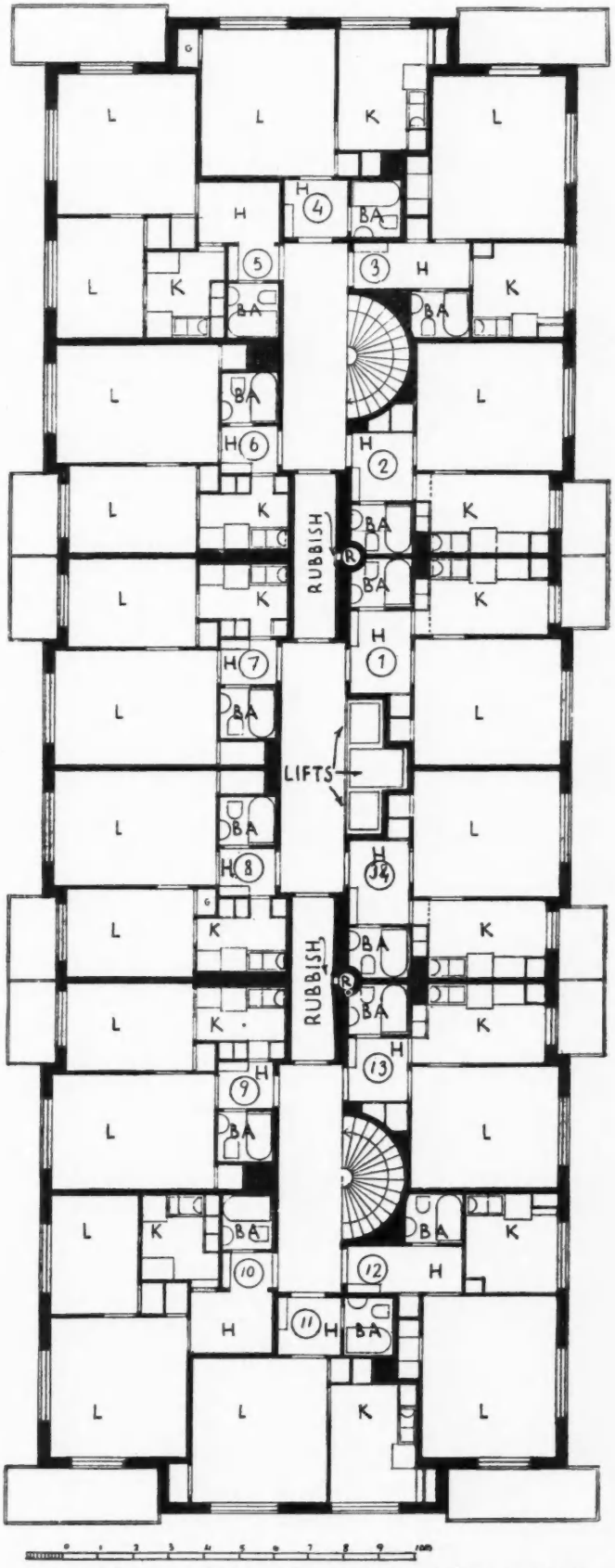


ONE-ROOM FLAT AND KITCHEN



TWO-ROOM FLAT AND KITCHENETTE

TWO-ROOM FLAT AND KITCHEN



A typical floor plan of block of flats now in course of construction in Stockholm. The rooms, as can be seen from the type plans on the left, are planned for divan beds, and can therefore be used as living rooms during the day.

towards the kitchen. This not only ventilates the rooms, but prevents the smell of cooking from penetrating to the living rooms.

Rubbish is disposed of by glazed earthenware shafts, with doors on each floor. The doors are vertical and the openings only 12 ins. diameter, but this is done deliberately in order to prevent tenants emptying buckets of rubbish down the shaft and choking it. All rubbish is wrapped in special bags to make certain that it reaches the container at the bottom of the shaft, and to avoid dust and smell. The containers are emptied, usually once a day, and all rubbish is burnt in an incinerator, which is arranged to augment the normal heating boilers.

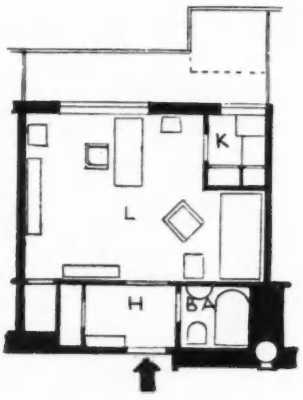
The financial details of this disposal method were investigated thoroughly in two blocks of Stockholm flats containing 435 dwellings. The annual working expenses were £82, and the fuel-saving £78, the annual cost of removing rubbish, including amortisation costs, being about 4s. 2d. per flat; less than half the cost of municipal rubbish removal. This system is now compulsory in Stockholm for all housing blocks with more than four flats on each floor.

In the basement the wash-houses are equipped with the most modern machinery, drying-cupboards and ironing-rooms. There are further sound-proof beating-rooms with cleaning machines and suitable ventilation.

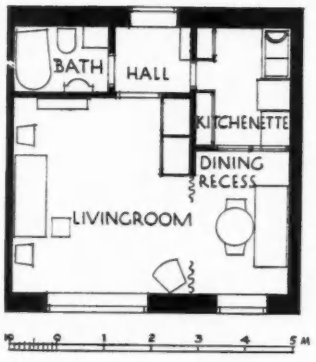
But notwithstanding all these advantages, the H.S.B. is able to let its flats at rents which are about 50 per cent. lower than the usual rents for flats of the same size and convenience. This is a result of a well thought-out and rationalized organization, very strict standardization, the purchase of all building materials in large quantities, and the use of its own workshops. The rents, which include also the costs of central heating and hot-water supply, are in Stockholm limited as follows :—

	Rents in pounds per year
1 room and kitchenette ..	25-40
1 „ „ kitchen	37-55
2 rooms and kitchenette ..	47-65
2 „ „ kitchen	70-85
3 „ „ kitchenette ..	75-90
3 „ „ kitchen	90-100
4 „ „ kitchenette ..	95-110
4 „ „ kitchen	105-115
5 „ „ „	130-160

For the poorer classes of tenant, who would not be able to pay more than 5 per cent. premium, or none at all, the above rents are reduced by about 15 per cent. The rents may seem high, but it should be remembered that the figures include heating, hot water and automatic lifts to all floors; that the flats are in actual fact suitable for the poorer classes is shown by an

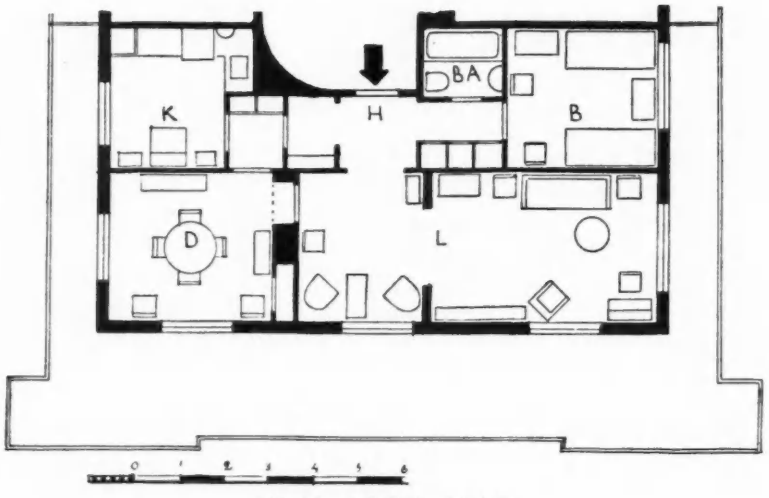


ONE-ROOM FLAT



ONE-ROOM FLAT
With Dining Recess

THREE-ROOM FLAT



FOUR-ROOM FLAT

Typical flat plans of other blocks erected by the Tenants' Saving and Building Society.

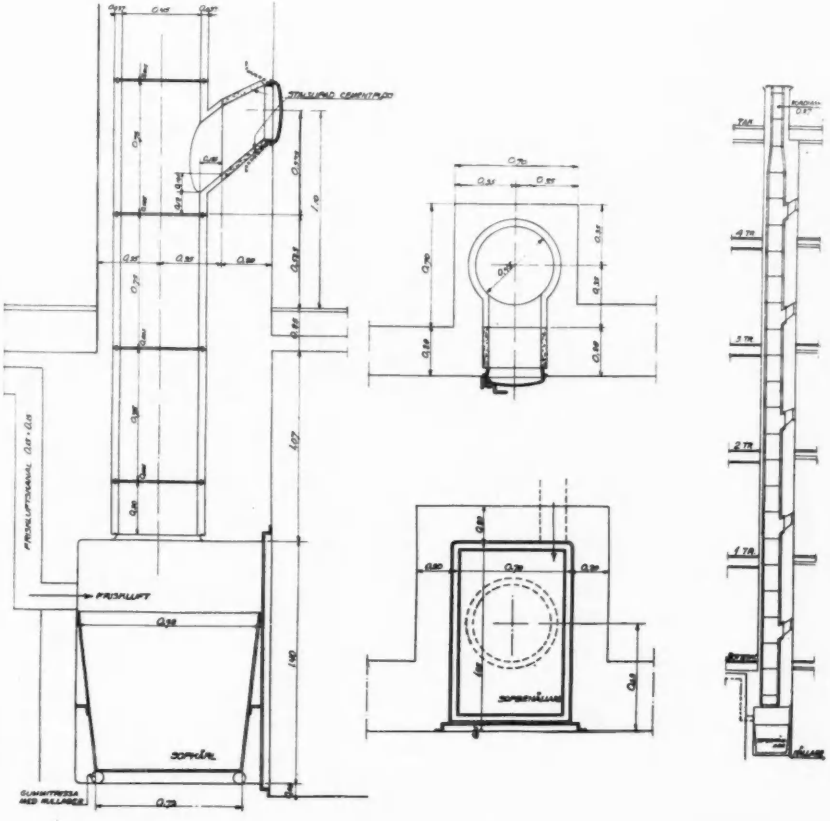
occupational census of the dwellers in the Stockholm blocks, which showed :—

Workmen	60 per cent.
Employees	24 per cent.
Lower officials	10 per cent.
Professional classes ..	6 per cent.

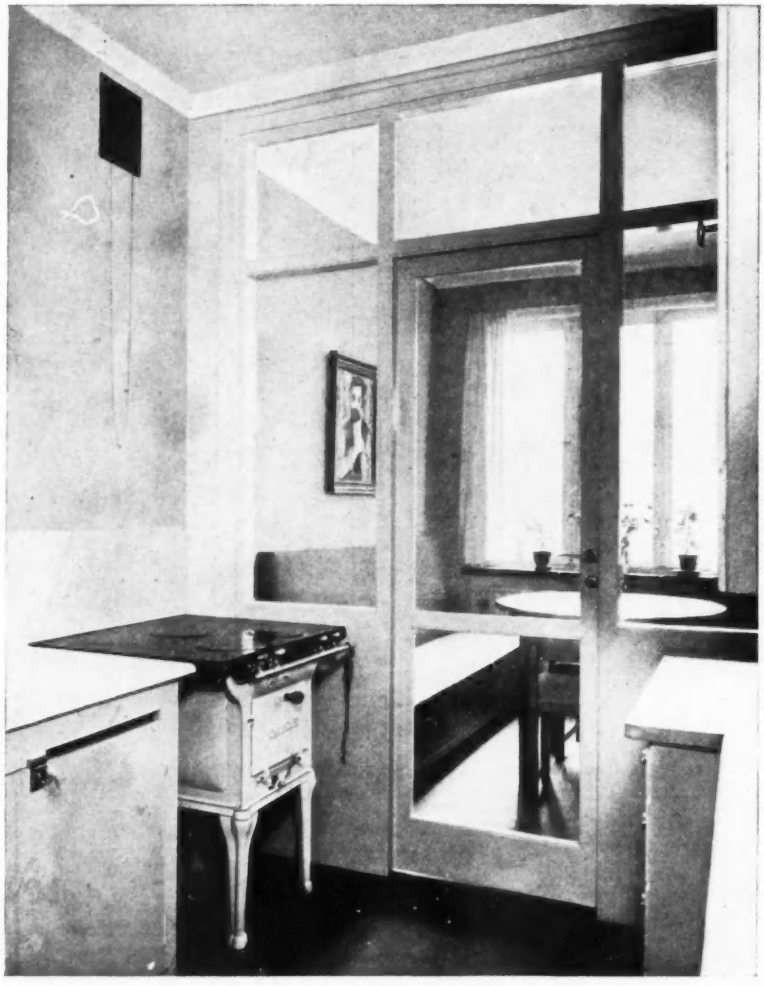
Moreover, the H.S.B., after having let its flats, keeps in the closest contact with its tenants. Each block of flats has a day nursery, where the busy or wage-earning mothers can leave children of any age. In the evenings these rooms are used for gymnastics and for meetings of the parents. Young girls can attend special housekeeping courses, and boys are instructed in different handcrafts. A co-operative factory supplies the members, if they want it, with practical, lasting and cheap standard furniture which can be paid off in instalments.

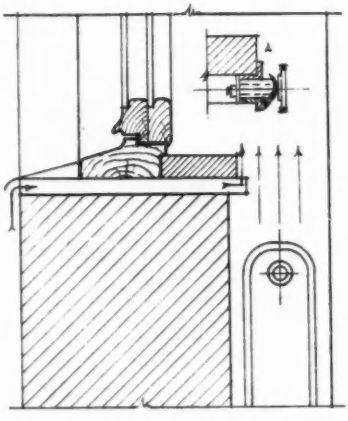
Every fortnight appears the paper of the Society, which creates a connection between the organization as a whole and its members, and which serves at the same time to spread the ideas of the new mode of living. The organization of summer camps and colonies for children has been tried in past years and shows clearly the direction in which the activity of the H.S.B., so advantageous and important for the town population, can be further developed.

Two views of a kitchenette, reached by means of a sliding door from the living room.



Right, a section through the doors and container boxes of the refuse disposal system; above, rubbish is placed in special paper containers before disposal.





The ventilation system of the flats. Air enters through the small ducts in the window cills, immediately above the radiators, and is extracted by an electric fan in the kitchen. The kitchen door is finished about ¾ in. clear of the floor, and there is a constant flow of air through the living rooms and out via the kitchen, thus preventing cooking smells from reaching the rest of the flats. The photograph shows the kitchen, with the extract fan on the wall above the cooker, while below is a section showing the air inlets.

SOCIETIES AND INSTITUTIONS

ARCHITECTURAL ASSOCIATION

At the annual general meeting of the Architectural Association, held on May 29, the following officers were elected for the ensuing session: President, Hon. H. Pakington, F.R.I.B.A.; Vice-Presidents, Messrs. L. H. Bucknell, F.R.I.B.A., and C. H. Holden, F.R.I.B.A.; Hon. Treasurer, G. Grey Wornum, F.R.I.B.A.; Hon. Secretary, J. R. Leathart, F.R.I.B.A.; Hon. Librarian, R. E. Enthoven, F.R.I.B.A.; Hon. Editor *A.A. Journal*, Lionel G. Pearson, F.R.I.B.A.; Past President, Mr. C. Lovett Gill, F.R.I.B.A. Ordinary Members of the Council: Messrs. A. F. B. Anderson, F.R.I.B.A., E. W. Armstrong, A.R.I.B.A.; J. Emberton, F.R.I.B.A., W. R. F. Fisher, A.R.I.B.A., J. Hill, F.R.I.B.A., W. M. Keesey, F.R.I.B.A., T. A. Lodge, F.R.I.B.A., E. B. O'Rorke, A.R.I.B.A., V. O. Rees, F.R.I.B.A., and J. C. Shepherd, A.R.I.B.A.

The A.A. excursion this year will be to Norway; cost £22 10s. (3rd class on boat, £20). The party will leave London on August 14 and will return on August 30. Full particulars of the excursion are obtainable from the Secretary of the A.A., 36, Bedford Square, W.C.1.

MUNICIPAL ELECTRICAL ASSOCIATION

Mr. L. H. Keay, F.R.I.B.A., urged close co-operation between electricians and architects when he took part in a discussion on means of inducing small householders to use more electricity before the annual conference of the Municipal Electrical Association at Liverpool last week.

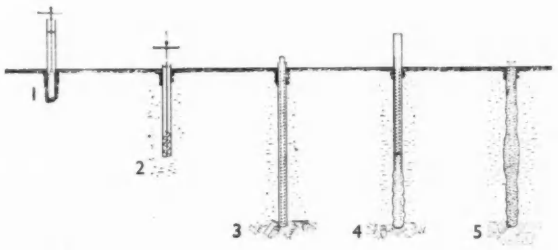
Architects, he said, desired to bring into the central areas of big cities some of those better conditions which existed outside them, but what hindered them more than anything else was the awful pall of smoke, and he looked to electrical engineers as the instruments by which the pall could be removed.

Speaking from the point of view of the landlord, Mr. Keay said that if gas were used as an illuminant in the houses being built by the Liverpool Corporation, it would be necessary to build higher-pitched rooms, and one of the things before him always in designing small houses and small blocks of flats was what the rent was going to be. To light the height of the ceiling in the smallest houses meant a capital cost of £6, and in the larger houses of £10. Even the cheap rate at which money could be got, £10 on the capital cost meant a penny a week on the rent, which was a great deal to poor people.

A.A.S.T.A. SUMMER TOUR

The Association of Architects, Surveyors and Technical Assistants have arranged a ten days' tour to Northern France, departing August 25, and covering Amiens, Laon, Rheims, Nancy and Paris. (Cost, £16, including hotel accommodation.)

Full particulars may be obtained from the Secretary of the A.A.S.T.A., 26 Buckingham Gate, S.W.1.



TRADE NOTES

[BY F. R. S. YORKE, A.R.I.B.A.]

Piling

I HAVE received from the Francois Cementation Co. detailed descriptions of various forms of concrete pile : the tapered shell system, the Express pile, the Midget pile and the Bored pile.

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The tapered shell pile has been in use in this country since 1928. The system consists essentially of a pile formed of concrete, with or without reinforcement, of conical or taper form. The pile is a driven one and is permanently enclosed within a light sheet steel corrugated shell.

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The pile can be constructed in any length up to 46 ft., and has a nominal toe diameter of 12 in. The rate of increase in the diameter of the pile is 1 in 40, i.e., the diameter at 20 ft. above the toe is 18 in., and at 40 ft. is 24 in. The usual concrete mix is 1 : 2½ : 5, 1 : 2 : 4 and 1 : 6.

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The pile is constructed by driving into the ground, until the required set is reached, a steel mandrel, or core, sheathed for the necessary length before driving with short corrugated steel shells, overlapping at junctions to give a watertight seal. After driving, the core is extracted by means of an ingenious hydraulic jack which utilizes the conicity of the pile. This leaves in the ground a complete steel shell, into which reinforcement may be placed, and concrete cast to the required head level. The resulting pile is extremely stiff owing to the fairly rapid increase in diameter. The steel shell, which is left in the ground, acts as a permanent protection to the pile concrete.

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The method of construction enables work to proceed rapidly, since the concreting of the pile is not dependent upon the driving, i.e., the shells can be driven into place and the pile concreted whilst further shells are being driven.

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The bearing capacity, i.e., the working load, of the pile is said to be greater than that of a parallel-sided type such as a pre-cast pile of equal bulk ; this due to a large extent to the effect of the taper. A tapered pile is easier to drive, and is capable of carrying a greater load, than is a parallel-sided pile. Conversely, it is claimed the taper pile carrying a given load will generally be shorter than a parallel-sided pile carrying the same load. Working loads on the pile are as much as 70 tons.

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The cost of the pile varies, of course, with the working conditions, number of piles, length, etc. It is more expensive than a simple unprotected *in situ* pile or a pre-cast pile, foot for foot. Against the greater cost may be set a saving in footage, and the superiority of the pile when completed over the *in situ* unprotected type. In common with all *in situ* piles, only the exact length required is constructed, there being no expensive lengthening or cutting down, as in the case of a pre-cast pile.

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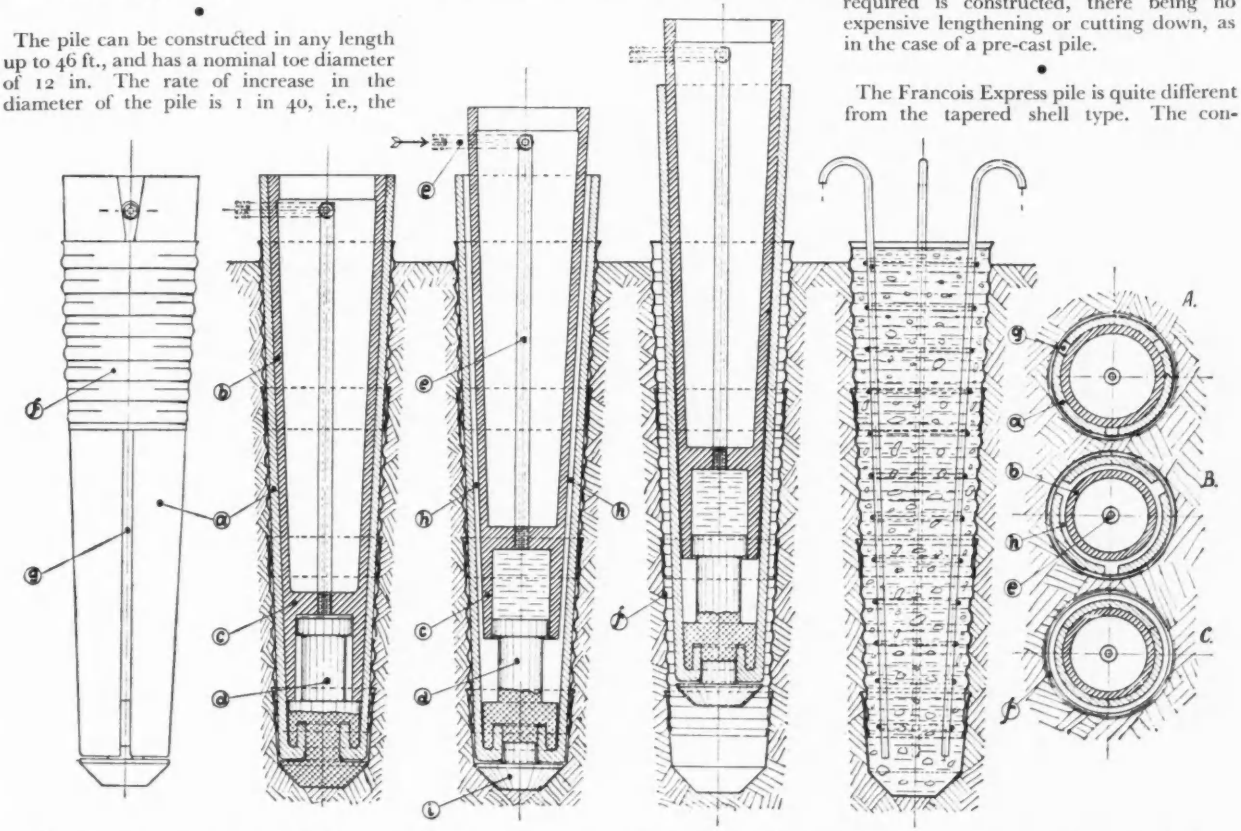
The Francois Express pile is quite different from the tapered shell type. The con-



Tapered shell pile: (a) collapsible steel ribbons; (b) inner core; (c) "cylinder" hydraulic jack; (d) plunger hydraulic jack; (e) hydraulic pressure tube; (f) corrugated sheet steel shells; (g) cap for collapsible steel ribbons; (h) gap in which steel ribbons collapse; (i) core paint.

crete is in immediate contact with the surrounding ground. The pile is formed by means of a special machine, driving an 18 in. diameter tube and shoe into the ground, to a set where possible, or until a desired depth is reached. Concrete is cast in the tube, and a special process of ramming then takes place, expanding the pile shaft into a large bulb at its foot, or along its length where weaker strata are encountered. This pile therefore carries its load—up to 80 tons—partially by virtue of the set reached and partially from its expansion into the surrounding ground. This load carrying capacity can be ascertained by means of any of the dynamic piling formula in conjunction with the static Dorr formula.

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Piles of considerable bearing capacity can thus be constructed at short depths. The cost per foot is, like the Taper pile, somewhat higher than that of ordinary pre-cast piles, but the cost per pile, or the unit of load carrying capacity, is correspondingly smaller.

The usual concrete mix is 1 : 2½ : 5, 1 : 2 : 4, or 1 : 6.

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The Francois pile is also of the *in situ* unprotected type, and can be constructed in diameters varying from 12 in. to 18 in. nominal, being expanded, as with the Express pile, according to ground conditions.

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Its peculiar advantage lies in the comparatively small headroom required for its construction. The plant is easily portable and can be drawn behind an ordinary motor lorry. Piles can therefore be driven inside existing buildings, where a tall piling frame could not be operated. The low cost of transport enables jobs requiring only a small number of piles to be carried out economically. The machine, in effect, renders economically possible the replacement by piles of a raft foundation, or a foundation where mass-concrete piers would normally be sunk for some depth to reach a firm sub-stratum. It can therefore be utilized for foundations for quite small schemes.

Bored Piles

It often happens that site conditions, i.e., proximity of adjoining property, difficulty of access to the pile positions, etc., prohibits the use of a driven pile ; this occurs in underpinning and reconstruction jobs. Francois bored piles have been developed to meet such conditions.

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The Bored pile is either (1) a concrete pile, (2) a cementation pile. Each is formed by boring into the ground with suitable tools until a sound bearing stratum is reached, the boring being cased to necessary depths. After boring, the hole is cleaned out and a reinforcement cage inserted.

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For the concrete pile (1), concrete is introduced in small quantities, and tamped out of the tube, thus keying into the surrounding ground. The tube is slowly withdrawn whilst this operation is proceeding, and the concrete is expanded into the ground where this is soft.

In the case of the cementation pile (2), clean washed gravel is introduced into the pile and tamped, the casing being withdrawn in the manner mentioned above. A small-diameter perforated tube is inserted through the length of the pile, and cement grout injected through it under pressure, filling the interstices of the gravel and forming a solid shaft of rich concrete. The cement grout also ties into the surrounding strata, giving a tenacious grip upon the ground.

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Both types of pile are constructed in diameters of 10 in., 12 in., 15 in., 16 in. and 18 in., the working load reaching 50 to 60 tons—dependent upon depth and strata—and on the cementation pile attaining even higher figures. In one particular contract, it is claimed, cementation piles each carried a load of 107 tons.

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The cost of Bored piles is generally in excess of similar driven piles, given identical conditions, since their method of construction is slower, and therefore more expensive. Of the two Francois Bore types, the cementation pile is the more expensive, but against this must be set the special advantages to be derived under certain conditions from this type of pile alone.

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The diagram at the head of these notes shows five stages in the sinking of a Bored concrete pile. 1 : commencement of boring. 2 : further stage in boring, additional casing added. 3 : hole bored and cased, reinforcement cage inserted. 4 : pile partially concreted, casing being withdrawn. 5 : completed pile.

LAW REPORT

ACTION FOR FEES BY ARCHITECT

Greenfield v. Farrer—King's Bench Division—Before Mr. Justice Swift

THIS was an action by Mr. Thomas Greenfield, A.R.I.B.A., of Midhurst, Sussex, against Mr. Anthony T. Farrer, of Little Austin's Road, Farnham, Surrey, to recover the sum of £156 as damages for alleged breach of contract or alternatively as remuneration or fees due to him as an architect and surveyor.

Mr. Greenfield's case was that in October last year Mr. Farrer verbally agreed to employ him as architect and surveyor in connection with the proposed building of a house at Dogmersfield, at fees according to the R.I.B.A. scale, and that after he had done certain work in accordance with the agreement and obtained tenders Mr. Farrer declined to proceed with the building.

Mr. Farrer's defence was that he requested Mr. Greenfield to prepare plans and specifications for a house to be built at a cost of not more than £2,400, and that the lowest tender obtained on the plans and specifications prepared was £3,770. Mr. Farrer contended that the house designed by Mr. Greenfield could not have been built for less, and accordingly that the work done by Mr. Greenfield was not in accordance with the agreement. Mr. Farrer paid into court £21 in satisfaction of a claim by Mr. Greenfield in connection with the inspection of certain sites.

Mr. Greenfield gave evidence in support of his claim.

His lordship, after hearing evidence for the defence, gave judgment. He said that he had no doubt that Mr. Farrer was asking for something which he believed he was going to get cheap, and that Mr. Greenfield on the other hand, was telling him that it could not be done at the price of £2,400, and that it would cost a good deal more. That being the state of mind of the parties, Mr. Farrer told Mr. Greenfield to get out the plans and specifications and ask for tenders, and then they would see whether the work could not really be done for £2,400, and Mr. Farrer found that he could not get it done and that £3,770 was the cheapest figure.

His lordship thought that when the order was given to Mr. Greenfield there was not either expresssed or implied in the contract any provision that he should not be paid his ordinary fees unless tenders came down to £2,400. Mr. Greenfield was ordered by Mr. Farrer to do work, and he was entitled to be paid for it. Mr. Farrer was, of course, at liberty to decline to carry out the building if he found it too expensive, but having engaged an architect to prepare plans and specifications and get in tenders, it was not only fair and proper, but it was part of the contract, that he should pay the architect on the reduced basis according to the amount of work which would have been done if the work had gone on.

He found that Mr. Greenfield had properly earned his fees of £156, and he gave judgment for him for that amount, with costs, and he directed that the £21 in the court should paid out to Mr. Greenfield's solicitors in part satisfaction of the £156.

THE BUILDINGS ILLUSTRATED

Following are the names of the general contractors and some of the sub-contractors for the buildings illustrated in this issue :—

Romsey and Stockbridge R.D.C. Offices (pages 822-823). General contractors, W. E. Chivers and Sons, Ltd. Sub-contractors : D. Anderson and Son, Ltd., Macasfelt roof ; R. J. Bullivant, electric lighting and bells ; James Ward (Worcester), Ltd., heating ; James Gibbons, Ltd., steel windows ; Empire Stone Co., Ltd., reinforced concrete staircase ; Standard Patent Glazing Co., Ltd., patent glazing Art Pavements, Ltd., marble surround to entrance ; Haywoods, Ltd., lay-lights ; Troughton and Young, Ultralux electric fittings ; James Gibbons, Ltd., and Hailey Bros., ironmongery and fittings ; Thomas Lawrence, bricks and tiles.

The "Rose and Crown," Lower Sloane Street, S.W. (pages 826-827). General contractors, Halse and Sons, Ltd. Arthur Glover, decorative plaster. Sub-contractors : Redpath, Brown & Co., Ltd., steelwork ; Crittall Manufacturing Co., Ltd., windows ; Bratt, Colbran & Co., fireplaces ; Abbey Heating Co., heating ; Buckley and Beach, electric work and bar fittings ; Yannedis, ironmongery ; Waygood-Otis, Ltd., lifts ; Haywards, Ltd., fire escape stair ; George Wright (London), Ltd., sanitary fittings ; Hollis Bros., Ltd., hardwood floors ; The Helical Bar and Engineering Co., reinforced floors ; The Morris-Singer Co., special glass and metal work ; The Art Pavements and Decorations, Ltd., special pavings ; Chabot, lettering ; Collier, Ltd., bricks ; Broadmead Products, Ltd., artificial stone ; Rust's Vitreous Mosaic and Tile Co., lower front.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILE RADIUS)

CROYDON. *Houses, etc.* Plans passed by the Corporation: Showrooms, offices and stores, Mitcham Road, for Mr. A. Standish; eight houses, Fairgreen Road, for Mr. J. G. Cooper; three houses, Woodmansterne Road, for Messrs. Wills and Tappin; 10 houses, Lake Road, for Messrs. Cressey and Barclay; two houses, Devonshire Way, for Messrs. Langs, Ltd.; two bungalows, Lavender Walk, for Mr. A. Pym; nine houses, Hartland Way, for Hunt Construction Co.; 12 houses, Davidson Road, for Mr. F. Fowles; 12 houses, Spa Close, for Mr. E. F. Bates; four houses, Rutland Gardens, for Mr. C. J. Doyle; 11 houses, Chaffinch Avenue, for Messrs. Wylie and Berlyn, Ltd.; two houses, Green Lane, for Mr. C. M. Gorringe; five shops and flats, Old Town, for Messrs. F. W. Rees and Partners; three houses, Greenably Avenue, for Mr. J. Scrivens.

CROYDON. *Swimming Pool.* The Corporation is to obtain tenders for the construction of an open-air swimming pool at Purley Way, for which purpose the Ministry of Health has promised to consider granting a loan of £15,600.

EDGWARE. *Hospital Extensions.* The Middlesex C.C. has approved a revised scheme for extending Redhill county hospital, at an estimated cost of £251, 500.

HAMMERSMITH. *Crematorium.* The B.C. recommends agreeing with other authorities in West London for the provision of a joint municipal crematorium at the Mortlake cemetery, at an estimated cost of £25,290.

HENDON, ETC. *Cinemas, etc.* The Middlesex County Licensing Committee has approved the following plans: Lecture Hall, Brent Street, Hendon, for the Hendon Electric Supply Co.; Astoria Cinema, High Street, Ruislip; R.C. School, Orange Hill Road, Hendon; Odeon Cinema, Wealdstone; alterations, St. Monica's Hall, Palmers Green.

HILLINGDON. *Hospital Extensions.* The Middlesex C.C. is to proceed with extension and other works at the county hospital, at an estimated cost of £81,250.

POPLAR. *Town Hall.* The B.C. has decided to seek sanction to borrow £150,000 for the proposed new town hall in Bow Road.

SOUTHGATE. *School.* The Middlesex Education Committee is to proceed with the erection of an elementary school for 500 children, at Green Road.

SOUTHGATE. *Maisonettes and Flats.* The Corporation has approved a scheme for the erection of 44 maisonettes at Reservoir Road and Green Road. A scheme has been prepared for the erection of 76 flats at High Street.

SOUTHGATE. *Houses.* Plans passed by the Corporation: Two houses, Broadfields Avenue, for Mr. O. R. Davies; 38 houses, Seafield Road, for Mr. E. Pollex; two bungalows, Trent Gardens, for Mr. A. D. Smith; 20 houses, Ashridge Gardens, for Mr. F. F. Tomlin; 10 houses, Yew Tree Close, for New Ideal Housing Co.; seven houses, The Vale, for Messrs. John Laing and Son, Ltd.

TOTTENHAM. *Factories, Offices, etc.* Plans passed by the U.D.C.: Factory extension, Bernard Road, for Messrs. H. S. Stone & Co.; factory extension, Grovelands Road, for Messrs, L. Bamberger and Sons; factory extensions. 23, South Grove, for Messrs. Wagner and Brandon; two houses, Foyle Road, for Mr. C. Ruggles; factory and offices, Queen Street, for Messrs. L. Lazarus and Son, Ltd.; V.D. Hospital block, Colsterworth Road, for Governors of Prince of Wales's Hospital; factory, Selby Road, for Sir William Prescott; factory, Willoughby Lane, for Commercial Structures, Ltd.; factory, West Road, for Messrs. A. J. King, Ltd.; factory extension, Factory Lane, for Messrs. H. Schuman, Ltd.; three blocks of flats, Boundary Road, for Mr. A. Godfrey.

TOTTENHAM. *Dwellings.* The U.D.C. is to prepare plans for the erection of 44 dwellings on the second section of the Council estate.

WOOD GREEN. *Library Extensions.* The Corporation is to engage temporary architectural assistance in connection with the preparation of detailed plans and estimates for the extensions at the public library, at a cost of £37,866.

SOUTHERN COUNTIES

BEXHILL. *Houses and Bungalows.* Plans passed by the Corporation: Two bungalows, Whitehouse Avenue, for Mr. J. E. Maynard; two houses, St. James Avenue and Thorne Crescent, for Mr. J. H. Lye; 18 houses, Bancroft Road, for Mr. F. G. Watford; two bungalows, Barnhorn Road, for Mr. A. J. Coomber.

Plans submitted to the Corporation: 22 houses St. Margaret's Crescent and Ethdore Avenue; for Mr. D. J. Williams; building estate off Gunters Lane, for Mr. Moore, on behalf of Mr. G. W. Newling Ward; six houses, Cranston Gardens, for Messrs. Jeffrey and Wyatt.

BEXHILL. *Development of Coastguard Site.* The Corporation has obtained sanction to borrow £70,000 for the development of the Coastguard site, and instructed the architects to modify plans so as to provide for the capacity of the entertainment hall for 1,300 instead of 1,500 persons.

BOURNEMOUTH. *Houses and Flats.* Plans passed by the Corporation:—Five flats, Beaufort Road, for Mr. R. J. Jones; four bungalows, Durdells Avenue, for Mr. S. Gidlow; two houses, Harewood Avenue, for Mr. A. Laughton; two houses, Winston Road, for Messrs. T. K. Butt and Sons; three houses, Verona Avenue, for Mr. A. Bedford; two flats, Surrey Road, for Mr. E. F. P. Richards; two houses, Castle Lane, for Mr. E. J. Keane; three houses and shops, Tuckton Road, for Mr. G. Jones; five houses and shops, Tuckton Road, for Mr. F. Elcock; two houses, Ashridge Avenue, for Mr. E. C. Philpott; two houses, Knole Road, for Messrs. Ginder and Ginder; two houses, Winston Road, for Mr. W. J. Clapcott; 31 flats, Exeter Road, for Mr. H. S. Kingdon; two houses, Southcote Road, for Mr. W. H. Elcock; 12 flats, Gervis Road East, for Mr. D. A. Wood.

GUILDFORD. *Houses.* Plans passed by the Corporation: Two houses, Pewley Way, for Mr. R. G. Bowers; eight houses, Ardmore estate, for Mr. W. Hoptroff; two houses; Cranley Close, for Messrs. Wilton and Hiscock, two houses, Winterhill estate, for Messrs. Armstrong & Co.; shops and flats, site of 167-9, High Street, for Mrs. W. White; four houses, Sheepfold Road, for Mr. R. W. King; two houses, Downs estate, for Mr. R. G. Bowers; 38 houses, Shepherds Farm estate, for Mr. G. Harms; eight houses, Ash Grove, for Mr. C. T. Corps; two houses, Pit Farm Road, for Mr. B. Gates; shop, Park Street, for Salmon's Motors, Ltd.

MIDLAND COUNTIES

KIDDERMINSTER. *Houses and Shops.* Plans passed by the Corporation: Three houses Mason Road, for Mr. L. Rowe; two houses, Leswell House estate, for Mrs. L. Lugg; two houses, Leswell House estate, for Messrs. Edwards and Moule; two houses, Leswelt House estate, for Messrs. Cookson and Donavon; four houses, Foxholes estate, for Messrs. Holl and Shaw; two shops and houses combined, Broadwaters housing estate, for Mr. W. G. Darby; eight houses, James Road, for Mrs. A. A. Spilsbury; two houses, off Leswell Lane, for Messrs. Tanner and Davies; two houses, Lyndholm estate, for Mr. W. Lindley; 20 houses, Claughton Street and Greatfield Road, for Messrs. Bowes Building Co., Ltd.; seven houses, Marlpool Lane, for Mr. P. Hall.

MANSFIELD. *Bathing Pool Extension.* The Corporation has decided to construct a bathing pool extension at the baths, at an estimated cost of £17,500.

MANSFIELD. *Houses.* Plans passed by the Corporation: Six houses, Beech Hill Avenue, for Mr. C. H. Hill; two houses, Chesterfield Road, for Mr. J. S. Barns; 60 houses, Crompton Road, for Messrs. Radford and Jenkins.

STOKE-ON-TRENT. *Housing.* The Corporation Housing Committee has inspected land on the Blurton Green estate, in connection with an offer by Messrs. Ball and Robinson for the erection of 296 houses for sale to the Corporation at the inclusive price of £380 per house, and recommends that the proposal should be considered favourably, subject to negotiations with respect to the inclusive price for the houses, and also as to the details of the scheme. The Committee, however, has declined to entertain an offer by Mr. A. S. Owen to erect 116 houses at Leek Road, Milton, for sale to the Corporation at an inclusive price of £375 per house.

NORTHERN COUNTIES

WAKEFIELD. *Baths.* The Administrativ: Committee of the Corporation is to prepare working drawings, and consult experts, with reference to the proposed erection of public baths, at a cost of £25,000.

The Corporation has approved plans for the erection of 20 houses on the George-a-Green Road estate, 16 houses on the Eastmoor estate, and 13 houses for aged persons, in Oakenshaw Street.

WAKEFIELD. *Development.* The Corporation is preparing a scheme for the redevelopment of the six clearance areas.

SCOTLAND

GLASGOW. *Baths Reconditioning.* The Corporation is to prepare plans for reconditioning the Hutchesontown baths and wash-house, at an estimated cost of £15,000.

GLASGOW. *Alterations to Schools.* The Education Committee has arranged to repair and make structural alterations at various schools, at a cost of £20,000.

GLASGOW. *Workshop.* The Joint Committee for the South West of Scotland on the Administration of the Blind Persons Act, 1920, is to provide workshop accommodation for blind persons at Castle Street, at an estimated cost of £22,500.

GLASGOW. *Houses.* The Corporation has approved plans for the erection of 54 houses at Garscube Road, and for the erection of 351 houses at Bilsland Drive.

GLASGOW. *Houses.* The Corporation is to prepare plans for the erection of 32 houses for the married staff at the three hospitals, at an estimated cost of £12,000.

GLASGOW. *Park Improvements.* The Corporation is to improve various parks at a cost of £22,400.

WALES

CARDIFF. *Building Plots.* The Corporation has leased the following building plots on the Insole estate: 12 on the western side of the estate to Messrs. W. and J. Northway; 12 adjoining Western Avenue to Messrs. G. N. Nash & Co.; and four adjoining Waungron Road to Mr. H. C. Parker.

The Corporation is to erect 234 houses on the Tremorfa estate.

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NEW SCHOOL FOR WIGAN

The Wigan Education Committee has decided to erect a new grammar school at a cost of £43,000. The scheme has been under consideration for about seven years. Mr. Alan E. Munby, F.R.I.B.A., is the architect.

E

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I s. d.	II s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A_1	Abergavenny ..	S Wales & M.	1 5	1 0½
A_2	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1½
A_2	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1½
A	Airdrie ..	Scotland	*1 5½	1 1½
C	Aldeburgh ..	E. Counties	1 1½	10½
A	Altrincham ..	N.W. Counties	1 5½	1 1½
B_2	Appleby ..	N.W. Counties	1 2	10½
A	Ashton-under-Lyne	N.W. Counties	1 5½	1 1½
A_2	Atherstone ..	Mid. Counties	1 4	1 0
B_2	Aylesbury ..	S. Counties	1 2½	11
B_1	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_2	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1½
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow ..	N.W. Counties	1 5½	1 1½
A	Barry ..	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke ..	S.W. Counties	1 3	11½
A_2	Bath	S.W. Counties	1 4½	1 0½
A	Batley ..	Yorkshire	1 5½	1 1½
A_2	Bedford ..	E. Counties	1 4½	1 0½
A_1	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_2	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	*1 7	1 2½
A	Birmingham	Mid. Counties	1 5½	1 1½
A_1	Bishop Auckland	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1½
A	Blackpool ..	N.W. Counties	1 5½	1 1½
A	Blyth ..	N.E. Coast	1 5½	1 1½
B_1	Bognor ..	S. Counties	1 3	11½
A	Bolton ..	N.W. Counties	1 5½	1 1½
A_2	Boston ..	Mid. Counties	1 4	1 0
A_2	Bournemouth ..	S. Counties	1 4	1 0
B_2	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1½
A_1	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M.	1 5½	1 1½
B_1	Bridgwater ..	S.W. Counties	1 3	11½
A_1	Bridlington ..	Yorkshire	1 5	1 0½
A	Brighouse ..	Yorkshire	1 5½	1 1½
A_2	Brighton ..	S. Counties	1 4	1 0
A	Bristol ..	S.W. Counties	1 5½	1 1½
B_2	Brixham ..	S.W. Counties	1 2½	11
A_2	Bromsgrove ..	Mid. Counties	1 4½	1 0½
B_2	Bromyard ..	Mid. Counties	1 2	10½
A	Burnley ..	N.W. Counties	1 5½	1 1½
A	Burslem ..	Mid. Counties	1 5½	1 1½
A	Burton-on-Trent	Mid. Counties	1 5½	1 1½
A	Bury ..	N.W. Counties	1 5½	1 1½
A_1	Buxton ..	N.W. Counties	1 5	1 0½
A_1	CAMBRIDGE	E. Counties	1 5	1 0½
B_1	Canterbury ..	S. Counties	1 3	11½
A	Cardiff ..	S. Wales & M.	1 5½	1 1½
A	Carlisle ..	N.W. Counties	1 5½	1 1½
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Carnforth ..	N.W. Counties	1 5½	1 1½
A	Castleford ..	Yorkshire	1 5½	1 1½
B	Chatham ..	S. Counties	1 3½	11½
A_2	Chelmsford ..	E. Counties	1 4	1 0
A_2	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester ..	N.W. Counties	1 5½	1 1½
A	Chesterfield ..	Mid. Counties	1 5½	1 1½
B_1	Chichester ..	S. Counties	1 3	11½
A	Chorley ..	N.W. Counties	1 5½	1 1½
B_1	Cirencester ..	S. Counties	1 3	11½
A	Clitheroe ..	N.W. Counties	1 5½	1 1½
A	Clydebank ..	Scotland	1 5½	1 1½
A	Coalville ..	Mid. Counties	1 5½	1 1½
A_2	Colchester ..	E. Counties	1 4	1 0
A	Colne ..	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_1	Consett ..	N.E. Coast	1 5	1 0½
A_2	Conway ..	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1½
A	Crewe	N.W. Counties	1 4½	1 0½
A	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1½
A	Darwen ..	N.W. Counties	1 5½	1 1½
B_1	Deal	S. Counties	1 3	11½
A_2	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby ..	Mid. Counties	1 5½	1 1½
A	Dewsbury ..	Yorkshire	1 5½	1 1½
B	Didcot ..	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1½
B_2	Dorchester ..	S.W. Counties	1 2½	11
A	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley ..	Mid. Counties	1 5½	1 1½
A	Dundee ..	Scotland	1 5½	1 1½
A	Durham ..	N.E. Coast	1 5½	1 1½
A_2	EASTBOURNE	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1½
A_1	E. Glamorgan-shire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter ..	S.W. Counties	*1 4½	1 0½
B	Exmouth ..	S.W. Counties	1 3½	11½
A_2	FELIXSTOWE	E. Counties	1 4	1 0
A_2	Filey	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1½
B_1	Folkestone ..	S. Counties	1 3	11½
A	Frodsham ..	N.W. Counties	1 5½	1 1½
B_2	Frome	S.W. Counties	1 2½	11
A	GATESHEAD	N.E. Coast	1 5½	1 1½
B	Gillingham ..	S. Counties	1 3½	11½
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole	Yorkshire	1 4½	1 0½
A_2	Gosport	S. Counties	1 4½	1 0½
A_2	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0½
A	Greenock ..	Scotland	*1 5½	1 1½
A	Grimsby ..	Yorkshire	1 5½	1 1½
B	Guildford ..	S. Counties	1 3½	11½
A	HALIFAX ..	Yorkshire	1 5½	1 1½
A	Hanley ..	Mid. Counties	1 5½	1 1½
A	Harrogate ..	Yorkshire	1 5½	1 1½
A	Hartlepools ..	N.E. Coast	1 5½	1 1½
B	Harwich ..	E. Counties	1 3½	11½
B_1	Hastings ..	S. Counties	1 3	11½
A_2	Hatfield ..	S. Counties	1 4½	1 0½
B	Hereford ..	S.W. Counties	1 3½	11½
A_2	Hertford ..	E. Counties	1 4½	1 0½
A	Heysham ..	N.W. Counties	1 5½	1 1½
A	Howden ..	N.E. Coast	1 5½	1 1½
A	Huddersfield ..	Yorkshire	1 5½	1 1½
A	Hull	Yorkshire	1 5½	1 1½
A	ILKLEY ..	Yorkshire	1 5½	1 1½
A	Immingham ..	Mid. Counties	1 5½	1 1½
A_2	Ipswich ..	E. Counties	1 4½	1 0½
B_2	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1½
A	KEIGHLEY ..	Yorkshire	1 5½	1 1½
B	Kendal ..	N.W. Counties	1 3½	11½
B	Keswick ..	N.W. Counties	1 3½	11½
A_2	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster	Mid. Counties	1 4½	1 0½
B_1	King's Lynn ..	E. Counties	1 3	11½
A	LANCASTER ..	N.W. Counties	1 5½	1 1½
	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester ..	Mid. Counties	1 5½	1 1½
A	Leigh	N.W. Counties	1 5½	1 1½
B_2	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln	Mid. Counties	1 5½	1 1½
	Liverpool ..	N.W. Counties	*1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly ..	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12-15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1½
A	Loughborough	Mid. Counties	1 5½	1 1½
A_2	Luton	E. Counties	1 4	1 0
A	Lytham ..	N.W. Counties	1 5½	1 1½
A_1	MACCLES-FIELD	N.W. Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11½
A_2	Malvern ..	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1½
A	Mansfield ..	Mid. Counties	1 5½	1 1½
B_1	Margate ..	S. Counties	1 3	11½
A	Matlock ..	Mid. Counties	1 4	1 0
A_1	Merthyr ..	S. Wales & M.	1 5	1 0½
A	Middesbrough	N.E. Coast	1 5½	1 1½
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1 2½	11
A	Morecambe ..	N.W. Counties	1 5½	1 1½
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson ..	N.W. Counties	1 5½	1 1½
A	Newcastle ..	N.E. Coast	1 5½	1 1½
A	Newport ..	S. Wales & M.	1 5½	1 1½
A	Normanton ..	Yorkshire	1 5½	1 1½
A	Northampton	Mid. Counties	1 5½	1 1½
A	North Staffs ..	Mid. Counties	1 5½	1 1½
A	North Shields ..	N.E. Coast	1 5½	1 1½
A_1	Norwich ..	E. Counties	1 5	1 0½
A	Nottingham ..	Mid. Counties	1 5½	1 1½
A	Nuneaton ..	Mid. Counties	1 5½	1 1½
A_2	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham ..	N.W. Counties	1 5½	1 1½
A_2	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford ..	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	*1 5½	1 1½
B_2	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth ..	Scotland	*1 5½	1 1½
A_2	Peterborough ..	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	*1 5½	1 1½
A	Pontefract ..	Yorkshire	1 5½	1 1½
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_2	Portsmouth ..	S. Counties	1 4½	1 0½
A	Preston ..	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate ..	S. Counties	1 3½	11½
A	Retford ..	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A_2	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1½
B	Rochester ..	S. Counties	1 3½	11½
A_1	Ruabon ..	N.W. Counties	1 5	1 0½
A	Rugby ..	Mid. Counties	1 5½	1 1½
A_2	Rugeley ..	Mid. Counties	1 4½	1 0½
A	Runcorn ..	N.W. Counties	1 5½	1 1½
A_1	ST. ALBANS ..	E. Counties	1 5	1 0½
A	St. Helens ..	N.W. Counties	1 5½	1 1½
B_2	Salisbury ..	S.W. Counties	1 2½	11
A_2	Scarborough ..	Yorkshire	1 5	1 0½
A_1	Scunthorpe ..	Mid. Counties	1 5½	1 1½
A	Sheffield ..	Yorkshire	1 5½	1 1½
A	Shipley ..	Yorkshire	1 5½	1 1½
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton ..	Yorkshire	1 4½	1 0½
A_2	Slough ..	S. Counties	1 4½	1 0½
A_1	Solihull ..	Mid. Counties	1 5	1 0½
A_2	Southampton ..	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport ..	N.W. Counties	1 5½	1 1½
A	S. Shields ..	N.E. Coast	1 5½	1 1½
A_1	Stafford ..	Mid. Counties	1 5	1 0½
A	Stockport ..	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud ..	S.W. Counties	1 3½	11½
A	Sunderland ..	N.E. Coast	1 5½	1 1½
A	Swadlincote ..	Mid. Counties	1 5½	1 1½
A	Swansea ..	S. Wales & M.	1 5½	1 1½
A_2	Swindon ..	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton ..	S.W. Counties	1 3½	11½
A	Teesside Dist. ..	N.E. Counties	1 5½	1 1½
A_2	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1½
A_1	Torquay ..	S.W. Counties	1 5	1 0½
B_2	Truro ..	S.W. Counties	1 2½	11
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall ..	Mid. Counties	1 5½	1 1½
A	Tyne District ..	N.E. Coast	1 5½	1 1½
A	WAKEFIELD	Yorkshire	1 5½	1 1½
A	Walsall ..	Mid. Counties	1 5½	1 1½
A	Warrington ..	N.W. Counties	1 5½	1 1½
A_1	Warwick ..	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid. Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby ..	Yorkshire	1 4½	1 0½
A	Widnes ..	N.W. Counties	1 5½	1 1½
A	Wigan	N.W. Counties	1 5½	1 1½
B	Winchester ..	S. Counties	1 3½	11½
A_2	Windsor ..	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_2	Worksop ..	Yorkshire	1 4	1 0
A_1	Wrexham ..	N.W. Counties	1 5	1 0½
A_2	Wycombe ..	S. Counties	1 4	1 0
B_1	YEOVIL	E. Counties	1 3	11½
B_1	Yeovil	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	11½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	£ s. d.
Bricklayer . . . . . per hour	1 7
Carpenter . . . . . ,,	1 7
Joiner . . . . . ,,	1 7
Machinist . . . . . ,,	1 8
Mason (Banker) . . . . . ,,	1 7
,, (Fixer) . . . . . ,,	1 8
Plumber . . . . . ,,	1 7
Painter . . . . . ,,	1 6
Paperhanger . . . . . ,,	1 6
Glazier . . . . . ,,	1 7
Slater . . . . . ,,	1 7
Scaffolder . . . . . ,,	1 7
Timberman . . . . . ,,	1 3
Navvy . . . . . ,,	1 3
General Labourer . . . . . ,,	1 2½
Lorryman . . . . . ,,	1 5
Crane Driver . . . . . ,,	1 6
Watchman . . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£ s. d.
Grey Stone Lime . . . . per ton	2 2 0
Blue Lias Lime . . . . ,,	1 16 6
Hydrated Lime . . . . ,,	3 0 9
Portland Cement, in 4 ton lots (d/d site, including Paper Bags) . . ,,	1 18 0
Rapid Hardening Cement, in 4 ton lots (d/d site, including Paper Bags) ,,	2 5 6
White Portland Cement, in 1 ton lots ,,	8 15 0
Thames Ballast . . . . per Y.C.	6 3
½" Crushed Ballast . . . . ,,	6 9
Building Sand . . . . ,,	7 3
Washed Sand . . . . ,,	8 3
2" Broken Brick . . . . ,,	8 0
½" ,, ,, ... ,,	10 3
Pan Breeze . . . . ,,	6 6
Coke Breeze . . . . ,,	8 9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

	4" s. d.	6" s. d.
Straight Pipes . .per F.R	0 9	1 1
Bends . . . each	1 9	2 6
Taper Bends . . ,,	3 6	5 3
Rest Bends . . ,,	4 3	6 3
Single junctions . . ,,	3 6	5 3
Double . . . ,,	4 9	6 6
Straight channels . .per F.R.	1 6	2 6
½" Channel bends . . each	2 9	4 0
Channel junctions . ,,	4 6	6 6
Channel tapers . . ,,	2 9	4 0
Yard gullies . . ,,	6 9	8 9
Interceptors . . ,,	16 0	19 6
IRON DRAINS:		
Iron drain pipe . . per F.R.	1 6	2 6
Bends . . . each	5 0	10 6
Inspection bends . . ,,	9 0	15 0
Single junctions . . ,,	8 9	18 0
Double junctions . . ,,	13 6	30 0
Lead wool . . lb.	6	—
Gaskin . . . ,,	5	—

BRICKLAYER

	£ s. d.
Flettons . . . . per M.	2 18 0
Grooved do. . . . ,,	3 0 0
Phorpres bricks . . ,,	2 17 3
Phorpres Cellular bricks . . ,,	2 17 3
Stocks, 1st quality . . ,,	4 11 0
,, 2nd ,, . . ,,	4 2 6
Blue Bricks, Pressed . . ,,	8 17 6
,, Wirecuts . . ,,	7 17 6
,, Brindles . . ,,	7 0 0
,, Bullnose . . ,,	9 0 0
Red Sand-faced Facings . . ,,	6 18 6
Red Rubbers for Arches . . ,,	12 0 0
Multicoloured Facings . . ,,	7 10 0
Luton Facings . . . ,,	7 10 0
Phorpres White Facings . . ,,	3 17 3
Phorpres Rustic Facings . . ,,	3 12 3
Midhurst White Facings . . ,,	5 0 0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:	
Stretchers . . . . ,,	21 0 0
Headers . . . . ,,	20 10 0
Bullnose . . . . ,,	27 10 0
Double Stretchers . . ,,	29 10 0
Double Headers . . ,,	26 10 0
Glazed Second Quality, *Less* . ,,	1 0 0
,, Buffs and Creams, *Add* . ,,	2 0 0
Other Colours . . ,,	5 10 0
2" Breeze Partition Blocks . . per Y.S.	1 7
2½" ,, ,, ,, . . ,,	1 10
3" ,, ,, ,, . . ,,	2 1
4" ,, ,, ,, . . ,,	2 6

MASON

	s. d.
The following d/d F.O.R. at Nine Elms:	
Portland stone, Whitbed . . F.C.	4 4½
,, ,, Basebed . . ,,	4 9
Bath stone . . . . ,,	2 11
York stone . . . . ,,	6 6
,, ,, Sawn templates . ,,	7 6
,, ,, Paving, 2" . . F.S.	1 8
,, ,, 3" . . ,,	2 6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£ s. d.
24" × 12" Duchesses . . per M.	28 17 6
22" × 12" Marchionesses . . ,,	24 10 0
20" × 10" Countesses . . ,,	19 5 0
18" × 10" Viscountesses . . ,,	15 10 0
18" × 9" Ladies . . . ,,	13 17 6
Westmorland green (random sizes) . per ton	8 10 0
Old Delabole slates d/d in full truck loads to Nine Elms Station:	
20" × 10" medium grey per 1,000 (actual)	21 11 6
,, green ,, ,,	24 7 4
Best machine roofing tiles . . ,,	4 10 0
Best hand-made do. . . . ,,	5 0 0
Hips and valleys . . . each	9½
,, hand-made . . . ,,	10
Nails, compo . . . lb.	1 4
,, copper . . . ,,	1 6

CARPENTER AND JOINER

	s. d.
Good carcassing timber . . F.C.	2 2
Birch . . . as 1" F.S.	9
Deal, Joiner's . . . ,, ,,	5
,, ,, 2nds . . ,, ,,	4
Mahogany, Honduras . . ,, ,,	1 3
,, African . . ,, ,,	1 1
,, Cuban . . ,, ,,	2 6
Oak, plain American . . ,, ,,	1 0
,, Figured ,, . . ,, ,,	1 3
,, Plain Japanese . . ,, ,,	1 2
,, Figured ,, . . ,, ,,	1 5
,, Austrian wainscot . . ,, ,,	1 6
,, English . . . ,, ,,	1 11
Pine, Yellow . . . ,, ,,	1 0
,, Oregon . . . ,, ,,	4
,, British Columbian . . ,, ,,	4
Teak, Moulmein . . . ,, ,,	1 3
,, Burma . . . ,, ,,	1 2
Walnut, American . . ,, ,,	2 3
,, French . . . ,, ,,	2 3
Whitewood, American . . ,, ,,	1 1
Deal floorings, ½" . . . Sq.	18 6
,, ¾" . . . ,,	1 1 6
,, 1" . . . ,,	1 2 0
,, 1¼" . . . ,,	1 5 0
,, 1½" . . . ,,	1 10 0
Deal matchings ½" . . ,,	14 0
,, ¾" . . ,,	15 6
,, 1" . . ,,	1 4 0
Rough boarding ½" . . ,,	16 0
,, 1" . . ,,	18 0
,, 1¼" . . ,,	1 6 0
Plywood, per ft. sup.	d.
Scotch glue . . . . lb.	8

Thickness	¼"	¼"	½"	½"	¾"	¾"	1"	1"
Qualities	AA. d.	A. B. d. d.	AA. d.	A. B. d. d.	AA. d.	A. B. d. d.	AA. d.	A. B. d. d.
Birch	4	3 2	5	4 3	7½	6 4½	8½	7 6
Alder	3½	3 2	5	4 3	6½	5½ 4½	8	7 6
Gaboon Mahogany	4	3 3	6½	5½ 4½	9½	7½ –	1/0½	10 –
Figured Oak 1 side	8½	7 –	10	8 –	11½	– –	1/6	– –
Plain Oak 1 side	6½	6 –	7½	7 –	9½	– –	1/–	– –
Oregon Pine	5	4 –	5½	5 –	6	– –	–	– –

SMITH AND FOUNDER

Tubes and Fittings:

(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	½"	¾"	1"	1¼"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9
,, 3"-11½" long ,,	7	9	1/3	1/8	3/–
Long screws, 12"-23½" long ,,	11	1/3	2/2	2/10	5/3
,, ,, 3"M-½" long ,,	8	10	1/5	1/11	3/6
Bends . . . ,,	8	11	1/7½	2/7½	5/2
Springs not socketed . ,,	5	7	1/1½	1/11½	3/11
Socket unions . . ,,	2/–	3/–	5/6	6/9	10/–
Elbows, square . . ,,	10	1/1	1/6	2/2	4/3
Tees . . . ,,	1/–	1/3	1/10	2/6	5/1
Crosses . . . ,,	2/2	2/9	4/1	5/6	10/6
Plain Sockets and nipples ,,	3	4	6	8	1/3
Diminished sockets . ,,	4	6	9	1/–	2/–
Flanges . . . ,,	9	1/–	1/4	1/9	2/9
Caps . . . ,,	3½	5	8	1/–	2/–
Backnuts . . . ,,	2	3	5	6	1/1
Iron main cocks . ,,	1/6	2/3	4/2	5/4	11/6
,, ,, with brass plugs ,,	—	4/–	7/6	10/–	21/–

Discounts:

TUBES.

	Per cent.		Per cent.
Gas . . .	65	Galvanized gas .	52½
Water . . .	61½	,, water	47½
Steam . . .	57½	,, steam	42½

FITTINGS.

Gas . . .	57½	Galvanized gas .	47½
Water . . .	52½	,, water	42½
Steam . . .	47½	,, steam	37½

SMITH AND FOUNDER—*continued*

	s. d.
Rolled steel joists cut to length . . cwt.	10 9
Mild steel reinforcing rods, ½" . . ,,	8 6
,, ,, ⅝" . . ,,	8 3
,, ,, ¾" . . ,,	8 0
,, ,, ⅞" . . ,,	7 6
,, ,, 1" . . ,,	7 6
,, ,, 1¼" . . ,,	7 6
,, ,, 1½" . . ,,	7 6

	3" s. d.	4" s. d.
Cast-iron rain-water pipes of ordinary thickness metal . . F.R	8	10
Shoes . . . . each	2 0	3 0
Anti-splash shoes . . ,,	4 6	8 0
Boots . . . . ,,	3 0	4 0
Bends . . . . ,,	2 7	3 9
,, with access door . . ,,	—	6 3
Heads . . . . ,,	4 0	5 0
Swan-necks up to 9" offsets . ,,	3 9	6 0
Plinth bends, 45° to 6" . . ,,	3 9	5 3
Half-round rain-water gutters of ordinary thickness metal . . F.R.	5	6
Stop ends . . . . each	6	6
Angles . . . . ,,	1 7	1 11
Obtuse angles . . . ,,	2 0	2 6
Outlets . . . . ,,	1 9	2 3

PLUMBER

	£ s. d.
Lead, milled sheets . . cwt.	18 6
,, drawn pipes . . ,,	17 0
,, soil pipe . . ,,	18 6
,, scrap . . ,,	10 6
Solder, plumbers' . . lb.	9½
,, fine do. . . ,,	1 0
Copper, sheet . . ,,	8½
,, tubes . . ,,	11

	3"	4"	6"
L.C.C soil and waste pipes:			
Plain cast . . F.R.	1 0	1 2	2 6
Coated . . ,,	1 1	1 3	2 8
Galvanized . . ,,	2 0	2 6	4 6
Holderbats . . each	3 10	4 0	4 9
Bends . . . ,,	3 9	5 3	10 3
Shoes . . . ,,	2 10	4 4	9 6
Heads . . . ,,	4 8	8 5	12 9

PLASTERER

	£ s. d.
Lime, chalk . . . per ton	2 5 0
Plaster, coarse . . . ,,	2 10 0
,, fine . . . ,,	4 15 0
Hydrated lime . . . ,,	3 0 9
Sirapite . . . . ,,	3 6 0
Keene's cement . . . ,,	5 0 0
Sand, washed . . . Y.C.	11 6
Hair . . . . lb.	6
Laths, sawn . . . bundle	2 4
,, rent . . . ,,	3 9
Lath nails . . . lb.	3½

GLAZIER

	s. d.	s. d.
Sheet glass, 21 oz., squares n/e 2 ft.	s. F.S.	2½
,, ,, 26 oz. ,, ,, ,, ,,		3½
Flemish, Arctic, Figured (white)* ,,		7
Blazoned glasses . . . ,,		2 6
Reeded; Cross Reeded ,,		11
Cathedrals: eleven varieties (white)* ,,		6½
Crown sheet glass (n/e 12 in. x 10 in) ,,		2 0
Flashed opals (white and coloured) ,,	1 0 and 2	0
⅛" rough cast; rolled plate . . ,,		7
⅛" wired cast; wired rolled . ,,		10
⅛" Georgian wired cast . . ,,		11
⅛" Polished plate, n/e 1 ft. . ,,	†10 to ‡1	1
,, ,, 2 . . ,,	†1 2 ,, ‡1	4
,, ,, 4 . . ,,	†2 3 ,, ‡2	6
,, ,, 8 . . ,,	†2 9 ,, ‡3	2
,, ,, 20 . . ,,	†3 7 ,, ‡4	2
,, ,, 45 . . ,,	†3 11 ,, ‡4	7
,, ,, 100 . . ,,	†5 0 ,, ‡5	7
Vita glass, sheet, n/e 2 ft. . ,,		1 3
,, ,, over 2 . . ,,		1 9
,, ,, plate, n/e 2 ft. . ,,		3 0
,, ,, 7 . . ,,		5 0
,, ,, 15 . . ,,		6 0
,, ,, over 15 . . ,,		7 6
"Calorex" sheet 21 oz., and 32 oz. ,,	2 6 and 3	6
,, rough cast ⅛" and ¼" ,,	8½ ,, 1	0
Putty, linseed oil . . lb.		3

*Colours 1d. F.S. extra.

†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

	£ s. d.
White lead in 1 cwt. casks . . cwt.	2 5 0
Linseed oil . . . . gall.	2 2½
Boiled oil . . . . ,,	2 4½
Turpentine . . . . ,,	4 1½
Patent knotting . . . . ,,	14 0
Distemper, washable . . . cwt.	2 6 0
,, ordinary . . . ,,	2 0 0
Whitening . . . . ,,	4 0
Size, double . . . firkin	3 0
Copal varnish . . . gall.	13 0
Flat varnish . . . ,,	14 0
Outside varnish . . . ,,	16 0
White enamel . . . ,,	1 15 0
Ready-mixed paint . . ,,	13 6
Brunswick black . . ,,	7 6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR		£ s. d.
Digging over surface n/e 12" deep and cart away	Y.S.	2 9
" to reduce levels n/e 5' 0" deep and cart away	Y.C.	8 6
" to form basement n/e 5' 0" deep and cart away	"	9 0
" " 10' 0" deep and cart away	"	9 6
" " 15' 0" deep and cart away	"	10 0
If in stiff clay	add "	2 6
If in underpinning	"	4 0
Planking and strutting to sides of excavation	F.S.	1 0
" " to pier holes	"	5
" " to trenches	"	5
" " extra, only if left in	"	3
Hardcore, filled in and rammed	Y.C.	10 0
Portland cement concrete in foundations (6-1)	"	1 6 0
" " (4-2-1)	"	1 12 6
" " underpinning	"	1 16 0
Finishing surface of concrete, spade face	Y.S.	7

DRAINLAYER		4" s. d.	6" s. d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1 6	2 3
Extra, only for bends	Each	2 8	3 9
" junctions	"	3 9	4 6
Gullies and gratings	"	16 6	18 0
Cast iron drains, and laying and jointing	F.R.	4 9	6 9
Extra, only for bends	Each	10 6	15 6

BRICKLAYER		£ s. d.
Brickwork, Flettons in lime mortar	Per Rod	27 10 0
" " in cement	"	28 15 0
" Stocks in cement	"	35 0 0
" Blues in cement	"	52 0 0
Extra only for circular on plan	"	2 0 0
" backing to masonry	"	1 10 0
" raising on old walls	"	2 0 0
" underpinning	"	5 10 0
Fair Face and pointing internally	F.S.	1½
Extra over fletton brickwork for picked stock facings and pointing	"	8½
" " " red brick facings and pointing	"	11
" " " blue brick facings and pointing	"	1 4
" " " glazed brick facings and pointing	"	3 6
Tuck pointing	"	7
Weather pointing in cement	"	3½
Slate dampcourse	"	10
Vertical dampcourse	"	1 1

ASPHALTER		s. d.
½" Horizontal dampcourse	Y.S.	4 6
½" Vertical dampcourse	"	6 9
½" paving or flat	"	4 0
1" paving or flat	"	5 6
1" × 6" skirting	F.R.	1 0
Angle fillet	"	2
Rounded angle	"	2
Cesspools	Each	5 0

MASON		s. d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C.	17 9
Bath stone and do., all as last	"	13 6
Artificial stone and do.	"	13 0
York stone templates, fixed complete	"	10 6
" thresholds	"	13 6
" sills	"	1 0 6

SLATER AND TILER		£ s. d.
Slating, Bangor or equal, laid to a 3" lap, and fixing with compo nails, 20" × 10"	Sqr.	3 10 0
Do., 18" × 9"	"	3 7 0
Do., 24" × 12"	"	3 17 0
Westmorland slating, laid with diminished courses	"	6 0 0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course	"	3 0 0
De., all as last, but of machine-made tiles	"	2 16 0
20" × 10" medium Old Delabole slating, laid to a 3" lap (grey)	"	4 6 0
" " " " " (green)	"	4 15 0

CARPENTER AND JOINER		£ s. d.
Flat boarded centering to concrete floors, including all strutting	Sqr.	2 5 0
Shuttering to sides and soffits of beams	F.S.	8
" to stanchions	"	8
" to staircases	"	1 8
Fir and fixing in wall plates, lintols, etc.	F.C.	3 9
Fir framed in floors	"	4 6
" " roofs	"	6 6
" " trusses	"	7 6
" " partitions	"	8 6
¾" deal sawn boarding and fixing to joists	Sqr.	1 14 6
1" " " " "	"	1 17 6
1¼" " " " "	"	2 3 0
1½" × 2" fir battening for Countess slating	"	9 6
Do. for 4" gauge tiling	"	12 0
Stout feather-edged tilting fillet	F.R.	4½
Patent inodorous felt, 1 ply	Y.S.	2 3
" " " 2 "	"	2 9
" " " 3 "	"	3 3
Stout herringbone strutting to 9" joists	F.R.	10½
1" deal gutter boards and bearers	F.S.	1 2
1¼" " " " "	"	1 6
2" deal wrought rounded roll	F.R.	8
1" deal grooved and tongued flooring, laid complete, including cleaning off	Sqr.	2 1 0
1¼" do.	"	2 10 0
1½" do.	"	2 17 0
1" deal moulded skirting, fixed on, and including grounds plugged to wall	F.S.	1 6
1¼" do.	"	1 9

CARPENTER AND JOINER—*continued*		s. d.
1¼" deal moulded sashes of average size	F.S.	1 9½
2" " " "	"	1 11½
1½" deal cased frames double hung, of 6" × 3" oak sills, 1¼" pulley stiles, 1¼" heads, 1" inside and outside linings, ¾" parting beads, and with brass faced axle pulleys, etc., fixed complete	"	3 7
2" " " " "	"	3 10
Extra only for moulded horns	Each	6
1¼" deal four-panel square, both sides, door	F.S.	2 0
2" " " " "	"	2 8
1¼" " but moulded both sides	"	2 4
2" " " " "	"	3 0
4" × 3" deal, rebated and moulded frames	F.R.	1 0
4½" × 3½" " " "	"	1 4
1½" deal tongued and moulded window board, on and including deal bearers	F.S.	1 9
1¼" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	"	2 6
1¼" deal moulded wall strings	"	2 1
1¼" " outer strings	"	2 4
Ends of treads and risers housed to string	Each	1 9
3" × 2" deal moulded handrail	F.R.	1 3
1" × 1" deal balusters and housing each end	Each	2 0
1½" × 1½" " " "	"	2 9
3" × 3" deal wrought framed newels	F.R.	1 3
Extra only for newel caps	Each	6 0
Do., pendants	"	6 0

SMITH AND FOUNDER		£ s. d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt.	15 6
Riveted plate or compound girders, and hoisting and fixing in position	"	19 6
Do. stanchions with riveted caps and bases and do.	"	19 0
Mild steel bar reinforcement, ½" and up, bent and fixed complete	"	17 6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S.	11
Wrot-iron caulked and cambered chimney bars	Per cwt.	1 10 0

PLUMBER		£ s. d.
Milled lead and labour in flats	cwt.	1 12 0
Do. in flashings	"	1 15 6
Do. in covering to turrets	"	2 3 0
Do. in soakers	"	1 7 6
Labour to welted edge	F.R.	3½
Open copper nailing	"	3
Close " "	"	4

	½" s. d	¾" s. d.	1" s. d.	1¼" s. d.	2" s. d.	4" s. d.
Lead service pipe and fixing with pipe hooks	F.R. 10	1 0	1 3	2 0	2 10	—
Do. soil pipe and fixing with cast lead tacks	—	—	—	—	—	5 6
Extra, only to bends	Each —	—	—	—	2 0	6 9
Do. to stop ends	" 6½	8	9	11	1 0	—
Boiler screws and unions	" 3 3	3 9	5 0	8 0	—	—
Lead traps	" —	—	—	6 3	8 9	—
Screw down bib valves	" 6 9	9 6	11 0	—	—	—
Do. stop cocks	" 7 0	9 6	12 6	—	—	—

4" cast-iron ½-rd. gutter and fixing	F.R.	1 0
Extra, only stop ends	Each	1 0
Do. angles	"	1 6
Do. outlets	"	2 9
4" dia. cast-iron rain-water pipe and fixing with ears cast on	F.R.	1 2
Extra, only for shoes	Each	1 3
Do. for plain heads	"	5 6

PLASTERER AND TILING		s. d.
Expanded metal lathing, small mesh	Y.S.	2 0
Do. in n/w to beams, stanchions, etc.	"	2 9
Lathing with sawn laths to ceilings	"	1 3
½" screeding in Portland cement and sand for tiling, wood block floor, etc.	"	1 5
Do. vertical	"	1 7
Rough render on walls	"	1 2½
Render, float and set in lime and hair	"	1 9
Render and set in Sirapite	"	1 11
Render, backing in cement and sand, and set in Keene's cement	"	2 9
Extra, only if on lathing	"	4
Keene's cement, angle and arris	F.R.	6
Arris	"	1½
Rounded angle, small	"	3
Plain cornices in plaster, including dubbing out, per 1" girth	"	1½
1" granolithic pavings	Y.S.	3 6
1½" "	"	4 6
6" × 6" white glazed wall tiling and fixing on prepared screed	"	17 6
9" × 3" " " " "	"	1 2 6
Extra, only for small quadrant angle	F.R.	8

GLAZIER		s. d.
21 oz. sheet glass and glazing with putty	F.S.	7½
26 oz. do. and do.	"	8½
Flemish, Arctic, Figured (white) and glazing with putty	"	1 1
Cathedral glass and do.	"	1 2
Glazing only, British polished plate	"	7
Extra, only if in beads	"	2
Washleather	F.R.	4

PAINTER		s. d.
Clearcolle and whiten ceilings	Y.S.	6
Do. and distemper walls	"	9
Do. with washable distemper	"	1 1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	"	3 3
Do. on woodwork	"	3 6
Do. on steelwork	"	3 0
Do. and brush grain and twice varnish	"	5 6
Stain and twice varnish woodwork	"	1 11
Stain and wax-polish woodwork	"	4 6
French polishing	F.S.	1 2
Stripping off old paper	Piece	2 0
Hanging ordinary paper	from —	2 9

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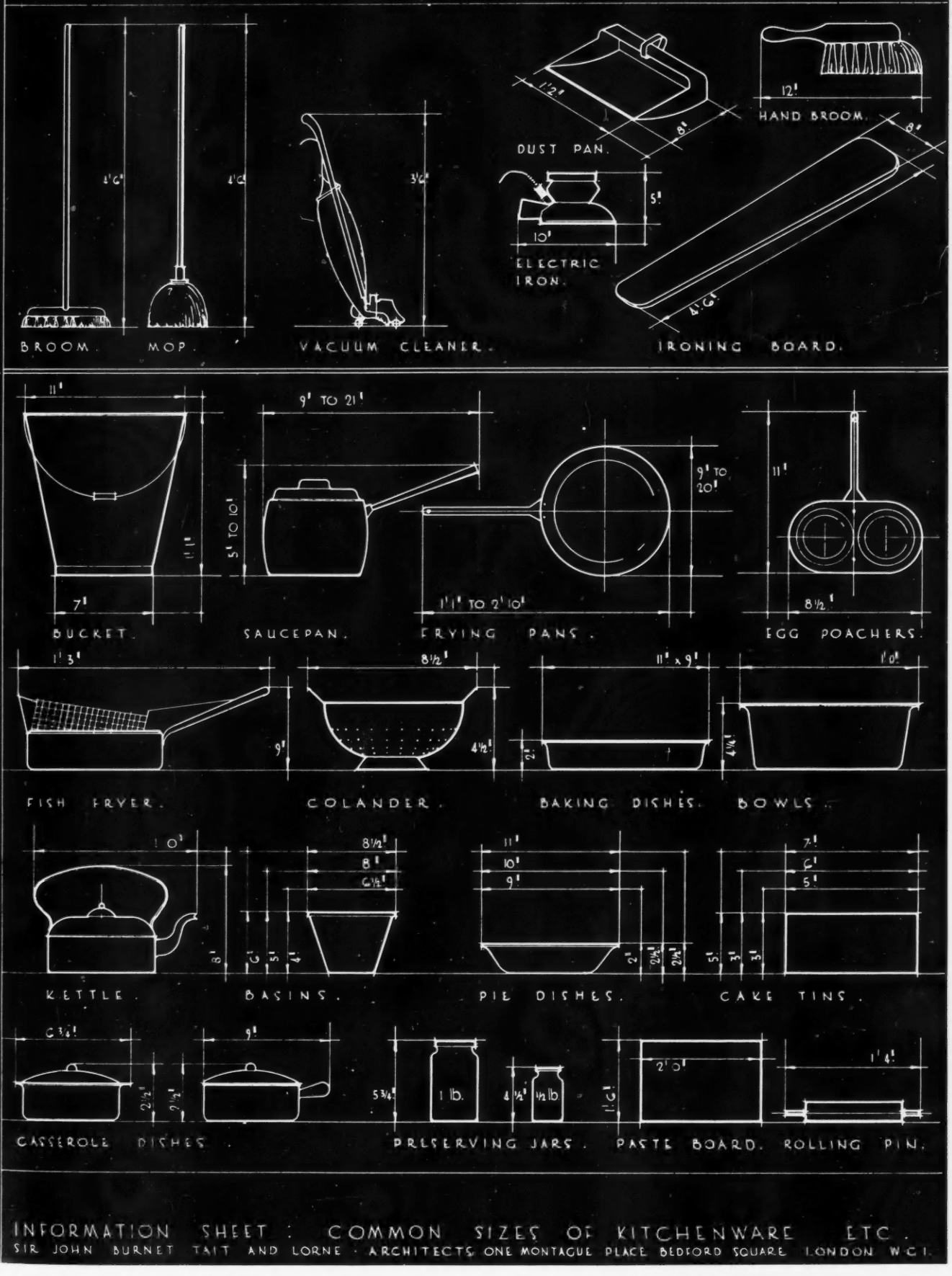

INFORMATION SHEET : COMMON SIZES OF KITCHENWARE ETC.

SIR JOHN BURNET TAIT AND LORNE · ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.1.

Supplement to THE ARCHITECTS' JOURNAL for June 7, 1934

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

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COMMON SIZES (ii).

THIS Sheet gives the dimensions of the usual brooms, ironing boards, dishes, etc., for which storage space must be allowed in kitchen cupboards. The sizes are to a certain extent variable, but the figures shown give an average of the more usual standard sizes.

The sizes of the usual cutlery, plates and glasses were given on a Sheet presented with our issue for April 19.

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VENESTA BIRCH PLYWOOD is graded into the following six grades:

1. NOTLESS – free from knots & all other defects on both sides.
2. NILNOT – the face side is free from all defects, the back is clean with occasionally a very few small knots.
3. SPECNOT – the face side is clean but permits a very few minute knots. The back permits a very few small knots & natural timber defects.
4. SUMNOT – both sides permit small knots & natural timber defects but the face is rather cleaner than the back.
5. MORNOT – both sides permit small knots & natural timber defects the back permits rather larger knots than the face.
6. BIGNOT – both face & back permit knots & timber defects & occasionally split veneers. (This corresponds to the new British Standard Specification.)

THICKNESSES: 1/8" 1/4" 1/2" 5/32" 5/16" 5/8" 3/16" 3/8" 3/4"

STOCK SIZES OF SHEETS: (The first dimension is always given in the direction of the grain.)

3'0" x 3'0"	4'0" x 4'0"	4'2" x 4'2"	5'0" x 7'0"	6'0" x 4'0"
3'6" x 3'6"	4'0" x 5'0"	5'0" x 4'0"	6'0" x 2'6"	7'0" x 4'0"
4'0" x 3'2"	4'0" x 6'0"	5'0" x 5'0"	6'0" x 3'0"	7'0" x 5'0"

VENESTA ORNAMENTAL (VENEERED) PLYWOOD, is graded into two grades: 1. Venesta 2. Silven.

THICKNESSES: 3/16", 1/4", 5/16", 3/8", 1/2", 5/8", 3/4"

VARIETIES:

Blackwood (Tasmanian).	Honduras Mahogany.	Satinwood (East Indian).
Greywood (Indian).	Nigerian blistered Mahogany.	Teak.
Laurel (Indian).	Oak (plain & figured).	Australian Walnut.
Burma Mahogany.	Padauk.	English Walnut.
Lagos Mahogany.	Burma Padauk.	French Walnut.
Sapele Mahogany.	Rosewood (Rio).	American Walnut.
		Zebrano.

SIZES OF SHEETS:

3'0" x 3'0"	4'0" x 4'0"	5'0" x 4'0"	6'0" x 2'6"	7'0" x 4'0"
3'6" x 3'6"	4'2" x 4'2"	5'0" x 5'0"	6'0" x 3'0"	7'0" x 5'0"

The first dimension is always given in the direction of the grain.

VENESTA PLYWOOD VENEERED WITH METAL i.e. Plymax.

VARIETIES: Galvanised steel. Copper. Monel metal. Cellulose finish (including marbled finish) on Galvanised steel. Aluminium. Bronze metal. Stainless steel.

THICKNESSES: Thin .... 3/16" Medium... 1/4" Thick... 3/8", 1/2", 5/8", 3/4"

STOCK SIZES OF SHEETS: Double or single sided.

GALVANISED STEEL PLYMAX:

2'9" x 2'9"	6'0" x 2'6"	7'0" x 4'0"	10'0" x 2'0"
3'0" x 3'0"	6'0" x 3'0"	8'0" x 2'0"	10'0" x 2'6"
4'0" x 2'0"	6'0" x 3'6"	8'6" x 2'6"	10'0" x 3'0"
4'0" x 2'6"	7'0" x 2'0"	8'0" x 3'0"	10'0" x 3'6"
4'0" x 4'0"	7'0" x 2'6"	8'0" x 4'0"	10'0" x 4'0"
5'0" x 4'0"	7'0" x 3'0"	9'0" x 3'0"	12'0" x 2'6"
6'0" x 2'0"	7'0" x 3'6"	. . .	12'0" x 3'0"

ALUMINIUM PLYMAX:

4'0" x 4'0"	7'0" x 3'0"	10'0" x 3'0"	
5'0" x 4'0"	8'0" x 2'0"	10'0" x 4'0"	
6'0" x 2'0"	8'6" x 2'6"	12'0" x 2'0"	
6'0" x 2'6"	8'0" x 3'0"	12'0" x 2'6"	
6'0" x 3'0"	9'0" x 3'0"	12'0" x 3'0"	
7'0" x 2'0"	10'0" x 2'0"	12'0" x 4'0"	
7'0" x 2'6"	10'0" x 2'6"	. . .	

COPPER PLYMAX:

4'0" x 2'0"	6'0" x 3'0"
6'0" x 2'0"	7'0" x 3'0"

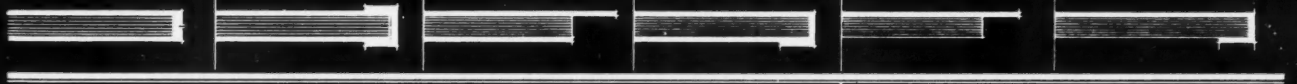
BRONZE METAL PLYMAX:

6'0" x 3'0"	7'0" x 3'0"

STAINLESS STEEL PLYMAX:

6'0" x 2'0" Larger sizes are supplied to order.

METHODS OF PROTECTING EDGES OF METAL-FACED PLYWOODS. N.B. Turning metal edges reduces the size of the stock size sheet.



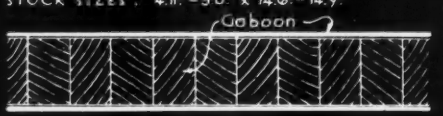
VENESTA 5-PLY BLOCKBOARD:

THICKNESS	STOCK SIZES OF SHEETS.
1/2"	5'0" x 7'0" Sizes underlined have a pine core.
5/8"	5'0" x 6'0"
3/4"	11'6" x 4'6" 5'0" x 7'0" 7'0" x 5'0"
7/8"	5'0" x 7'0" 7'0" x 5'0"
1"	5'0" x 6'0" 5'0" x 7'0" 7'0" x 5'0"
1 3/4"	6'10" x 1'9 1/2" 7'0" x 2'2" 7'0" x 2'3"

LAMINBOARD:

THICKNESSES: 3/8", 1/2", 5/8", 3/4", 7/8", 1", 1 1/4".

STOCK SIZES: 4'11" – 5'0" x 14'6" – 14'9"



VENESTA-CORK, METAL FACED. (Plymax)

Single or double sided.

THICKNESS OF CORK: 1", 1 1/2", 2", 2 1/2", 3"

NOMINAL SIZES:

6'0" x 2'0"	7'0" x 2'0"
6'0" x 2'6"	7'0" x 2'6"
6'0" x 3'0"	7'0" x 3'0"

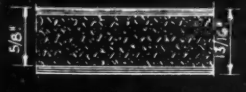
VENESTA-CORK, (Plywood).

THICKNESS OF CORK: 1", 1 1/2", 2", 2 1/2", 3".

NOMINAL SIZES:

5'0" x 4'0" 6'0" x 4'0" 7'0" x 4'0"

STANDARD VENESTA-TREETEX:



BIRCH-FACED STOCK SIZES:

4'0" x 4'0"	8'8" x 4'0"
5'0" x 4'0"	9'8" x 4'0"
7'8" x 4'0"	11'8" x 3'0"
8'8" x 3'0"	

DECORATIVE WOOD-FACED: STOCK SIZES:

5'0" x 4'0" 7'0" x 3'0" 7'0" x 4'0"

Obtainable in Oak, Sapele Mahogany, Honduras Mahogany, French Walnut, Teak, Australian Walnut, American Black Walnut.

METAL-FACED (Plymax) one side only. STOCK SIZES:

5'0" x 4'0" 6'0" x 3'0" 8'0" x 3'0" 8'0" x 4'0" 10'0" x 3'0" 10'0" x 4'0" 12'0" x 3'0"

THICKNESS: 5/8" (Treetex 7/16")

Can also be supplied with Treetex 1/4", 1/2", 7/8" or 1" thick.

Venesta Treetex can also be supplied with Treetex 1/4", 1/2", 7/8", or 1" thick, covered with plywood 5/32" or 1/4" thick on either one or two sides.

Information from Venesta Limited.

INFORMATION SHEET: PLYWOOD, PLYMAX & PLYWOOD PRODUCTS.

SIR JOHN BURNET, TAIT AND LORNE ARCHITECTS: ONE MONTAGUE PLACE BEDFORD SQUARE LONDON W.C.1.

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

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PLYWOOD and PLYMAX

Name of Product : Venesta Plywood
Plymax (Metal faced Plywood)

Venesta Birch Plywood :

Venesta Birch Plywood is sorted into groups according to the natural variations of the timber on the face veneers. These groups form rigidly standardised grades ; Notless, Nilnot Specnot, Sumnot, Mornot and Bignot. These grades never vary. In the old days before Venesta grading, all sorts of signs and wonders were employed to indicate different grades ; they were unstandardised and consequently unreliable, but the grading system has made plywood reliable for specification.

All grades adhere rigidly to their specification, are made by the same methods, and tested in the Venesta factories. "Nilnot," for example, ordered in six months' time, will match "Nilnot" erected six months ago.

Venesta Ornamental (Veneered) Plywood :

All Venesta Plywood is made by exactly the same methods, and the grading system which applies to Birch also applies to Venesta Ornamental Plywood. For example :

VENESTA OAK is made from first choice veneers and is richly figured.

SILVEN OAK is made from second choice with rather less figuring, but made the same way and tested by the same methods. Similar grading applies to the other decorative plywoods, including Walnut, Mahogany, Teak and Venesta Gaboon. The latter is sorted into four groups : Grandex, Nildex, Sumdex, and Mordex. In addition to these graded plywoods there are special ornamental types of veneer available for panelling and partitions.

Empire :
Almondwood (Indian)
Black Bean (Australian)
Blackwood (Tasmanian)
Greywood (Indian)
Lacewood (English)
Laurel (Indian)
Mahogany, Burma
Honduras (Venesta and Silven)
Lagos
Nigerian (Blistered)
Sapele (Venesta and Silven)
Oak, English
Silky (Australian)
Padauk, Andaman
Burma
Pine, Oregon (V.L.)
Satinwood (East Indian)
Teak
Walnut, Australian
English Figured

Other Timbers :
Ash, Siberian
Avodire
Birch, Venesta Graded
Nilnot
Specnot
Sumnot
Mornot
Bignot
Ebony, Macassar
Gaboon, Venesta
Oak Figured (Venesta and Silven)
Pine, Swedish
Rosewood
Sycamore, Figured
Plain
Walnut, Black American
French
Zebrano

Jointing :

Venesta Plywood may be butt jointed, as expansion or contraction is practically non-existent.

Scarf jointing can be carried out before despatch where boards are required larger than maximum standard.

Plymax :

Edge Protection :

Wherever an edge of a Plymax panel is exposed, it should be protected. Even if a panel is recessed or rebated into wood framing in very exposed positions it may be necessary to protect the edges first. The wood framing is liable to movement, and its shrinkage may leave a gap down which rain can soak and be absorbed by the edge of the Plywood core. Actually the wooden frame can be eliminated if the Plymax edges are protected, or at least the bottom rail can be omitted to avoid the lodgment of water.

In warm, steamy atmospheres, Plymax used with a wood framing must be sealed and made watertight. Exceptional atmospheric conditions may necessitate special treatment and fixing and protection of Plymax, and in such cases it is advisable first to get technical assistance from the Venesta Building Uses Department.

Edge protection of double sided galvanised steel Plymax :

The most efficient method is to remove the plywood from the edges of the panel, insert a strip of metal and turn the slightly projecting metal faces on to the edge and then solder.

(This method is patented and edge protection in this way can only be carried out at the Venesta works or by firms specially licensed by Venesta.)

This edge protection is called "Sealing." It overcomes the need for channel flanges on each face of the panel and is also stronger than channelling, and is less liable to damage. The use of a light galvanised steel channel soldered on is rather clumsy, also the channel flanges imposed on the panel faces are sometimes a disadvantage.

The sealing of edges reduces the standard size of sheets by $\frac{1}{8}$ in. for every edge sealed.

With metal framing, the angle or "T" irons can generally be arranged to protect the edges of the Plymax panels from damage, or a metal strip can be used. If the edges of the metal strips and the edges of the angle or "T" are soldered, the joint is made watertight. Common black sections usually need considerable cleaning before soldering, and this should be done before erection.

In sheltered indoor positions, providing a washer is placed under the rivet heads on the inside of the angle or "T," no further protection should be necessary.

In exposed outdoor conditions with metal framing, it is advisable to seal the edges of the Plymax first. Riveting or bolting should be tight and the holes made in the Plymax filled with white lead before the rivets or bolts are put through. Care should be taken to prevent rivet heads drawing through, especially with countersunk heads. It is advisable to spread the load by means of a flat head rivet. Where flush work is required, a countersunk rivet head can be filled with solder. Cold riveting is essential, and soft iron or copper rivets should be used.

For hot, moist conditions tarred hemp under the rivet or bolt heads before tightening up is advisable, or in the severest of conditions the holes must be bushed.

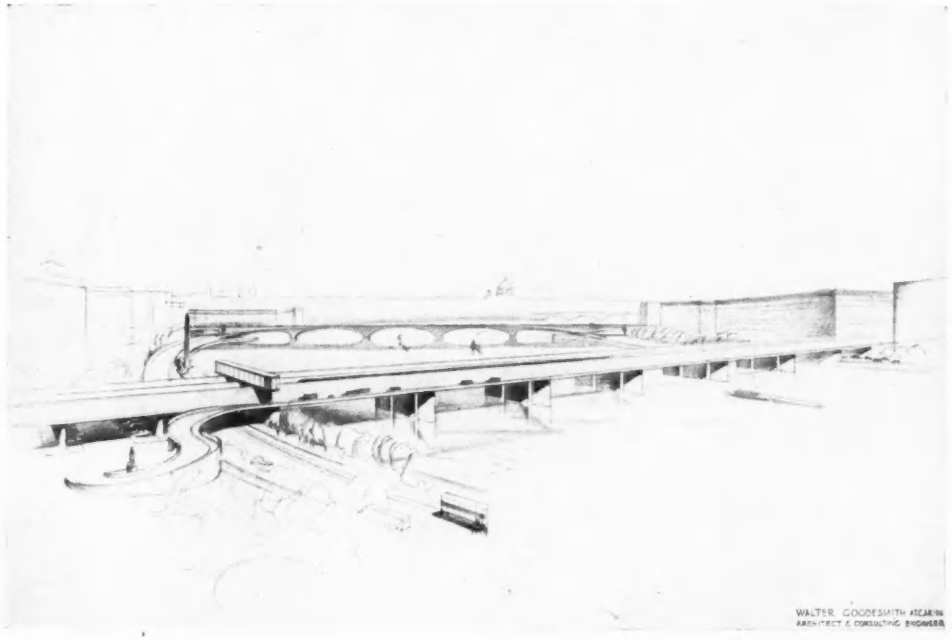
Name of Manufacturers : Venesta Ltd.

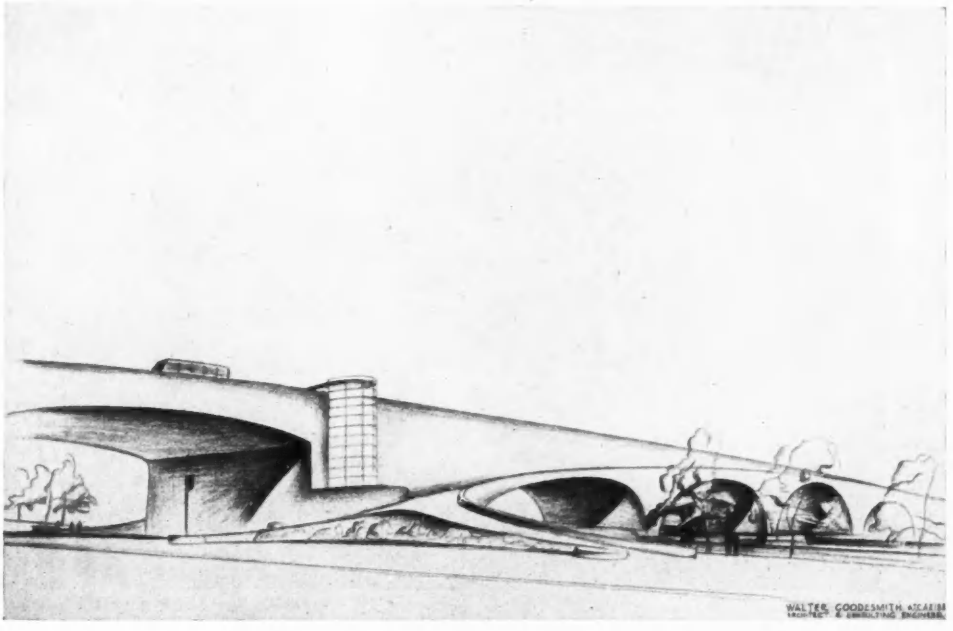
Address : Vintry House, Queen Street Place, E.C.4

Telephone : Central 6580

WATERLOO AND CHARING CROSS BRIDGES

A SCHEME BEFORE THE L. C. C.





A MEETING of the L.C.C. was held on Tuesday afternoon to consider their future attitude to the Waterloo Bridge problem. Above are perspectives of one of the proposals for the treatment of the Waterloo and Charing Cross Bridges that are before the Council for consideration. It has been designed by Walter Goodesmith, and is illustrated and described on pages 862-865 of this issue.

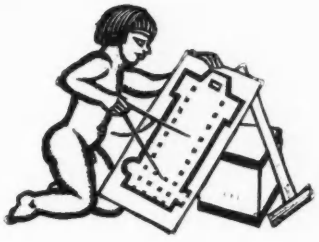
The solution of the problem of the bridges and their approaches is primarily one of town planning in general and traffic control in particular. In this scheme these fundamental points have clearly been kept in mind.

The upper illustration shows a general view of both bridges. The roadway and footpath carrying traffic from the south is indicated in the curved viaduct at the end of the gardens; the trains, it will be noted, are shielded from view by the concrete-encased girders. The lower one shows the method of carrying bridge traffic to east and west along the Embankment, whilst still providing a four-line high-level bridge for north and south traffic. The glazed towers at the abutment contain staircases.

C. A. HARRISON

S C A L E

New buttressing on the Orsini Palace in Rome has been built as part of the recent slum clearance and reconstruction scheme in the neighbourhood of the Capitol. The Palace was built in the sixteenth century inside the auditorium of the ruined Theatre of Marcellus, on a mound of debris formed by the destruction of the uppermost, or Corinthian, tier, and incorporated with the lower tiers. The theatre, which was erected in the first century B.C. and served as the model for Palladio's Doric and Ionic orders, has now been cleared of debris and opened up under the reconstruction scheme.



THE L.C.C. AND WATERLOO BRIDGE

ALL who were seriously concerned by the continued haphazard development of London on an unplanned basis under conditions that more and more demand co-ordinated planning must have taken great hope for the future when, at the recent L.C.C. elections, a new party was returned to power whose leader had previously held the post of Minister of Transport in the Socialist Cabinet. Transport is so important a factor in all the problems that face a great metropolitan administration, and a solution of traffic difficulties is so necessary and profitable a step towards the solution of all urban planning difficulties that someone with Mr. Morrison's experience of transport administration seemed the ideal leader of the L.C.C. That the party he led bore the name of Socialism, and professed therefore beliefs that are based on a regard for the advantages of a planned economy over the unplanned individualism of Capital, gave further encouragement to the hope that we were getting nearer to a practical wide-angled approach to all matters relating to London's development than ever before.

One of the earliest actions of the new L.C.C. was to reopen the question of Waterloo Bridge ; but, to the intense disappointment of all who had felt confidence in them, not in order to relate it to the general problems of planning and traffic distribution of which it is obviously a part ; merely in order to debate all over again the pros and cons for widening or strengthening, the argument of reconditioning versus demolition or, having decided on demolition, the details of shape, cost, materials and organization. These are all important, but they are all dependent on the more fundamental questions of what the bridge is going to do and what part it plays in the whole working machine that is the London for whose smooth running the L.C.C. are responsible. Thus to consider the means without reference to the ends is a complete negation of what Socialism stands for—forethought, and planning the part as subsidiary to the whole.

It is not our place to criticize the L.C.C.'s decision to reopen the question of Waterloo Bridge, ignoring on their own responsibility Parliament's disapproval of the expenditure a new bridge would involve ; nor is it even our place to criticize their conclusions in favour of demolition rather than reconditioning ; but it cannot be too strongly emphasized that, if by reversing their predecessors' decision only to recondition the bridge they are but cancelling what was a mere compromise, their own proposal to build a new bridge without adequate consideration of its relation to the rest of London is equally a compromise, and a more expensive and more irrevocable one.

The facts are simple enough : almost chronic congestion exists in that Waterloo Bridge neighbourhood ; the Strand is notoriously responsible for the worst traffic blocks in London. To provide a bridge that will carry six lines of traffic without considering where the traffic will go when it has crossed the bridge —which is what the L.C.C. proposal amounts to—is not to tackle the problem at all. The Strand cannot take six lines of traffic, and a new bridge tacked on to the present street system will only cause confusion worse than there is at present. A plan for the whole of the areas served by the Thames bridges—both north and south of the river—must be prepared before the nature, position and carrying capacity of any new bridges can be logically defined. One such planning scheme, with full allowance made for modern traffic conditions, is illustrated in this issue, and shows the absolute dependance of the bridge problem on half a dozen other factors besides the comparatively simple one of getting people across a river. In the intelligent use it makes of the Embankment—the only design that has ever done so as far as we know—it shows a really feasible solution for a six traffic line bridge under the present conditions governing in the Strand.

There is talk that the new L.C.C. intend to do what has long been urgently needed—prepare a town-planning scheme for the whole of London. It is to be hoped that this talk is well founded and that they will pursue this plan energetically and determinedly. But to settle the Waterloo Bridge problem in advance of the far larger problem of which it forms an essential part is neither within the boundaries of reason nor a hopeful sign of their genuine intention to take the long-sighted view. They may find themselves after six years, when their new bridge will be completed, with a self-made handicap to the very programme of co-ordination towards which they should be working. Their present venture, since in its unplanned form it can be no more than a compromise with ultimate requirements, is an inexcusable gamble with the ratepayers' money, and they would be well advised to consider the matter in the light of effective planning for the future rather than of immediate action in the present if they wish to preserve the public's respect for their sense of civic responsibility.

The Architects' Journal
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Buildable
Parl
London

NOTES & TOPICS

SUBSTITUTION

A CORRESPONDENT, whose letter appears elsewhere in this issue, makes the very intelligent suggestion that an architect's specification should include a clause which gives him power to examine manufacturers' invoices if he wishes to do so. In some trades this would work to a greater or less degree ; in others it not only would not work, but would involve an almost complete reorganization of building practice. (Not that I should necessarily oppose that.)

*

But (even short of forgery) there is a clear way round, in any trade. Most contractors are buying most materials in fairly large quantities. What proof of any sort is an invoice for 50,000 square feet of a particular material if the builder likes to distribute it to 50 jobs and then declare that it went to five ?

*

The complement to the "invoice" suggestion is to specify, where practicable, that all goods be delivered *by the manufacturer direct to the site*, in sizes or state which are, if not ready for use, at least so nearly so as to make it worth nobody's while to be clever with them.

*

(In case of scathing comment from readers, I hasten to mention that an august government body, I believe, already uses such a clause ; in any case it can be found in *Specification*, in the "Glazier" section. But, I repeat, it won't always work.)

WORKSOP WOULDN'T

There are times when one has to be unkind to our respected Institute and criticize pieces of its policy, but no one will deny the immense value of the work it undertakes in making things smoother for members of a harassed profession.

*

Of this work competition control is perhaps the most consistently valuable, and few who take part in architectural competitions can realize how much they owe to the R.I.B.A. regulations.

*

It is only revealed when a local authority is obstinate enough to refuse to conform to the R.I.B.A. regulations, and we see the confusion that arises from holding a competition without a proper assessor or responsibly worked-out conditions.

*

This happened in the recent Worksop competition for new library buildings, where, after long negotiations with the R.I.B.A., the Worksop Council decided not to accept their offer of assistance, but to conduct the competition themselves.

*

I have been shown a report of a Council meeting at Worksop when the result of this competition was discussed (extracts from it are printed, I understand, elsewhere in this issue). It makes astonishing reading.

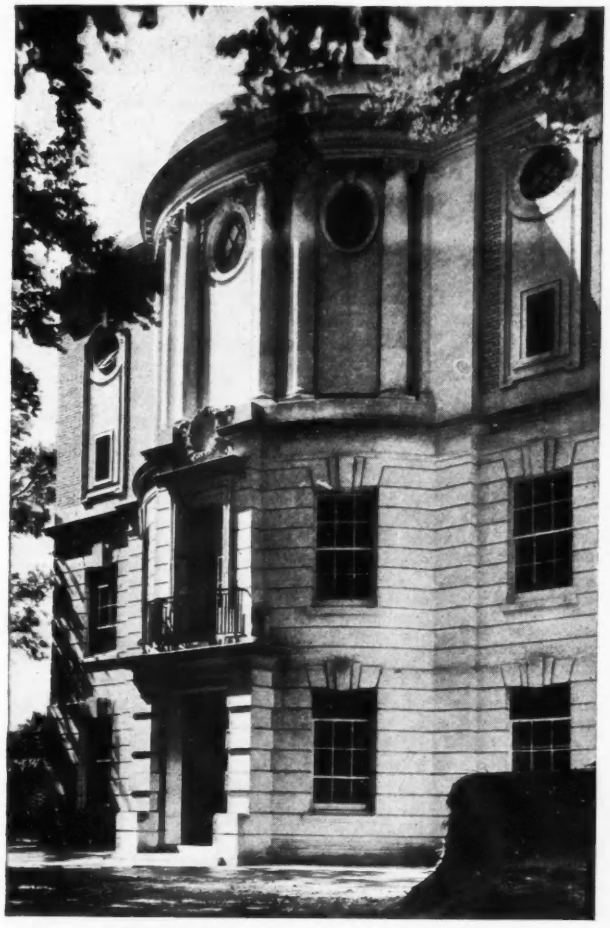
*

To be expected to arrive at the right amount of money to spend on a library from little information but the population and rateable value of the town seems more of a lottery than a competition.

THE "1900 STYLE"

A competition recently submitted in Italy for designs for

A drinking fountain in the public hall of the Ortskrankencasse at Frankfort, by Ernst Balser. This building is the Frankfort headquarters of the nation-wide German health-insurance scheme, and contains offices, laboratories and a large out-patients' department overlooking the river Main.



The new Council Offices at Bournemouth, designed by the Borough Engineer.

300 churches to be built in regions devastated by earthquakes may be declared null and void, according to *The Corrispondenza*, because all the plans sent in were conceived in what is described as " the 1900 style."

*

The Vatican is against " the 1900 style," whatever that may be. Does it include Bentley's Westminster Cathedral, which was built between 1895 and 1903, or is it a delicate way of referring to something more recent?

*

Anyway, the Pope has made it clear that he will not contribute anything to assist the erection of architectural monstrosities; which shows a sense of responsibility conspicuously absent from the Headquarters of many other religious organizations.

DESIGN BY DICTATION

In a book, *Belvedere dell' Architetture Italiana d'Oggi*, reviewed in this issue, it is revealed that Mussolini has ordered Italian architects to " go modern." I don't know if the architects were paraded in a body, ordered to slope Tee-squares, and march back to their offices to get on with modernism, or whether Il Duce unveiled a castor oil bottle and then told them.

*

Mussolini is the second dictator to realize that modern architecture is *ideaological* property worth fighting for. The Soviet dictatorship realized that long ago, and in Russia everything is flattened and streamlined to accord with the functionalist faith.

*

Hitler and his ministers have hitherto frowned upon modernism; it represents the " art of the left." But now that a good, reactionary dictator has blessed it, what *is* a poor Nordic to do?

*

Personally I would rather see neo-Tudoresque architecture built in free air than modernism designed to the order of terrorists.

TRANSATLANTIC TAILPIECE

I have just heard of two Englishmen who went to stay with a famous American architect in his functionalist palace. Externally the house was a triumph of structural candour. Inside it was bleak.

*

A long and interesting evening was concluded by the host handing a large book to one of his guests, who was also an architect, and saying: " You might care to glance through this in bed."

*

The architect handed the book to his friend when he reached his bedroom, and said: " If you can keep awake you might tell me what it's all about in the morning."

*

The house, although functional, was not efficient. The heating did not work. It was impossible to sleep. The architect regretted that he had handed the book to his friend. He had nothing to read and he grew colder and colder. In the morning he asked his friend how he had slept.

*

" If I hadn't been able to burn that book you lent me in the fireplace I'd have frozen to death," said his friend. At breakfast they learned that the book was the famous American architect's latest work on functionalism.

AIR RAID ARCHITECTURE

In Paris an Exhibition has just been opened of a series of models which are designed to give an impression of an underground Paris of the future, that could withstand air raids. The exhibition has official blessings.

*

Is this the first step in the fulfilment of H. G. Wells's dismal prophecies in *The Shape of Things to Come*, which anticipated an architecture of protection against air raids, an architecture of funk?

THIS WEEK'S ANTIQUE

" Ringe and knocke." In such sweet Gothic lettering, incised upon a panel of oh! such sturdy olde English oake, on such an arty front door in—guess the suburb. (I offer no prize for the correct solution.) ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

The absolute dependence of the bridge problem on half a dozen other factors besides the comparatively simple one of getting people across a river 851

During the short time that the penguins have been in possession of their new pond it has been found that they take more exercise 857

"It is quite easy for any trained architect to spot the work of a 'temporary architectural assistant'—work to which scores of members of the Municipal and County Engineers unblushingly append their names as the 'architects'" 860

"Architects should refrain from inserting in specifications the phrase 'or other approved'" 861

FRENCH COLLEGE IN LONDON

The Finance Commission of the French Chamber has adopted a proposal to open a credit of Frs. 9,000,000 (£120,000) in connection with the purchase of land for the construction of buildings to house the Institut Français (French University College) in London.

NORWICH TOWN HALL

Work on the construction of the new Town Hall, Norwich, is to proceed immediately. The architects are Messrs. C. H. James and S. Rowland Pierce, F. and A.R.I.B.A., whose design was place first in an open competition held in 1932.

THE HOUSING PROBLEM

The current issue of *Planning*, a broadsheet issued by P.E.P., is devoted to the problem of building houses at a rental which the lower-paid worker can afford. Following are some extracts from the article :

We do not favour the establishment of a national organization with a monopoly for dealing with any part of the housing field. Nor, on the other hand, do we favour leaving things as they are, with an unbridged gap between the present operations of private enterprise and local authorities. To fill this gap we favour a model, more flexible than any of the proposed national organizations, a system which would claim no monopoly, and would not attempt in the first instance to build indiscriminately all over the country, but would begin operations area by area and expand them at a manageable pace. For convenient reference we call this proposed organization the "housing company." There need not necessarily be only one such concern. A number of companies in various areas might be set up, preferably with some system of central co-ordination. It should be noticed at once that the essential function of the "housing company" will be that of the house-owner—that is to say, of surveying, buying and holding land and of owning and managing houses. We do not propose that the "housing company" should normally undertake the functions of the building contractor, such as buying of materials, execution of contracts and the actual construction of houses.

In deciding on this particular form of organization we have been guided by three principal considerations. The first is political : as an essential and long-term service housing must so far as possible be protected from dislocation by a change of Government, and the operating structure removed from the controversial field of party politics. Any satisfactory structure should, therefore, be capable of functioning without essential alteration, whether on its original private enterprise basis or if converted into a State service. It should be possible for the organization to continue even if the main policy and the character and personnel of its directorate were completely changed.

The second consideration is economic. It is impossible to get down with any assurance to the lower rent levels required without large-scale operation and the elimination of the speculative profit element.

This leads to the third main consideration, which is social. Here, again, efficiency and economy, which can only be secured by large-scale operation, are just as essential in the management as in the actual building of houses.

Reductions in the rent of dwellings must arise either from savings in land and development costs per dwelling through sound purchase and optimum use of sites ; from reduction of delivered costs of materials through research, standardization and bulking of orders, with a constant load over an adequate period ; from reduction of actual erection costs through more efficient assembly ; from reduction of financial charges ; from the reduction of repair and maintenance costs, rent collecting, etc., through improved management after the houses become tenanted. In the case of inclusive rents, which are usual for workers' dwellings, there is also the possibility of saving in rates, either from a general reduction or from specific derating of workers' houses, a potentiality which has yet to be explored. The only remaining possibility is the subsidy, of which Great Britain has had a varied and not very happy experience. It is clear that the only sound way of approaching the general object of reducing rents is to attack costs at all these several points simultaneously.

The "housing company" would not itself be directly responsible for actual building work. Moreover, in its proper field of house ownership it would have to go through a series of stages of development. It would begin its operations, area by area, in that part of the housing field which is most neglected by present and impending efforts—the provision of low-rented working-class dwellings in the immediate neighbourhood of industrial towns.

To begin with, the company would concentrate on building dwellings of standard type, and would attempt to realize, on a much larger scale, savings and improvements which are at present realized only locally and sporadically.

An organization of the type of the "housing company" requires, in our opinion, a corresponding organization of equal weight to carry contracts, which we call for convenience the "building company." This would be evolved by the grouping of contracting firms who would probably work on a prime cost basis for a percentage fee. A system which largely overcomes the earlier difficulties of this method has been evolved.

THE ARCHITECTS' DIARY

Thursday, June 14

VICTORIA AND ALBERT MUSEUM, *South Kensington, S.W.7. In the Central Hall, Exhibition of English Silversmiths' Work, old and modern, showing the development of various domestic types. Open during June and July.*

THE LONDON SOCIETY. *Visit to the Whitgift Hospital, corner of George Street and North End, Croydon.* 3 p.m.

Monday, June 18

R.I.B.A. *At 9 Conduit Street, W.1. General Meeting. Announcement of Results of Annual Elections of Council and Standing Committees.* 8 p.m.

INSTITUTION OF HEATING AND VENTILATING ENGINEERS. *At Hastings. Summer Meeting. Until June 20. Opening day.*

OXFORD PRESERVATION TRUST

Sir Charles Peers, speaking at the annual meeting of the Oxford Preservation Trust last week, said that of late years there had been a very great deal of thought given to the whole question of avoiding the use of cities as the main avenues of traffic. The question bristled with difficulties, but in the future they would have to consider more and more the question of by-pass roads, so that there would be an opportunity for the older streets in towns and cities to remain as they were.

WALLS OF CHINA TOWN IN MOSCOW TO BE DEMOLISHED

Prior to the demolition of the walls and towers of China Town (Kitai Gorod) in Moscow in connection with the replanning of the city, a model of the walls and towers is to be made—one-fiftieth of their original size—to be placed in the Tretiakovsky Gallery. The walls of China Town were built in 1534-38. Next to the Kremlin, China Town is one of the most ancient parts of Moscow.

MEMORIAL TABLET TO SIR MERVYN MACARTNEY

The Memorial Tablet to Sir Mervyn Macartney, late Surveyor to the Dean and Chapter of St. Paul's, which has been designed by his successor, Mr. W. Godfrey Allen, F.R.I.B.A., will be unveiled in the Crypt of the Cathedral by Sir Giles Gilbert Scott, R.A., P.R.I.B.A., on Thursday, June 28, at 5.30 p.m. Subscribers will be invited to attend.

BLOOMSBURY SQUARES

The Minister of Health has approved the L.C.C.'s town planning restrictions for the Bloomsbury Squares, and the new regulations will take effect at once.

The aim of the scheme is to safeguard the residential squares against the invasion of factories or unsightly buildings.

LONDON SOCIETY

The annual dinner of the London Society was held at the Hotel Victoria, Northumberland Avenue, last week. Lord Crawford and Balcarres presided. The speakers included the Bishop of Stepney, Sir John Martin-Harvey, Mr. E. C. Gordon England and Captain Harvie-Watt, M.P. Sir John Martin-Harvey, referring to some of the architecture of today, expressed the hope that our architects would have the courage to resist the influence of so much in modern Continental architecture which was derived from a Teutonic admiration for brutality.

He asked, also, was there no power to curb the gradual spreading of the imported vulgarity of ofter-dark electrical advertisements?

SCOTTISH ARCHITECTS

Mr. William B. Whitie, F.R.I.B.A., was elected president of the Royal Incorporation of Architects in Scotland at the annual Convention, held at Stirling last week.

EXHIBITION OF WORK OF PROFESSOR GROPIUS

The exhibition of the work of Professor Walter Gropius, which has recently been shown at the R.I.B.A., is now on view in the Liverpool School of Architecture.

HEATING AND VENTILATING ENGINEERS

The summer meeting of the Institution of Heating and Ventilating Engineers is to be held at Hastings on June 19, when a paper on "Some Heating and Ventilating Problems" will be read by Mr. A. F. Dufton, M.A.

ANNOUNCEMENT

Mr. Douglas Wood, F.R.I.B.A., F.S.I., architect and surveyor, has removed his offices to No. 1 Old Burlington Street, W.1; Telephone No. 6469. Mr. Wood has taken his son into partnership and the style of the firm is: Douglas and J. W. Wood, F. and A.R.I.B.A., F.S.I.

PROPOSED BUILDING IN CHELSEA

Professor C. H. Reilly and Mr. William Crabtree write: "In your issue for May 31 you published photographs of a model of a new warehouse building for Messrs. Peter Jones, Ltd., and gave as the architects Messrs. Slater and Moberley and as consulting architects ourselves. The credit and responsibility for the building is entirely Messrs. Slater and Moberley's."

COMPETITION

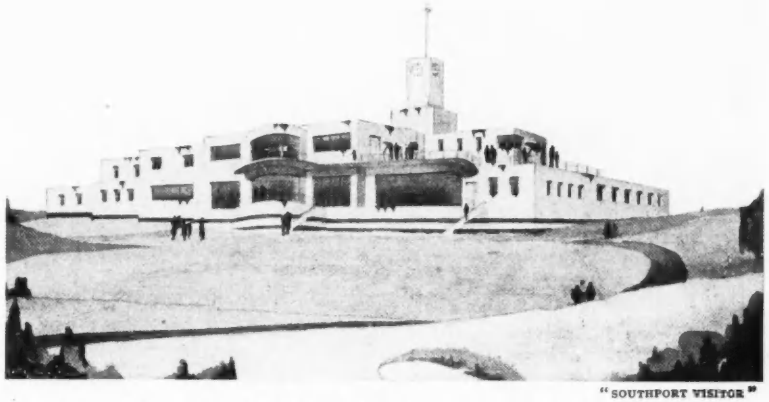
NEWS

METHODIST COLLEGE, BELFAST

Conditions of the competition for the proposed Memorial Assembly Hall at Methodist College, Belfast, are now obtainable (deposit £1 1s.) from the assessor, Mr. R. S. Wilshere, F.R.I.B.A., Education Offices, Victoria Street, Belfast. The competition is open to architects resident in Northern Ireland and two premiums of £100 and £50 are offered for the designs placed first and second, respectively. Designs must be submitted to Mr. Wilshere at the Education Offices, Belfast, not later than 10 a.m. on Friday, August 31. The last date for questions is July 2.

WEMBLEY TOWN HALL

The Wembley Urban District Council is to hold an open competition for the design of a new town hall, which is estimated to cost £115,000.



"SOUTHPORT VISITOR"

Mr. Hubert Worthington O.B.E., F.R.I.B.A., the assessor in the competition for a new Golf House for the Birkdale Golf Club, has awarded first place to the design submitted by Mr. George E. Tonge, L.R.I.B.A., of Southport. The elevation will be finished in cream coloured cement, and the doors, windows and balcony in peacock blue. Mr. Tonge has been instructed to proceed with the scheme at once. The plans have already received the approval of the Corporation Town Planning and Highways Committees.

THE WORKSOP COMPETITION

A statement has recently appeared in the daily press that the number of entries received in the Worksop Competition, which was banned by the R.I.B.A., was three hundred. We understand that the true number was twenty-seven, mostly local entries by persons not members of the R.I.B.A.

The following extracts are taken from the report in *The Worksop Guardian* for June 8 of a Worksop Council committee meeting which discussed the library competition:—

At a meeting on the 10th ult., present Coun. Porter (Chairman), Ald. Hartland and Meadows, Couns. Fern, Harris, Saxton, Shardlow and Smith, with Messrs. A. E. Fox and A. Middleton, the committee met to consider and adjudicate upon the plans submitted in connection with the Library competition. After the plans had been carefully inspected and a concensus of opinion obtained thereon, it was resolved unanimously that plan No. 21 be accepted, and that the prize of £50 be awarded to the author of the design.

Coun. Porter moved the adoption of the minutes.

Ald. Foster said he understood that the approximate cost was to be £10,000. Was every competitor aware of the price?

Coun. Porter: So far as I know, the figure of £10,000 was not mentioned.

Ald. Foster: Not by anybody?

Coun. Porter: So far as I know, it was not mentioned. The figure has certainly been mentioned by the Council in committee, but it has never been placed on the minutes.

Ald. Foster: That is how certain gentlemen get to know things out of committee!

Coun. Harris said figures were given about the size of the town and the rateable value. Every competitor was well aware of those facts, which acted as a guide in regard to the size of the building.

Ald. Foster: The price has been mentioned in committee and has been mentioned outside.

Ald. Hartland said every prospective competitor had to write to the Town Clerk, who gave the same information to every one. It would be as well if the Town Clerk told the Council the information he gave to prospective competitors.

The Town Clerk: I told all the competitors that the Council had no definite figure in mind, but I gave an example of what the cost would be, using the figure of £10,000. I did not tell them what was the capital figure, but many people assumed from a hint that £10,000 was the figure. As a matter of fact, the prices ranged from £7,000 to just under £30,000. It was felt that by not fixing a price the competitors would have much bigger scope.

Ald. Foster: What was the price of the man who got the prize?

The Town Clerk: It was £10,852.

Ald. Foster: I am of the opinion that he got to know out of committee.

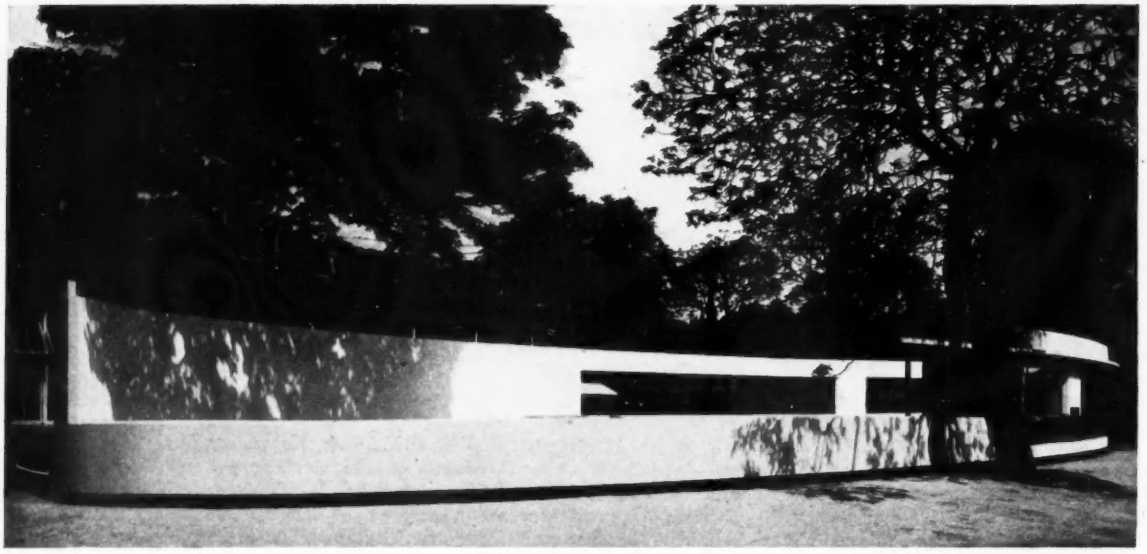
The Town Clerk: So far as my recollection goes, it was not mentioned in committee until after the designs were brought in.

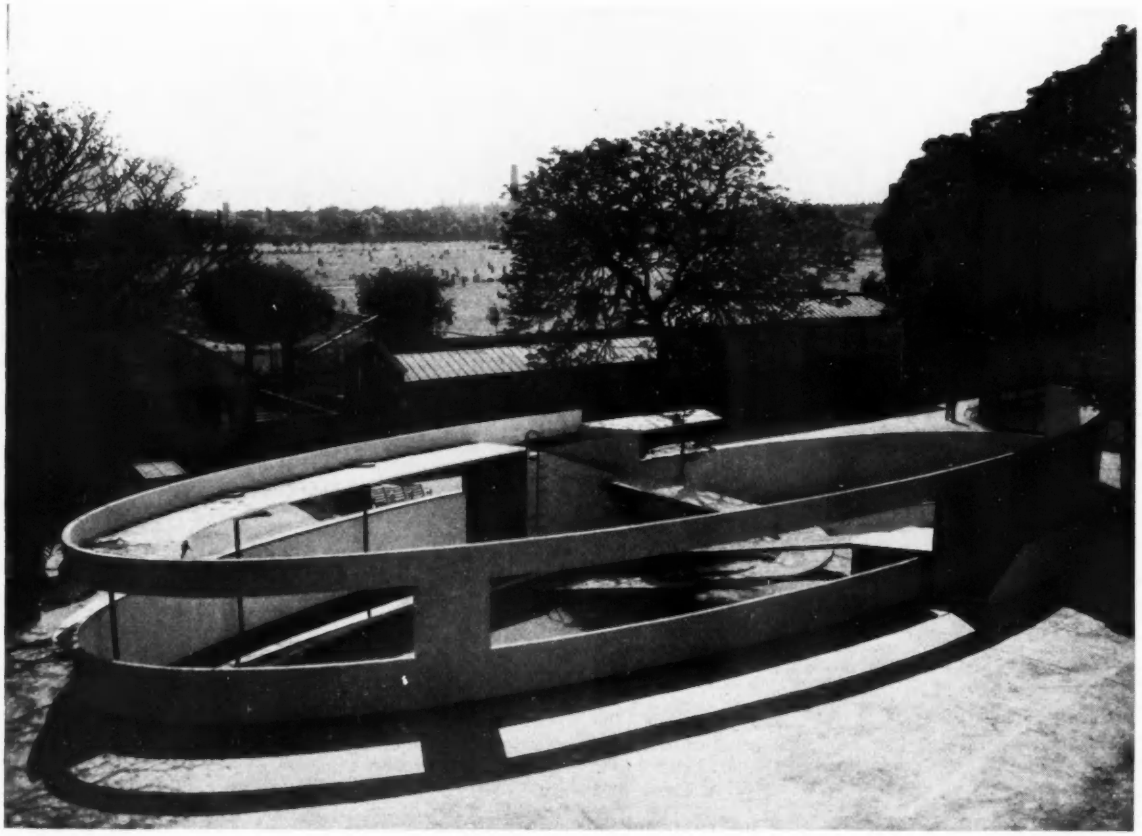
Coun. Fern said evidence of the fact that no sum was mentioned was provided by the additional fact that the designs ranged from £7,000 to almost £30,000.

The Town Clerk read the letter he forwarded to all competitors, pointing out that the present library rate was 2s. 9d. in the £, and that a 1d. rate produced £458. He also pointed out that for every £1,000 of capital expenditure the annual loan repayment would amount to £54 2s. 1d., so that for a building costing £10,000 it would amount to £541 0s. 10d., or an increase of 1¼d. in the £ for library purposes. He also pointed out that it would be as well for the competitors to remember that the cost would not have to be a very heavy charge on the rate funds.

The minutes were confirmed.

PENGUIN POOL, ZOOLOGICAL GARDENS:





JOHN HAVINDEN

These two views, above, from the south-west, and below, from the top of the Lion House, show the elliptical plan and the general arrangement of the pond and ramps.

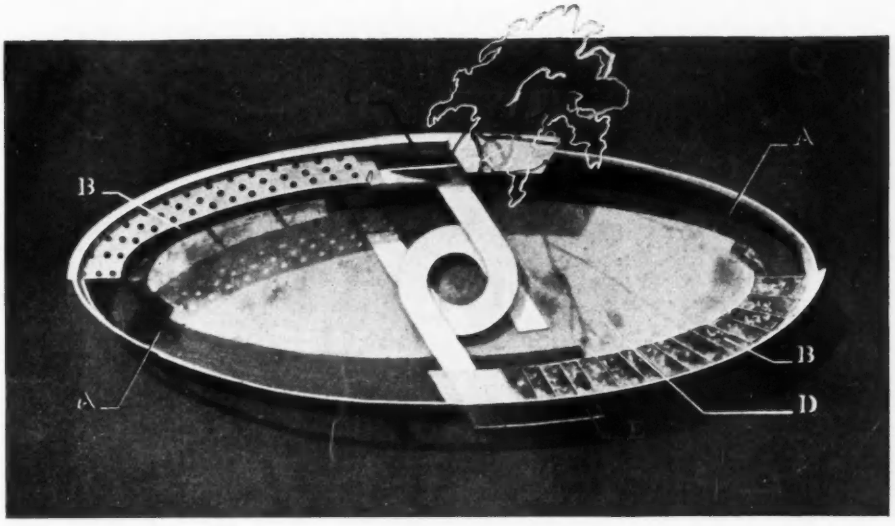
BY LUBETKIN, DRAKE AND TECTON

The site available for the new Penguin Pool consisted of a series of derelict ponds and a paddock in a confined space between the back of the lion house and a row of wolf kennels, though it was on an important line of public circulation. Owing to its lack of direction the site did little to dictate the design, and a self-contained shape was therefore called for, producing, for this and other reasons, the elliptical plan.

The problems requiring solution were comparatively simple. Penguins have an attractive and faintly ridiculous quality: their shape and black-and-white colouring produce an almost human effect, enhancing the grotesque awkwardness of their movements on land. The pond would become a popular spectacle and must provide a suitable setting for any latent publicity talent. A sensational and dramatic design was therefore quite justifiable.

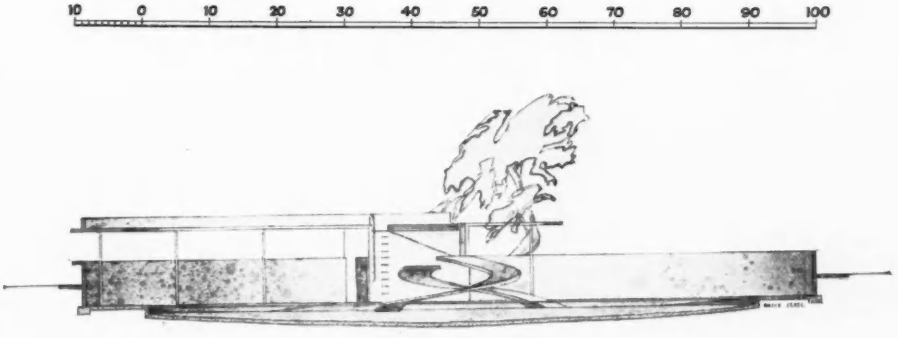
The two cantilevered ramps, spiralling round each other without any intermediate support, have a theatrical quality and provide a suitable stage for the waddling gait of the penguins, who are shown to be able to hop as well as waddle by the stepped ramps. Reached by a flight of steps from the top of one of the ramps is a glass-fronted diving tank at the eye level of spectators, and in this is shown the contrast between great agility under water and extreme awkwardness on land. The pond, in fact, exploits the characteristics of the penguins and "produces" them effectively to the public: they can be seen from a variety of levels—from below when they are at the top of the ramp or from above when they are at pond level.

At the same time, a genuine attempt has been made to preserve the birds from the boredom which generally overtakes all zoo inhabitants. They have necessary protection from the sun since the surrounding trees have been preserved and a cover is provided over part of the circumference of the pond. They have a variety of surfaces for their feet, ranging from plastic rubber on the flat paths to slate on the steps, and the concrete of the ramps is permanently wetted by a revolving fountain. The bottom of the pond is painted a bright blue which is clearly visible in the water. During the short time that the penguins have been in possession it has been found that they spend more time in the water than they did in the past, and that on land, owing to the more varied interest of their surroundings, they take more exercise.

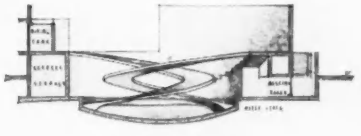


AERIAL VIEW

A: Plastic rubber (ciment fondu, cork chippings and rubber). B: Slabs of ½ in. deep grey slate paving on concrete. C: Diving tank with 1 in. plate-glass front; storage under. D: Swimming pool rendered two coats Venetian blue Stic B. E: Exterior pit for cleaning and supervising nesting boxes.



LONGITUDINAL SECTION



CROSS SECTION

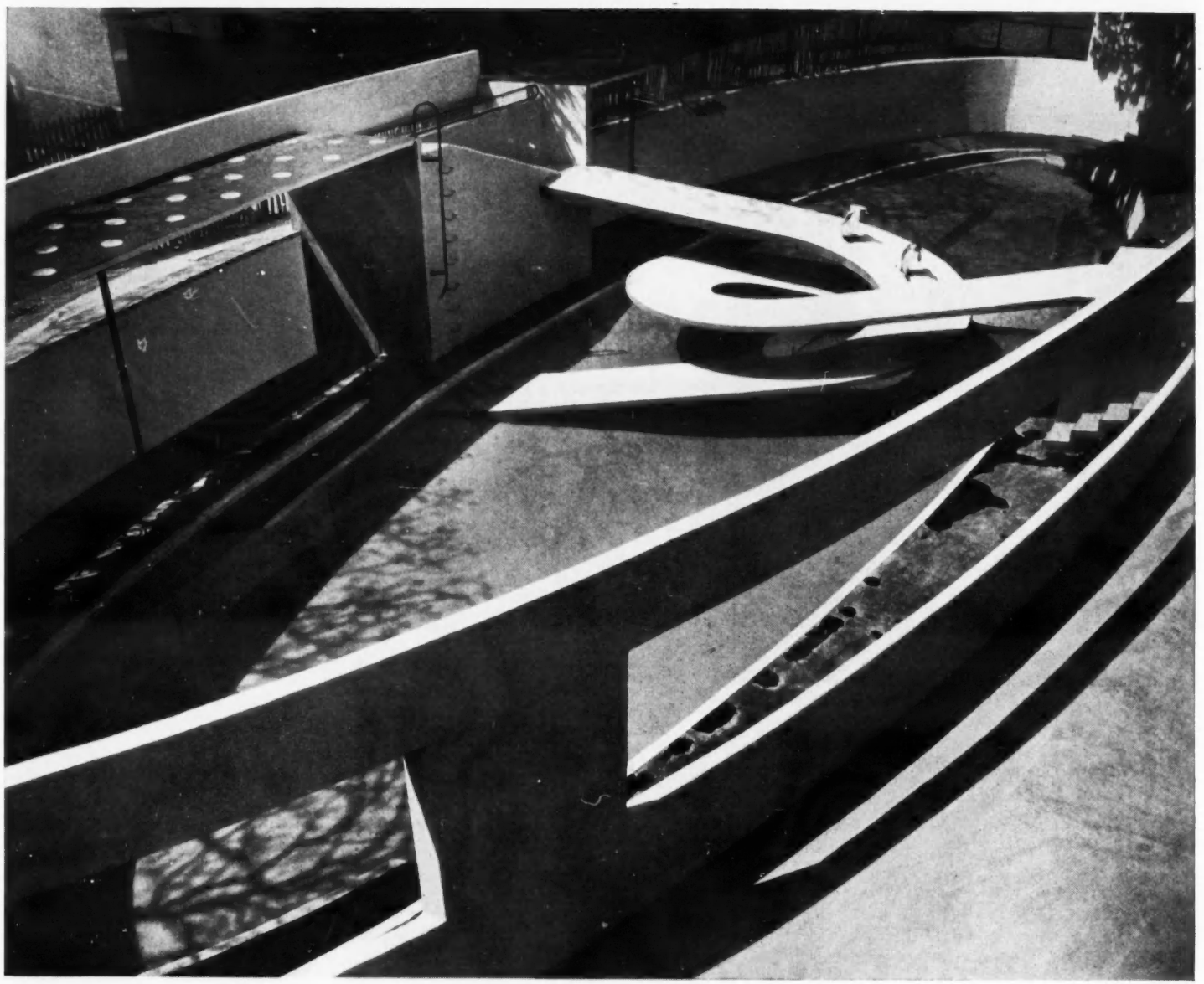
Their nesting boxes have also been improved, as they can now be cleaned from the back without disturbing the sitting birds, who often take as long as several months to hatch their eggs.

The pond is constructed throughout in reinforced concrete. The elliptical shape is of use structurally as the pond is below ground level and the wall is, at its base, a retaining wall, gaining greatly in strength from its shape. It has one other advantage in that it acts as an effective sounding-board for the penguins' cries.

The spiral ramps are cantilevered from their two ends, and have no intermediate support at the point where one loops inside the other. This structure was allowed under a clause in the London Building Act which lays it down that a building, below a certain size and not for human habitation, may be exempt from the regulations provided that it is more than 30 ft. from any other building. Measurements revealed the brick pier of an open-air refreshment room to be 29 ft. 9 in. from the pond, but Authority was pleased to overlook the last three inches.

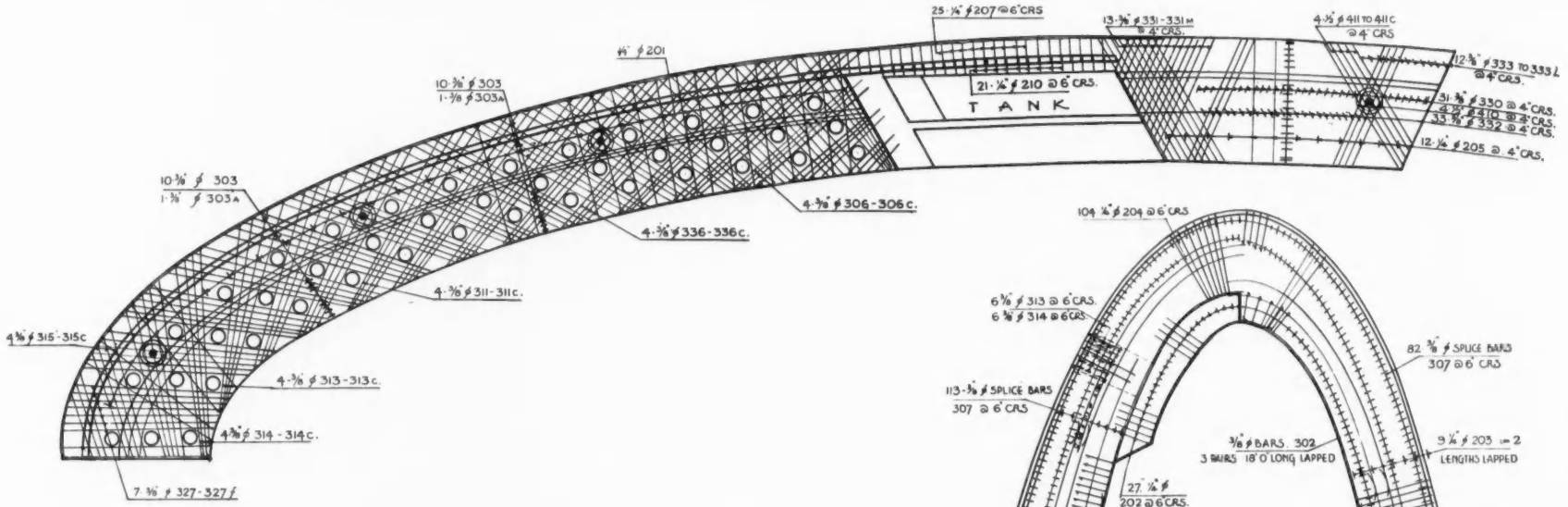
PENGUIN POOL, ZOOLOGICAL GARDENS

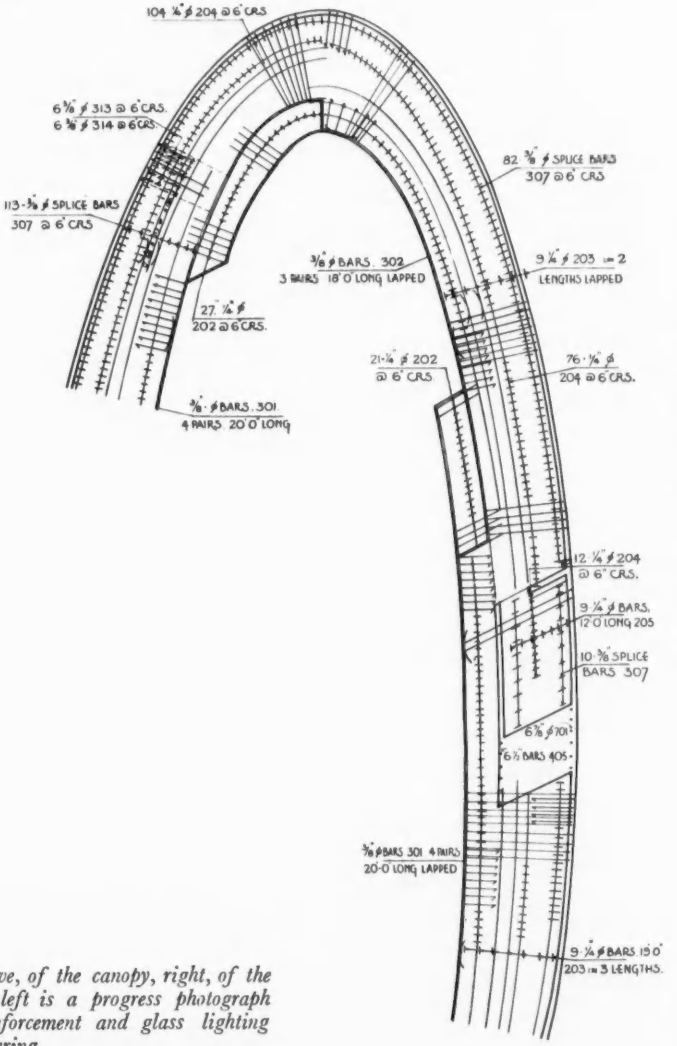
DESIGNED BY LUBETKIN, DRAKE AND TECTON



JOHN HAVINDEN

A view showing the general lay-out of the pool, with the diving tank at the top of the ramp on the left.





Reinforcement details, above, of the canopy, right, of the pool surround ; on the left is a progress photograph showing the canopy reinforcement and glass lighting discs in position before pouring.

LETTERS FROM READERS

A YORKSHIRE ARCHITECT
EDWIN GUNN, A.R.I.B.A.
W. W. S.
J. CRAVEN PRITCHARD
F. H. HALL
WALLIS HEELEY
MAJOR H. L. NATHAN, M.P.
K. A. H. BAYES, A.R.I.B.A.

Engineers and Amenities

SIR,—One portion of the letter of Mr. Percy Morris, which appeared in your issue for May 31, I will leave for "Panel Member" to deal with.

No sensible architect claims to be "ordained," but he is undoubtedly *trained*, and it is on that basis that any Fellow or Associate of the R.I.B.A. is far better "equipped" than members of the I.M. & Cty. E. on good taste in architectural design. The whole training of the members of the M. & Cty. Engineers as shown by the examination papers is totally devoid of any questions on architecture or architectural design in its most elementary form.

When one glances through the pages of *The Surveyor*, and incidentally the advertisements (with photographs) in that and other technical journals, it is quite easy for any trained architect to spot the work of a "temporary architectural assistant"—work to which scores of members of the Municipal and County Engineers unblushingly append their names as the "architects."

If, as Mr. Morris suggests, the members of the I.M. and Cty. E. are *equally* "ordained and equipped" to deal with "outrages," then I respectfully submit to him that a tour of his own immediate district (10 to 15 miles radius) will convince him, I hope, that the greatest "outrages" have been committed by members of the Institution he supports, together with the aid of Government grants and assistance from rates. I refer in particular to the acres of housing estates and the abortions which have been perpetrated thereon in brick, stucco and "pink roofs," all of which are the work of self-styled "architects"—now, alas, in many cases "Chartered and Registered Architects" by Act of Parliament and *not* by training.

Incidentally, can Mr. Morris, or, indeed, any other member of the Institution of Municipal and County Engineers, tell the readers of this JOURNAL why so many local authorities find it necessary to promote an architectural competition for the public buildings required by them?

A YORKSHIRE ARCHITECT

The Ruislip Case

SIR,—I regret the necessity of troubling you with another letter respecting this case, but your editorial footnote to my letter in your last issue evades (no doubt accidentally) the point of my objection to the reference in your article to "unnamed members" of the Panel. Obviously all members of the Panel were listed in the same issue, but in point of fact the members of long residence *were* named at the enquiry.

As to your concluding remark, I did not and shall not attempt to answer what you refer to as "the more serious points" of your article. I consider them covered by the general statement that my impressions of the nature and effect of the evidence and cross-examination differ from yours, and I do not think it will be ungenerous to add that from his award it would appear that the arbitrator (who heard the evidence first hand and saw the site and surroundings) was similarly affected.

Your other correspondents I fear fail to note that my letter to the U.D.C. conveyed the advice of the Panel, and was not a personal affair, and that my evidence at the enquiry was similarly intended.

EDWIN GUNN
Minehead

SIR,—May a wondering layman be permitted a few words on the leading article in your current issue. That article says:

"Its (the Panel system's) deplorable results in the Ruislip case were almost wholly due to abuse of the system; . . .

"Their function, we repeat, is to advise on the improvement of design below the level of literacy, i.e., of designs that are not by architects."

Are we, then, to understand that if the proposed reinforced concrete houses at Ruislip had been designed by a builder, and not by an architect, you would have had nothing whatever to say about their rejection by the local Panel?

Are we to understand that it is impossible for an architect to design a house either ugly in itself or out of keeping with its surroundings?

Surely, if a Panel is to function at all, it must deal impartially with all designs and projects submitted to it.

It does seem to me that your present position is wrong in principle, and, if persisted in by architects as a body, will lead to the abolition of the Advisory Panels.

On the general question of reinforced concrete houses may I register a humble (and, doubtless, illiterate) plea against them. I think not of the isolated house on its chosen site so much as of groups of such houses mixed up with existing property. Surely, confusion worse confounded will be the outcome.

I do not believe you realize the amount of feeling there is that the reinforced concrete house is nothing more than a life-like imitation of a modern factory, and the genuine apprehension there is as to what the countryside will look like when liberally sprinkled with such buildings.

W. W. S.
Wallington

[*Our correspondent asks whether the Panel should not be impartial. The answer is, of course, that it should; it is partiality for one kind of design rather than another, considered independently of their competence as buildings, that constitutes the abuse we complain of. The Panel system exists in order to give the man trained in design opportunity of giving expert advice in a quarter which is suffering from the lack of it, not as a battleground of controversial opinion. It is only too true that architects are sometimes guilty of ugly and unsuitable building, but the remedy for this is a higher standard of professional qualification, to achieve which is no concern of the Panel.*—ED., *A.J.*]

Substitution

SIR,—It is good to see that you have raised this very difficult question of Substitution. It takes two forms:

First, when an architect has specified a product by name making the usual qualification "or other approved," etc., and where the builder recommends another product as being either more suitable or more economical.

The second type, which, fortunately, is not very prevalent, is where the builder substitutes for the material specified an alternative one which is cheaper, and says nothing about it.

The former type of substitution is clearly legitimate and no manufacturer of branded goods can or would complain. It raises, however, a new and interesting factor which has very wide repercussions. Certain manufacturers have the courage to brand their goods both in name and description, and mark this brand on the goods themselves; an architect can therefore try out such products and if they are not good enough he will know that in future he will be unwise to specify that particular product. This has the result that those manufacturers who brand their goods are always conscious of the necessity of maintaining and increasing the quality of the goods they sell, whereas those who do not are always tempted to compete on price only.

Unfortunately, substitution, if it becomes more prevalent, will act as the thin end of the wedge, and manufacturers of branded goods will find that all the work they do in research to increase the quality of their goods and in the distribution of technical information and general assistance, will be worthless; for, when their goods have been specified they are not actually used. They will, therefore, tend to give up the giving of technical information and finally quality competition would

tend to give place to price competition.

It is difficult to say how a constructive effort could be made to diminish substitution and encourage manufacturers to concentrate more on quality other than the step that THE ARCHITECTS' JOURNAL has made in calling attention to the subject. It may be, however, that you have other contributors who might be able to make some useful and concrete suggestions.

J. CRAVEN PRITCHARD,
Venesta, Ltd., *London.*

SIR,—We are very gratified to notice in your issue for June 7 that Astragal draws attention once again to the menace of substitution. Naturally we look at the matter from the manufacturer's point of view ; of the manufacturer, who, having spent money and time in testing and standardizing a product and in securing the architect's interest so that it is specified for a contract, is entitled to expect that his product will be used without his having to be in constant attendance on the site and to risk making himself a nuisance to the architect.

Most definitely " something ought to be done," and as manufacturers either individually or collectively are helpless in the matter without the co-operation of the architectural profession, it would appear that the " something " should be a concerted move by the R.I.B.A.

One suggestion is that the R.I.B.A. should adopt a form of contract which embodies a cause that the original invoices for all goods used on the contract should be produced for the architect's inspection if required. Such a stipulation would so greatly increase the risk of discovery that it would act as a most powerful deterrent.

We would also suggest that architects should refrain from inserting in specifications the phrase " or other approved." Few architects would decline to consider an alternative to a specified article if the contractor had sound reasons for proposing a variation, but the words " or other approved " more often than not are understood by the contractor to mean that almost anything similar to the specified article may be used, and thus the substitution of an inferior product is invited.

F. H. HALL,
Solignum Ltd., *London.*

SIR,—It is with no little pleasure that I notice you have taken up the question of substitution, a very old grievance to suppliers in the architectural world. When work becomes scarce, and is taken on at a low price, substitution becomes more acute, since the builder or contractor is tempted to find other ways of making his profit. Architects however, have the remedy in their own hands if they accept only what is specified in the schedule, no matter how long afterwards they discover that some substitution has been made and temporarily passed. To take this course requires a certain amount of courage, but I can see no other remedy.

WALLIS HEELEY
Glasgow

A New Housing Policy

SIR,—It is now beyond dispute that the Housing (Financial Provisions) Act, 1933, has failed to produce an adequate supply of satisfactory houses to let to the lower-paid wage earners.

When this measure was before the House of Commons on December 15, 1932, the Minister of Health, Sir Hilton Young, claimed that it was—

> " a means of getting what we want in the way of small houses more freely and with more certainty, and without the subsidy."

He proceeded to describe to the House how, once subsidies were withdrawn, private enterprise would be " willing and eager to provide the houses that we require." Subsequently, his official circular (1334), explaining the Act, claimed that—

> " economic forces, operating in a free field, will secure a large volume and variety of production (of houses) at competitive rents."

Unfortunately, promise has once again far exceeded performance, for according to a reply given by the Parliamentary Secretary to the Ministry of Health in the House on May 14, 1934, guarantees had been given under the Act of 1933 in respect of only 1,631 houses for the whole of England and Wales up to March 31, 1934. It is, moreover, an incontestable fact that only a small proportion of the houses erected in recent years by private enterprise are available at rents within the means of the poorer families. Meanwhile, gross overcrowding persists in all our industrial towns and in many rural districts.

In these circumstances, may I suggest that the Minister of Health should now issue a circular to all Housing Authorities advising them that no obstacle will be placed in their way if they desire to submit proposals for the provision of working-class dwellings without Exchequer assistance? It is surely most important to deal with the two problems of overcrowding and slums *pari passu.*

H. L. NATHAN
House of Commons

Fascist Architecture

SIR,—As Mr. Barton pointed out in his letter in your issue for May 31, under a Fascist regime it is impossible for the freedom of the individual and the control of the state to effect a harmony. It is quite time that the British Union of Fascists stopped deceiving themselves that it is possible. They cannot follow the power and the wisdom of their great dictator and at the same time be true to their own selves. Under any kind of dictatorship, these are opposites that can never be resolved.

But such a harmony has never been more essential than it is today, nor has it ever been more urgent that the " corporate will " of the people be aroused, if we are to save our Western culture from years of reaction under Fascism or from total annihilation by a European war. Not only our architecture, but our whole culture, is at stake.

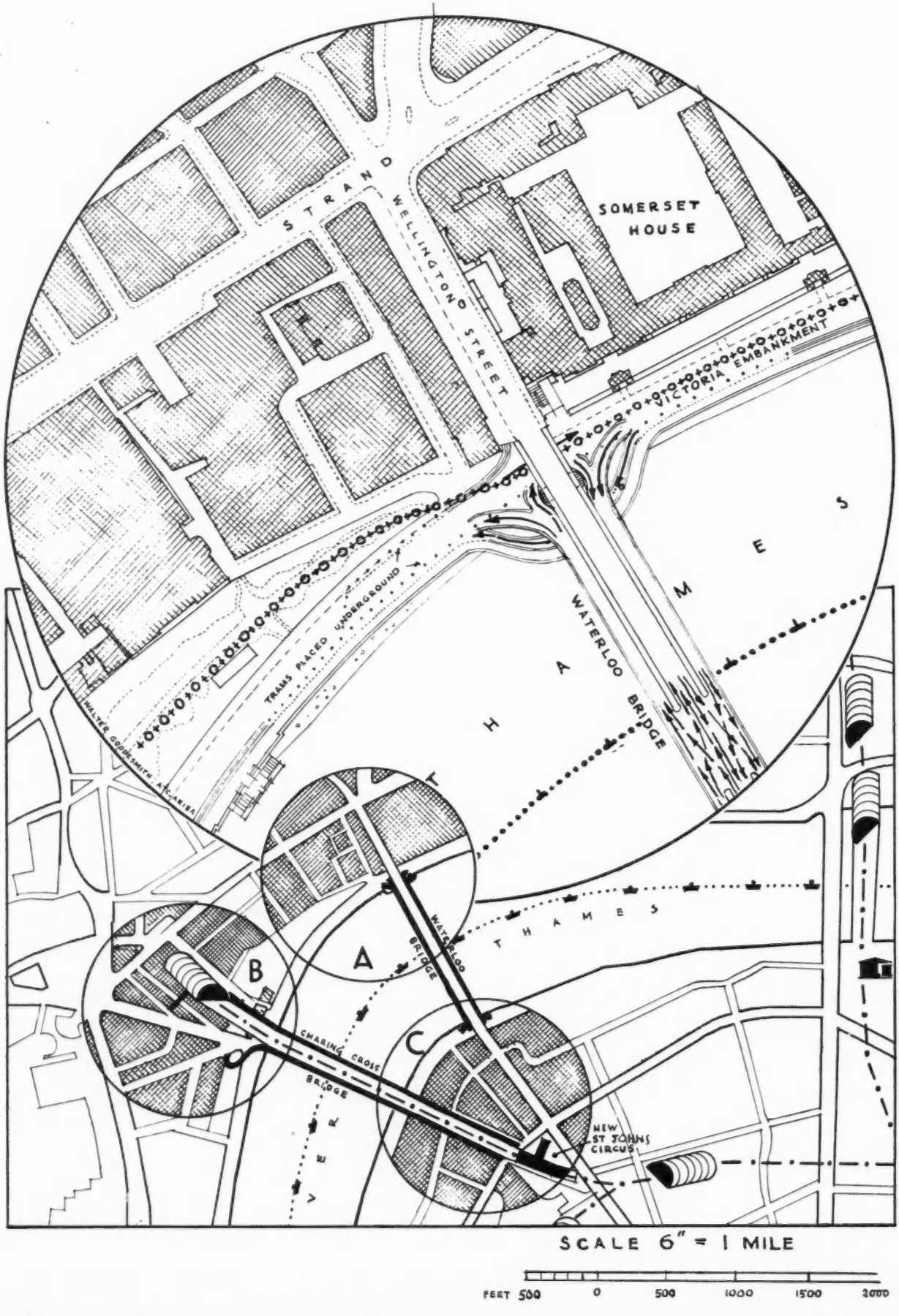
The Fascists do not wish to *find* the corporate will, they intend to *create* it, which means to impose and force the will and power of a dictator upon the people, and, when it has been accepted under compulsion, to call it the corporate will. This principle applies to culture, and to the arts, as well as to politics and economics, and it is a principle which surely could not be tolerated by the profession with regard to architecture.

The corporate will exists already, in the lives of each individual who makes up the State ; it does not need creating, it needs expressing. What is the nature of that will is not altogether evident, but if it were found and if we were vitally aware and conscious of it, our main cultural problems would be solved, and architecture could once again truly live as the expression of the national life, thereby justifying itself on a traditional theory, while also serving modern needs.

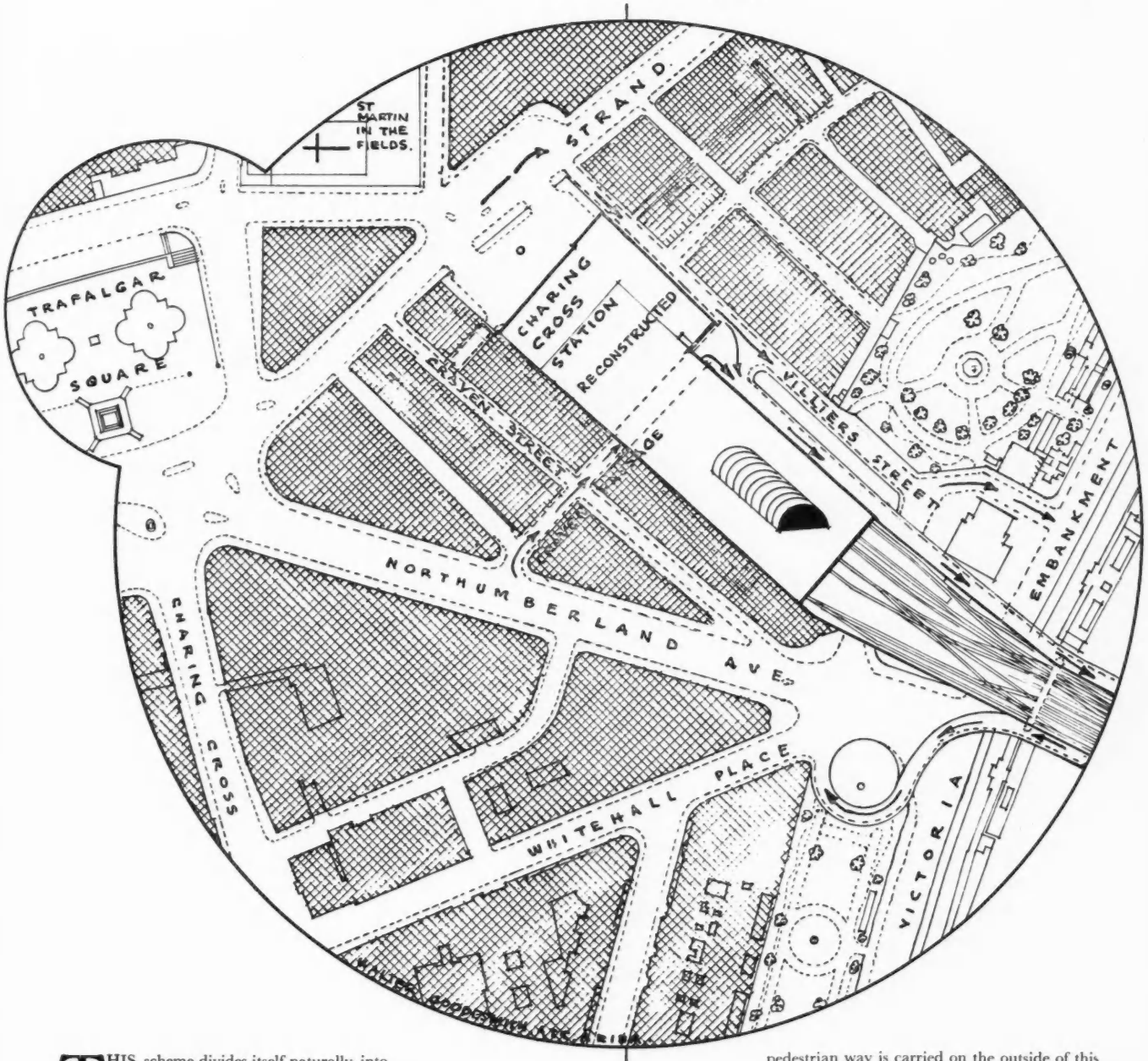
For the sake of architecture, the national will of the people must be found, not imposed. There is a movement for national renaissance, which is rapidly gaining strength in this country, called the New Britain Movement, which is finding and expressing the real national will in no uncertain way. One of its fundamentals is the recognition of the uniqueness of each individual, and in its evolving of practical policy, it begins from the individual and works outwards and upwards, contrary to the Fascist method of working down to the individual from above, and it is on these lines that the New Britain Movement evolves its attitude towards architecture.

It may be of interest to the profession to know of this movement, which correlates the freedom of the individual with a practical policy for national reconstruction—but with no dictator.

KENNETH A. H. BAYES
Hounslow



WATERLOO—CHARING CROSS BRIDGES



SCALE 25" = 1 MILE

THIS scheme divides itself naturally into three main sections, shown on page 862, which indicate the general lay-out of the immediate and surrounding areas, to a scale of 6 in. equals 1 mile. The areas dealt with in detail are included in circles, and are shown to ordnance scale of 25 in. to 1 mile.

A. Waterloo Bridge Head, Victoria Embankment (page 862).

B. Charing Cross Station and Bridge Reconstruction (see plan above).

C. South Heads of Waterloo and Charing Cross Bridges and proposed New St. John's Circus (page 864).

A. The suggestion for the treatment of the new Waterloo Bridge comprises :—

(*a*) One high-level section carrying four lines of traffic between Wellington Street and Waterloo Road.

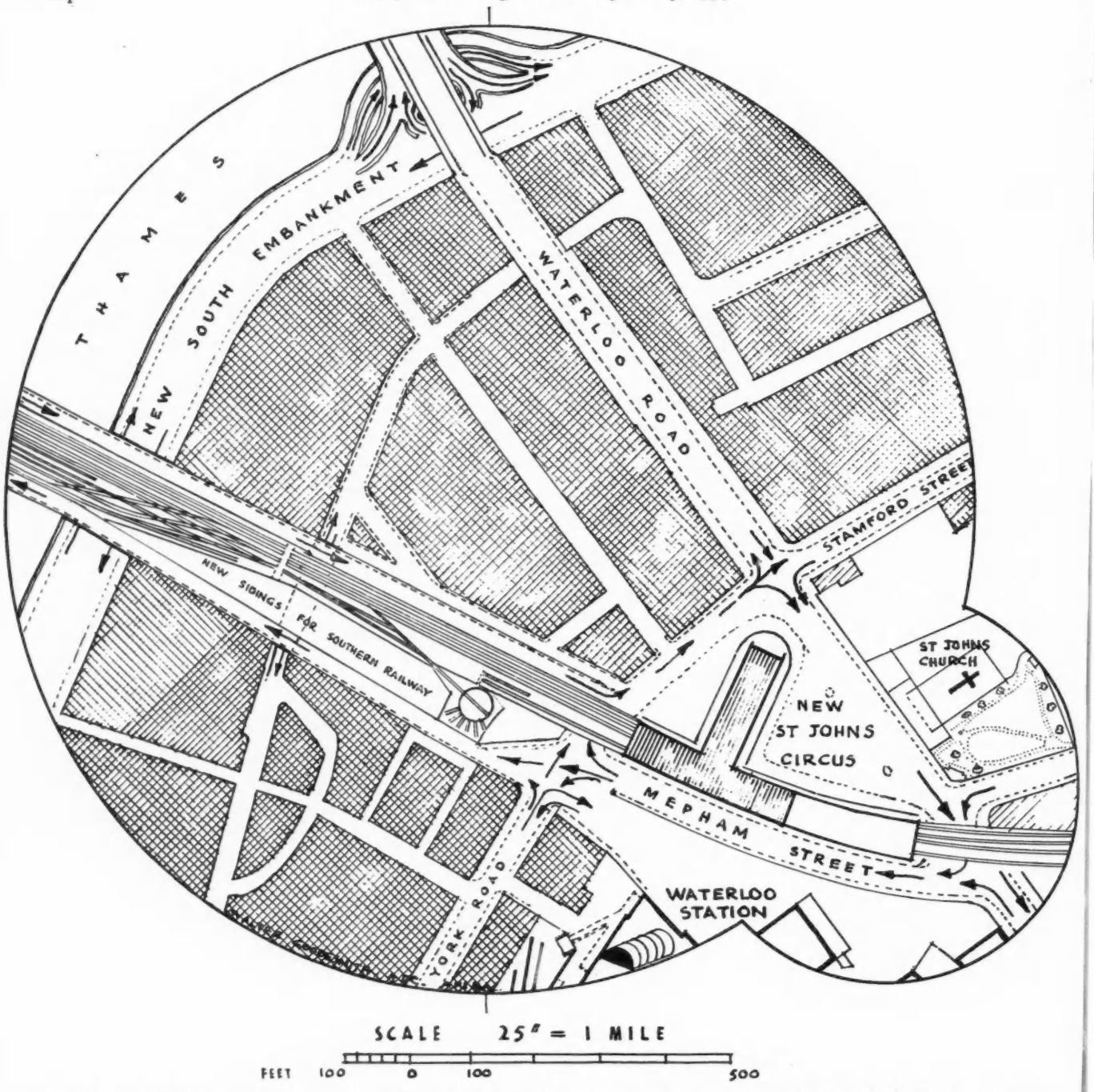
(*b*) A double line of one-way traffic each side of the above, serving the existing embankment on the north side and a suggested new embankment on the south side. The crown of the bridge forms a cross-over section for all these lines of traffic, which are indicated by arrow-heads on drawing.

The flow of traffic over this bridge is distributed east and west on the Embankment, at the same time retaining present north and south facilities. The reduction of height in river arch spans adjacent to embankments is justified, for river traffic does not use the existing ones. The problem of the tramway at this point is a vital one, for at the present moment the crossing of roadway by the tram when turning into the Kingsway tunnel needs both police and tramway traffic control. It is suggested that the tramway be placed underground in the vicinity of the bridge-head, enabling the Kingsway cross-over to be accommodated without interference with roadway. On account of the shallowness of the District Railway tube below surface level, it is impossible to pass under it, so that the tramway must come to the surface again before turning into tunnel. Its position is at the side of the roadway, however, and does not present much difficulty. Fast-moving traffic proceeding towards Charing Cross is carried on a curved projecting embankment which passes under the first arch. The pedestrian way is carried on the outside of this again. An examination of plan and perspective will indicate more clearly than any words the workability and uninterrupted flow of traffic in this vicinity. The tower shown on perspective contains a stairway giving pedestrians access to both levels. A new river police landing stage and station could also be formed at this point.

B. The Charing Cross problem comprises retention of Charing Cross Railway Station on existing site and the reconstruction of present hotel building and portions of station and the retention of existing railway bridge, which is incorporated in a new structure. The piers are concreted in to form part of the new triple concrete piers, and the girders are concrete-filled to isolate railway portion and to add strength to the new one-way roadway bridges, double width, which are placed each side.

The north approach to road bridge for south-bound traffic is by way of Villiers Street, the Strand, at the head of which is widened to take extra traffic. The existing shops adjacent to railway station in Villiers Street are removed to provide ramp to bridge. By the opening-up of Craven Place to a double width road access to Villiers Street and the new bridge is obtained from Northumberland Avenue. An additional

SCHEME • DESIGNED BY WALTER GOODESMITH

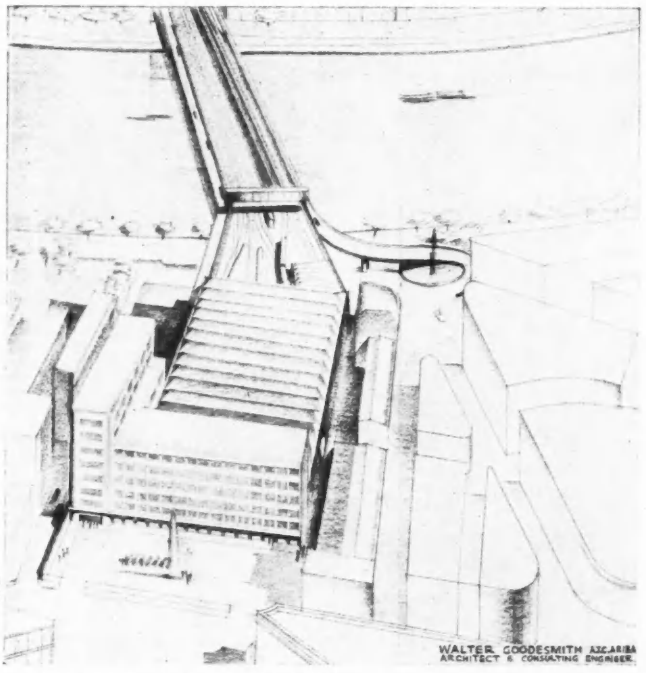


through street is added at the bottom of Villiers Street to give direct access to Victoria Embankment. Villiers Street is preferably changed to a one-way street, although a wholesale widening on the north-east side would enable two-way traffic to be handled satisfactorily. The present store space under railway bridge at the Embankment could be utilized for car parking. The northbound road and foot traffic is carried down to the Victoria Embankment by a curved viaduct at end of public gardens, thus linking up with existing planning and traffic control.

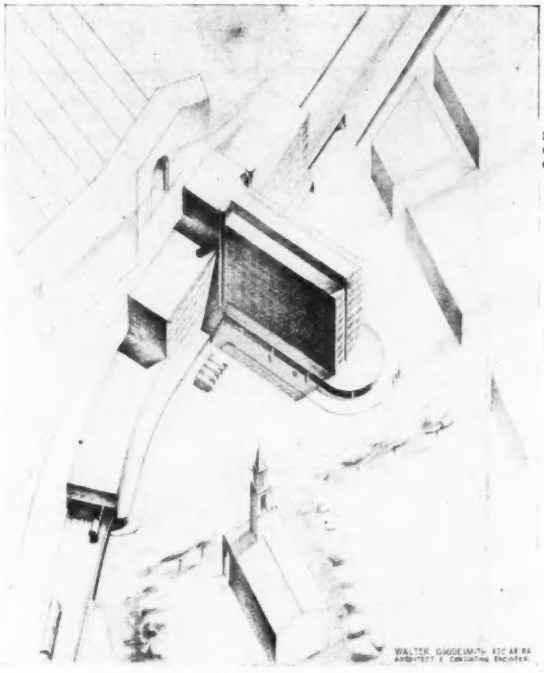
C. The complete replanning of the south of the river is a town-planning problem which must be solved. These suggestions, however, could form part of any such scheme because nothing but vital traffic areas have been included. On the south side of the river a new Embankment has been suggested extending from Blackfriars Bridge to County Hall, but the main problem is at the southern junction of roads from Waterloo and Charing Cross Bridges. A completely new circus, "St. John's," has been suggested, giving complete traffic control as indicated by arrows. Mepham Street has been widened, and it is also suggested that Exton Street, Roupell Street and Meymott Street should be widened to link up with Blackfriars Road. The existing railway viaduct has been retained and a new building raised above it with structural supports carried down outside foundations of viaduct, ensuring isolation from train vibration. The apparent railway tunnel thus formed would be completely lighted by glazed wall or open space on the Waterloo Station face. The new building could serve as headquarters for the Southern Railway, as well as public offices or flats.

The north-east open space in front of building can be utilized for car parking. The present Southern Railway offices are demolished to open up the entrance to Waterloo Station and to improve traffic circulation. The portion under the viaduct carrying the existing railway and new roadways could be utilized as a garage or public parking space. On account of position of engine turntable and planning of new roadway approach slope on to Charing Cross Bridge has made extra railway siding space available.

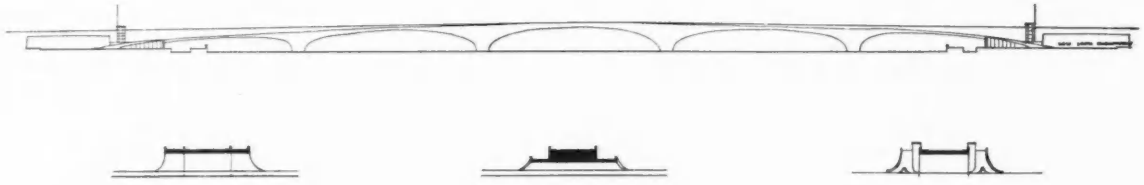
WATERLOO — CHARING CROSS BRIDGES



THE REMODELLED CHARING CROSS STATION AND BRIDGE APPROACHES

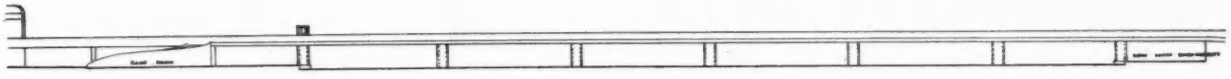


NEWLY FORMED ST. JOHN'S CIRCUS



WATERLOO BRIDGE
SCALE 25" = 1 MILE

It will be noted that only the three centre arches are used for river traffic.



CHARING CROSS BRIDGE
SCALE 25" = 1 MILE

The existing bridge has been retained, the new road bridges being incorporated, making one complete monolithic structure.

SCHEME • DESIGNED BY WALTER GOODESMITH

DREAMLAND, MARGATE:

J. SOMERSET MURRAY

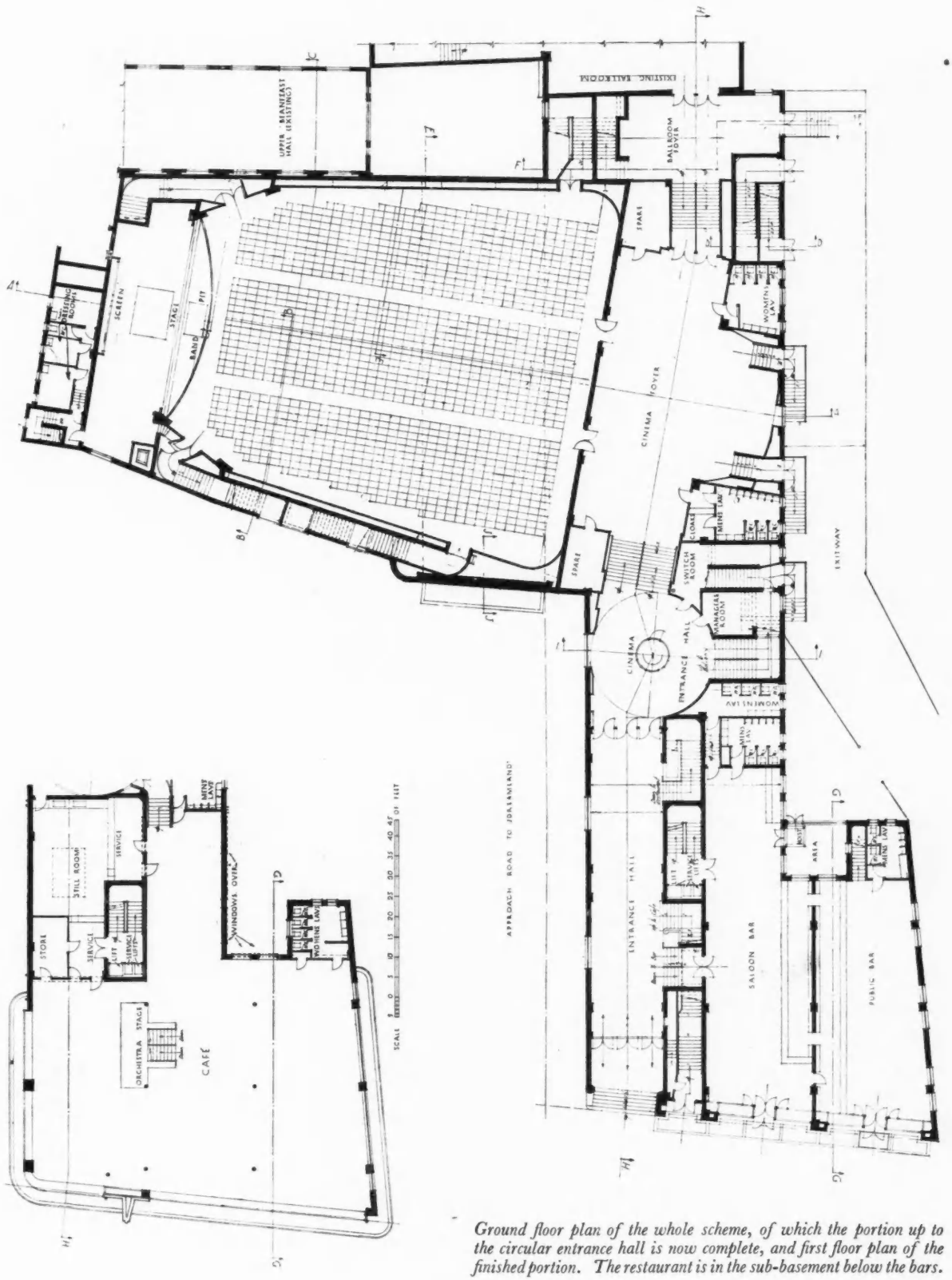
Left : the exterior from Marine Terrace photographed at night, showing the neon lighting in yellow, orange and steel blue. Below : a detail of the main entrance.

This building is to consist, when finished, of a cinema seating 2,050 with all its necessary services, public and saloon bars on the ground floor, with a restaurant seating 500 in the basement, and a café seating 300 on the first floor, overlooking the sea.

The bars, café and restaurant have so far been completed; that is to say all to the left of the circular cinema entrance on the plan on the facing page, the entrance hall being at present terminated by a temporary screen wall. Work on the cinema portion is now progressing. Each unit, it will be noted, has separate direct access from the entrance in Marine Terrace.

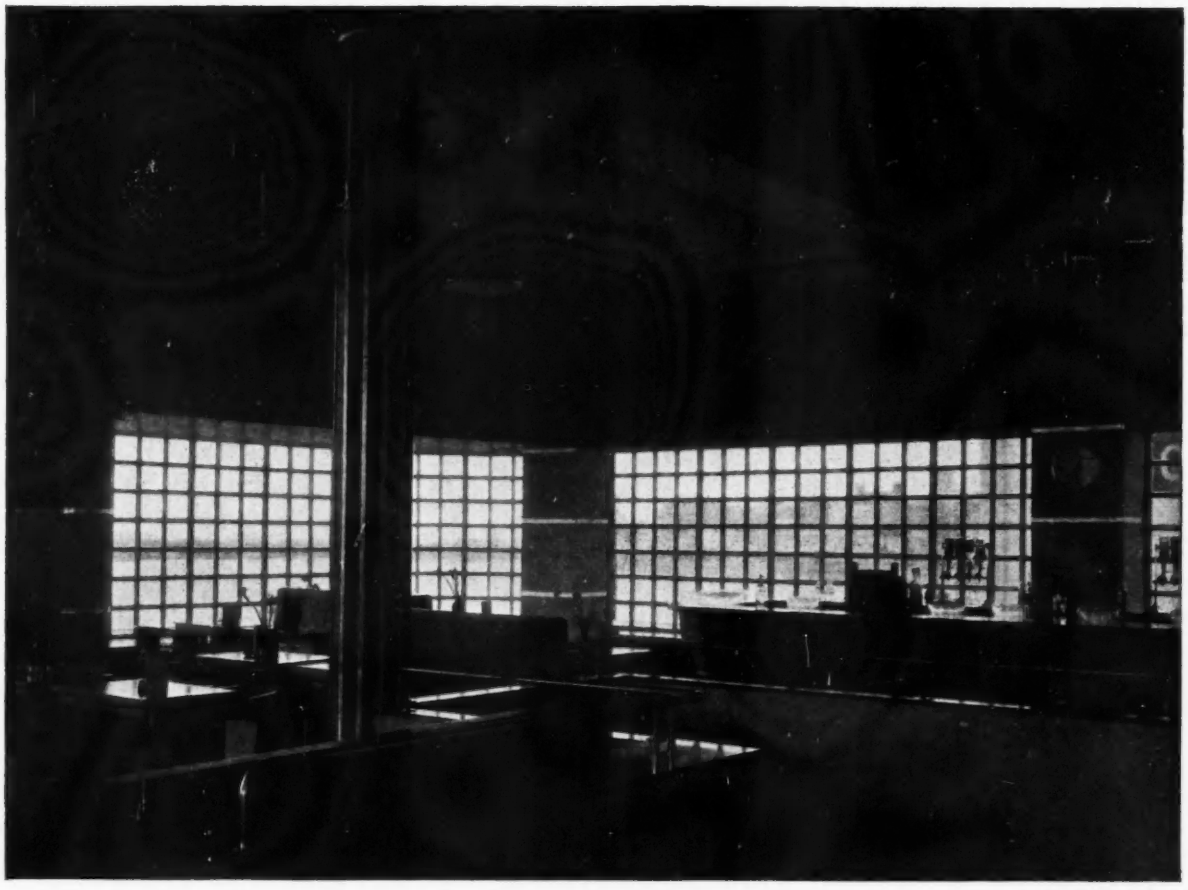
The building is a steel-framed structure with 13½ in. external brick panel walls. Owing to the nature of the sub-soil the weight of the building is taken by situ-cast concrete piles, on to which the load is distributed by steel concrete-cased Bressumers. Cellular bricks are used throughout to reduce steel sizes and loading on the piles, the walls being faced externally with cellular rustic bricks, laid in English bond in blue lias lime mortar.

BY J. B. ILES, LEATHART AND GRANGER



Ground floor plan of the whole scheme, of which the portion up to the circular entrance hall is now complete, and first floor plan of the finished portion. The restaurant is in the sub-basement below the bars.

DREAMLAND, MARGATE : BY J. B. ILES,



J. SOMERSET MURRAY

Above : the first floor café, looking towards the east, showing the mural painting by Walpole Champneys. The café is coloured in tones of warm brown, picked out with silver, the column on the left having silvered fillets.

Left : the entrance hall, showing the staircases up to the café and down to the two bars.

LEATHART AND GRANGER

J. SOMERSET MURRAY

Another view in the interior of the café, showing the continuous range of windows with a view over the sea.

R. I. B. A.

COUNCIL MEETING

Following are some notes from a recent meeting of the Council of the Institute :—

Proposed Technical Committee to report on Materials and Methods of Construction suitable for the Building of Flats for the Working Classes : In response to the invitation of the Minister of Health it was agreed to suggest the names of the following members for appointment upon the Technical Committee which the Minister proposes to set up to report on materials and methods of construction suitable for the building of flats for the working classes, with special reference to efficiency and cost : Messrs. Henry V. Ashley (F.) ; Ian B. M. Hamilton (A.) ; Victor Wilkins (F.) ; Stanley C. Ramsey (F.) ; E. Maxwell Fry (A.) ; and William T. Benslyn (F.).

The Sixth International Congress for Scientific Management : Mr. S. Pointon Taylor (F.), Chairman of the Science Standing Committee, was appointed to represent the Institute at the above Congress.

The Hertfordshire Society : Mr. R. Barry Parker (F.) and Mr. Louis de Soissons (F.) were reappointed as the R.I.B.A. representatives on the Hertfordshire Branch of the C.P.R.E.

Special Committee on Official Architecture : Mr. Percy Thomas (F.) was appointed as an additional member of the Special Committee on Official Architecture.

Departmental Committee on the Cost of Hospitals and other Public Buildings : It was decided to accept the invitation of the Departmental Committee on the Cost of Hospitals and other Public Buildings to submit evidence on baths and washhouses, and Mr. Kenneth M. B. Cross (F.) was appointed as Chairman and Convener of a small "ad hoc" Committee which has been set up to prepare a memorandum of evidence for submission to the Departmental Committee.

Proposed R.I.B.A. Club at Building Trades Exhibition, Olympia : The Council approved a recommendation received from the Public Relations Committee with regard to the formation of a R.I.B.A. Club at the Building Trades Exhibition to be held at Olympia in September next.

The Scale of Charges : On the recommendation of the Practice Standing Committee it was agreed to add a footnote to the Scale of Charges drawing attention to the Scale of Charges for Town Planning work published by the Town Planning Institute.

The Code of Professional Practice : Recommendations submitted by the Practice Standing Committee for the amendment of the Code of Professional Practice were approved by the Council and will be published at an early date.

The Fellowship : The Council, by a unanimous vote, elected the following architects to the Fellowship under the powers defined in the Supplemental Charter of 1925 : Messrs. T. Houston (L.) (Belfast) ; C. Burns (Tunbridge Wells) ; and C. E. Serpell (Melbourne).

Reinstatements : The following ex-members were reinstated : As Associates : Messrs. J. B. Bramwell, I. U. Englefield, and F. A. Moore. As Licentiates : Messrs. G. Capon, L. C. Fairbairn, and F. H. Shearley.

Resignations : The following resignations were accepted with regret : Messrs. D. Salmond (F.), W. H. Wood (F.), J. S. McKay (A.), E. D. Reidy (A.), H. Waller (A.), A. G. Bradshaw (L.), A. Clayton (L.), A. E. Heathcote (L.), H. W. Hillier (L.), C. E. Lawrence (L.), and Captain E. M. Leest (L.).

Transfer to the Retired Members Class : The following members were transferred to the Retired Members Class : As Retired Associate : Mr. T. H. Hardinge Vowles. As Retired Licentiate : Mr. W. E. Gill.

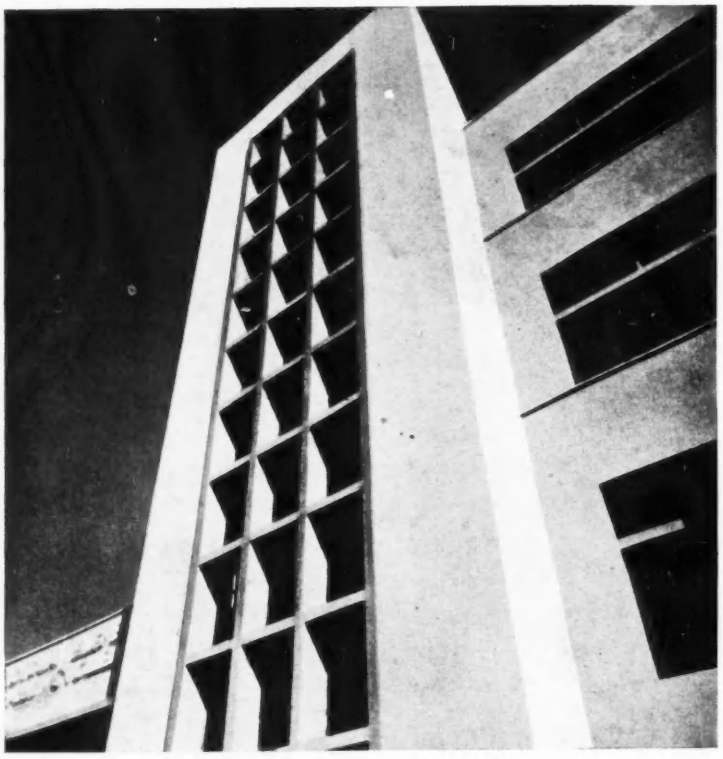
THE NEXT MEETING

On Monday next, at 8 p.m., a general meeting will be held for the purpose of receiving the Scrutineers' Report on the Annual Elections of Council and Standing Committees.

This will be followed by an informal and private discussion on matters of current professional interest or concern.

Royal Sanitary Institute

Fifteen hundred representatives of local authorities and others interested in public health matters will be in Bristol from July 9 to 14 for the Health Congress of the Royal Sanitary Institute. Dr. Stanley H. Badock, Pro-Chancellor of the University of Bristol, is the President of the Congress, and he will deliver his inaugural address on Monday, July 9. The Minister of Health, the Right Hon. Sir Hilton Young, will address a special session of the Congress on "Some Aspects of the Housing Question," on Friday, July 13.



School in Rome by Ignazio Guidi, for the quarter of San Giovanni in Laterano.

L I T E R A T U R E

SPOT-LIGHTS OVER A PLANNED COMMONWEALTH

Belvedere dell'Architettura Italiana d'Oggi. By P. M. Bardi. Milan: Edizioni "Quadrante." Price 15 Lire.

THE editor of that vigorous architectural quarterly, *Quadrante*, has condensed the architectonic film-epic of resurgent Italy entering its second decade of purposeful co-ordination and drastic reconstruction into 36 pages of captionless "stills" faced by as many of text. Vitality and variety such as these illustrations evince, should disabuse anybody who believes that an economically and culturally controlled commonwealth must imply the sort of dead-level mediocrity and monotony which has been described as "Leytonstone into State." Though an enthusiastic Fascist, Signor Bardi is the leading Italian architectural critic of what we should call "the left wing." But he is far too good a showman to conduct us through the usual gallery of "important recent buildings." Instead, he gives us subtly disarranged kaleidoscopic slices from the Fascist scene set off against its architectural background of *Case del Fascio*, new schools, etc.; and punctuated by "close-ups" of its outstanding triumphs of engineering. His theme is the progressive imposition of the discipline of method, plan and forethought on the old *laissez-faire* chaos of rampant individualism, selfish opportunism, and that civic heedlessness of the future which vote-catching has made typical of democracy. His characters are all young men, among whom engineers predominate over architects. One does not need to be a Fascist to salute the magnificent first fruits of this stimulating spectacle of a national volition; or to feel profoundly humiliated that England is only now waking up to the necessity of putting her own house in order.

One startling revelation that is not without pointing a moral much nearer home at once bangs the reader on the head. The most intensely nationalist, historically-minded and politically-united of the nations (for *Gleichschaltung* is an accomplished fact in Italy, not a process of consolidation still in course of achievement) has definitely turned its back on the pompous unrealities of Neo-Augustanism with which the architecture of the Fascist régime was originally identified; and is deliberately integrating itself into the new European tradition of structural sincerity and abstract sobriety. In the Italian Minister of Culture's official letter to the Prefect of Milan on the occasion of the opening of the *Triennale* last spring, there was a significantly "directive" passage:

"The so-called rationalistic style of the twentieth century is no longer to be opposed. It is, on the contrary, to be regarded as the Modern Fascist style, *par excellence*."

Thus, with negligible exceptions, all the numerous buildings Signor Bardi shows us by air or road are embodiments of this official rationalized architecture. Taking off before the immense metallic pylons at the entrance of the "Mostra della Rivoluzione Fascista" in Rome, whose axed summits symbolize how easily red-tape mazes of parliamentary procedure and vested interests can be cut through, given the will to that end, we speed over the spillways of huge hydro-electric and irrigation reservoirs to Florence. Here we dip down to closer views of the unfinished new station—full atonement for that at Milan, of which we are very properly only allowed to see the fine steel roof—and the impressive Giovanni Berta Stadium, designed by the engineer Pier Luigi Nervi. Thence we are transported to the middle of the eleven-mile Apennine tunnel on the new electric Florence-Bologna *direttissima*—arriving in time for a flash-light photograph of the manly embrace of the first two navvies to meet after the last intervening wall of rock had been blasted away. Regaining the air we pass above the "*lingotto*" architecture of Giacomo Matte-Trucco's coloseum-like Fiat factory in Turin, and the vast tenement blocks being built on a truly Roman scale in Milan by the most modern mechanical methods of mass-construction. Here we take to the *autostrade*, crossing the Brothers Damioli's beautiful triple-arched concrete trestle-bridge over the River Oglio *en route* for the new road that zigzags up the Stelvio Pass to the Austrian frontier. From the High Alps we are flashed across to the Ligurian seaboard, and follow its graceful sinuosities along the Via Cassia—more superbly Roman than ever after its realignment, and planted with kilometre-stones that bear the imperial eagle and the lictor's rods—to the model new maritime station at Genoa, with the great Italian liner "Rex" berthed inside the mole of that almost entirely artificially created harbour. Further down the coast we inspect the Ministry of Communications Rest Colony for Railway Workers at Calambrone, near Leghorn; "*Balilla*," at physical training in camp under umbrella-pines; and hundreds of Savoia-Marchetti hydroplanes drawn

up in review formation like unlimbered batteries of artillery. A diagonal flight carries us over reclamation works and record crops of the now demalarialized Pontine Marshes, and the carefully planned new township called Littoria which is destined to be their economic focus. Back in Rome we assist at the various stages of hoisting the gigantic monolith of Carrara marble into position in the centre of the Foro Mussolini: a more intricate and delicate operation than the transport of Cleopatra's Needle from the Nile to the Thames. (Significantly enough, the mouldings and blocks surrounding the word " Dux " on this obelisk are asymmetrically grouped.)

Among many interesting things encountered on our lightning tour of the

Hoisting the Mussolini monolith, in the Foro Mussolini in Rome.

peninsula are Pietro Lingheri's boathouse and nautical club at Tremezo ; Mario Cereghi's petrol-filling station beside the Lake of Lecco ; Vittorio Bonadè-Bottino's now familiar ramped tower hotel at Sestrières, Piero Bottoni and Gino Pollini's small houses in Lombardy ; schools like that for the Lateran Quarter of Rome by Ignazio Guidi, or the Italian colony in Alexandria by Clemente Busiri-Vici ; and the Loutier Chapel of Alberto Sartoris, one of the earliest Italian rationalists. Perhaps the only omission one regrets is the Caduti Monument at Como, which is based on an abstract architectural project of Sant 'Elia, that notable Italian pioneer of functionalism who died in 1916.

This very ably edited album invites a solitary criticism. The quality of the paper often spoils that of the blocks.

P. M. S.

ARCHITECTURE IN VERSE

[*By Francis Lorne*]

Ancient Architecture : a commentary in verse, by the late Chester H. Jones. London : B. T. Batsford, Ltd. Price 15s. net.

ABOUT six years ago, on one of my several visits to New York, a tall, shy young Englishman came to me with a letter of introduction. His name was Chester H. Jones. He told me he had studied architecture at Cambridge and added England, I suppose to differentiate it from Cambridge, Mass., which is Harvard.

He had won a Commonwealth Fund scholarship and had used its advantages to take a post-graduate course in architecture at the University of Pennsylvania in Philadelphia. He had just completed that course and wanted to work in a New York office to gain some practical experience in the profession, but he could not accept any salary on account of certain conditions of the scholarship.

The purpose of his visit was to ask me to do something for him in achieving this end, so I introduced him to my friends, Mayers, Murray and Phillip, who were ably carrying on the traditions of the late Bertram Grosvenor Goodhue for whose work Chester Jones had a great regard. He worked in their office for about a year, after which he travelled extensively in North and Central America, making elaborate studies of early American Architecture, the child of our Georgian, at Charleston in South Carolina. He also made the best collection I have ever seen of photographs of churches and buildings in Mexico.

I had occasion to see him a great deal and was much impressed at one time by his intense seriousness, at another by his playfulness, and again by the well-knit quality of his mind ; but always, no matter the mood, by the realization that here was a young man who would one day do things that would count for something. It was on one of these occasions that he first showed me his rough draft for *A History of Architecture in Verse.* The charm and delight of it, the playful handling of a ponderous subject, the deftness with which he isolated the essentials of the " march of styles " and the manner in which he illustrated them intrigued me so much that I encouraged him to publish them for the delight of all those who have to tread the somewhat arid path of the history of architecture. Some years later I met him again in London. He told me his book was on the way and it seemed only a very short time after I heard he had passed into history himself at a very young age, very young indeed for the quality and maturity of his thinking and drawing.

The writing, the verse and the drawings I saw first in New York, have had the luck to fall into the good hands of Batsford's and have now taken form in this book. It is, as one might expect, very nicely presented, and runs to about 200 pages, profusely illustrated. Chester, who must have been one of the most interesting and amusing guides who has ever lived, takes us through the early periods of the world's architectural history, opening up vista by vista and revealing them as I am sure they have never been revealed before.

Of the Prehistoric he writes :—

I think I shall be right in intimating
That we are both persuaded and agreed
That prehistoric art was hesitating,
Its first endeavours primitive indeed.

* * *

Yet, in these works, we surely find
Expression of advancing mind.
Man now has tools, his feet are shod,
The pathways from the past are trod.

Of the Egyptian :—

Here, partly hid, beneath a burning sky,
The fragments of remote antiquity
Bask in the sand.

* * *

Egypt, first-born child of art,
Teaching the elements of art to Greece.

* * *

She died, in sorrow, on an upper shelf,
The death of one who lives upon himself.

Of the Oriental :—

This Western Asiatic art—
Of perishable stuff—
Her bricks are now a powdered part
Of sandy plains. Enough
Remains for us to understand
The course of war and peace.
The parallels with Egypt and
The influence of Greece.

* * *

Prolonged destructiveness of war
Restrains accomplishments of peace.
We turn with pleasure to explore
The rising harmonies of Greece.

Of the Greek :—

The Doric style, in its severe restraint,
As fittingly expressing the ideals
Which marked the rise of Athens.

* * *

—Athens spread her art throughout the land
As, later, Greece, no more confined at home,
Conquered her conqueror with culture and
Attained the utmost boundaries of Rome.

And of the Roman :—

The chief contribution of Rome,
As explained in this tedious tome,
Was the skill to combine
In a single design
The arch, vault and column, with dome.

Each racial period is preceded by an imaginative map. Geographical ? Yes,

but also replete with drawings graphically illustrating as nothing else can, the essential features and local character of the time and place. This is followed by a chronological chart which gives in a page so that "one who runs may read," the main subdivisions, the rise, the flower and the decline of the civilization, its dates in history, its great men, its kings and its accomplishments in building. This is followed by the story of the period in free and easy and oft-times witty verse, revealing the cryptic principals of its architecture in an incisive manner, perhaps all the more so on account of the simplicity of the handling and the maturity of the thinking. The verse is interspersed with the cleverest of drawings illustrating the works of the race.

The book terminates with an excellent glossary of architectural terms. A glossary is usually heavily technical but, thanks to Chester Jones, this time it is delightfully direct and simple.

What a pity the Gods intervened and took him away. It would have been immense fun to travel with him through the Gothic and Renaissance ramifications of Western Europe; but it was not to be, and we can only imagine something of the fun this would have been from his introduction which must be almost the best short histories of architecture ever written. The delicate but fearless way in which he steps from what we call traditional to contemporary architecture is so good that we can believe he would have brought a great sanity into this present somewhat painful stage of transition.

"It is to be hoped," he says, "that the days of dilettantism are passing and that the increasing demand for buildings fit for their purposes will in the future cause architectural form to be resultant in more radical motives than the archæological prejudices of the architect. Then we can expect an architecture which takes true cognisance of the purposes which it serves, of the materials of which it is built and of the social conditions which engender it—a civic architecture based on the requirements of the people and not solely on the individual preference. This will be an architecture of cities instead of conflicting store-fronts and the architect who builds it will have studied the present in all its contingencies and the past in relation to the age which built it. In such a spirit only can we profit from the study of antiquity."

Surely the trend of contemporary architecture has never been better or more briefly indicated than this. His book is very stimulating and well worth reading, whether one is an amateur or a professional architect. His ideas will live after him, let us hope, much longer than his natural life could have run.

STEELWORK UNDER THE NEW CODE

(*By Richard Langley, A.M.I.Struct.E.*)

Examples of Steel Design under the New Code of Practice. By Oscar Faber, O.B.E., D.SC., M.INST.C.E., M.I.STRUCT.E., F.C.G.I., HON. A.R.I.B.A., etc. Oxford University Press. Price 7s. 6d. net.

DR. OSCAR FABER'S eminence as an engineer can be understood by any reader of this book. Here is no pedantry, no unnecessary mathematics; in fact no mathematics at all. Like its forerunner, *Constructional Steelwork Simply Explained*, it explains the design of steel framed buildings; this time in the light of the new Code of Practice. It is an armchair book—for first reading at least. Though there is no mathematics there are calculations, but they are carried through with such a mastery of exposition that the reader will not find himself taking even his slide rule to follow them. Like all popular books (popular in the better sense) dealing with difficult problems many things must be taken for granted. Where formulæ are thrown in without explanation there is usually some indication of their origin so that the unversed student may study them for himself at some more convenient time.

After a brief review of the Code of Practice the succeeding chapters deal with the design of plain and plated beams, plate girders, stanchions, wind design, riveted connections, and single storey buildings; all by means of worked examples and illustrated by most clear detail drawings and diagrams. And, after summing up the effects of the Code on design, the book concludes with a reprint of the Code in full.

In the preface the author expresses his opinion that the Code will be adopted in places other than London. Surely, the Code being intended as a basis for waivers under Section 58 of the London Building Act, 1930, some other regulations are desirable in other parts of the country. In B.S.S. No. 449-1932, there is already a specification which in the main is identical with the Code but more explicit on the whole. This is a more suitable specification for districts not yet encumbered with laws as obsolete as the London Building Act.

The previous appearance of the chapters of this book in the form of a series of articles is perhaps the reason for a chapter on ordinary riveted connections separating two on wind resistance and design.

While the treatment of plain and plated beams follows the usual method of using the section modulus Dr. Faber has taken advantage of the ability to design plate girders by means of moments of resistance, a much more simple and straightforward method. The eccentric loading of cleats and brackets is similarly dealt with. Had this method come my way twenty years ago I should have been saved many hours of painful study.

There is more than one opinion on the correct method of deciding the rivet pitch in plated girders, and I will not presume to criticize the author for his preference. I will only say that I should suffer no sleepless nights if an $18 \times 10 - 120\frac{1}{2}$ lb. compound spanning 24 ft. and carrying a uniformly distributed load of 45·1 tons were made with $\frac{3}{4}$ in. diameter rivets pitching 6 in. instead of the 4 in. given in the example.

The most interesting part of the chapter on stanchion design is the explanation of the F_2 formula, a formula which has puzzled many young designers. In dealing with eccentric loads on stanchions Dr. Faber has assumed that bending moments due to these may be split in the manner stated in clauses 43 and 44 of the Code. Let no one be misled; the district surveyors will have none of it.

The Code specifies no method of designing buildings to resist horizontal wind pressure. The author gives an exposition of a method which while following none of those more generally known is perfectly logical. At the same time I believe he has overlooked the cumulative overturning couple from the upper floors when explaining the design of stanchions. I wish that he had shown the connection of the first floor beam to the web of the external stanchion, but no doubt space forbade.

The chapters on shed buildings are wholly admirable and the design of the knee-braced truss is shown most clearly.

This book, whilst being as already stated one for the armchair, should also be kept at hand when work is toward. There are numberless points on which it will give a ruling where doubt exists. Maybe the angles suggested for seatings are heavier than economical design would demand, but no one following this book can go far wrong in the matters with which it deals. Produced by the Oxford University Press, the paper and type are of a quality uncommon in technical books. I have detected only one misprint. The reference on line 10 of page 96 should be to clause 35e not 35c.

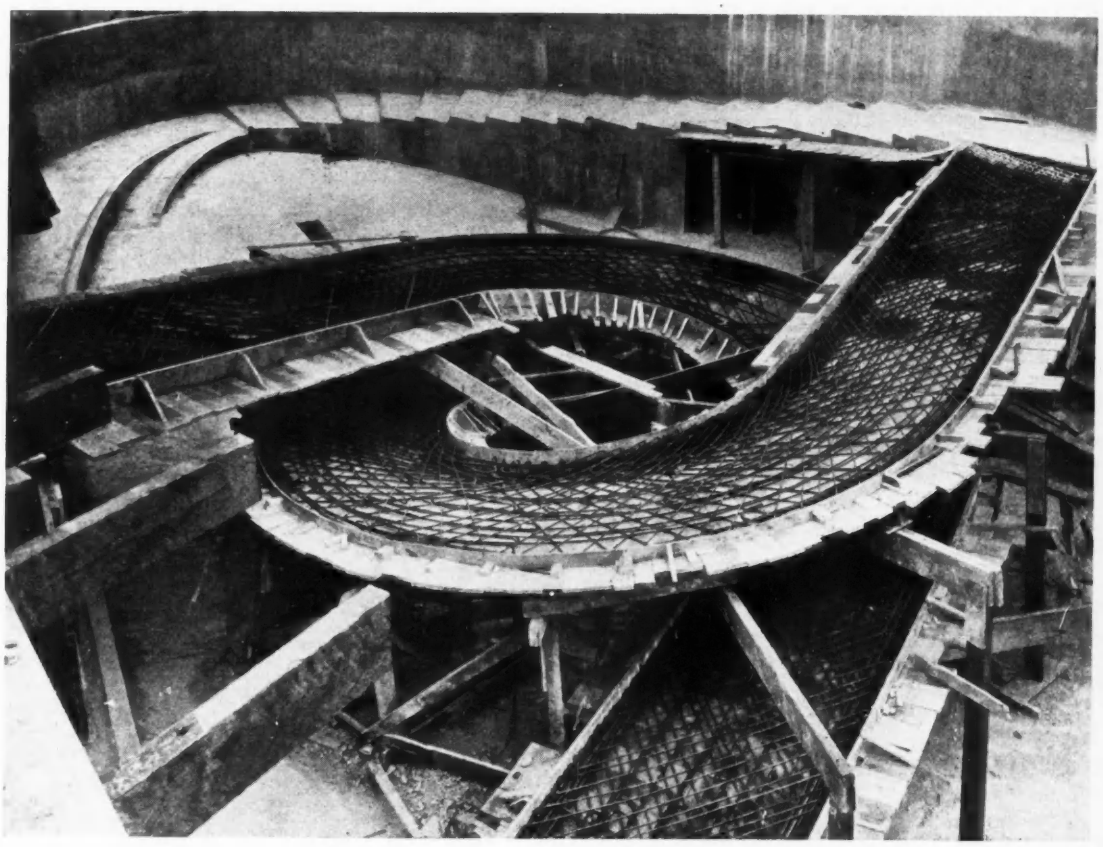
Publications Received

English Furniture. By JOHN GLOAG. London: A. and C. Black. Price 7s. 6d.

The Cathedrals of England. By HARRY BATSFORD and CHARLES FRY. London: B. T. Batsford, Ltd. Price 7s. 6d.

WORKING DETAILS : 65

R.C. RAMPS • PENGUIN POOL • LUBETKIN, DRAKE & TECTON

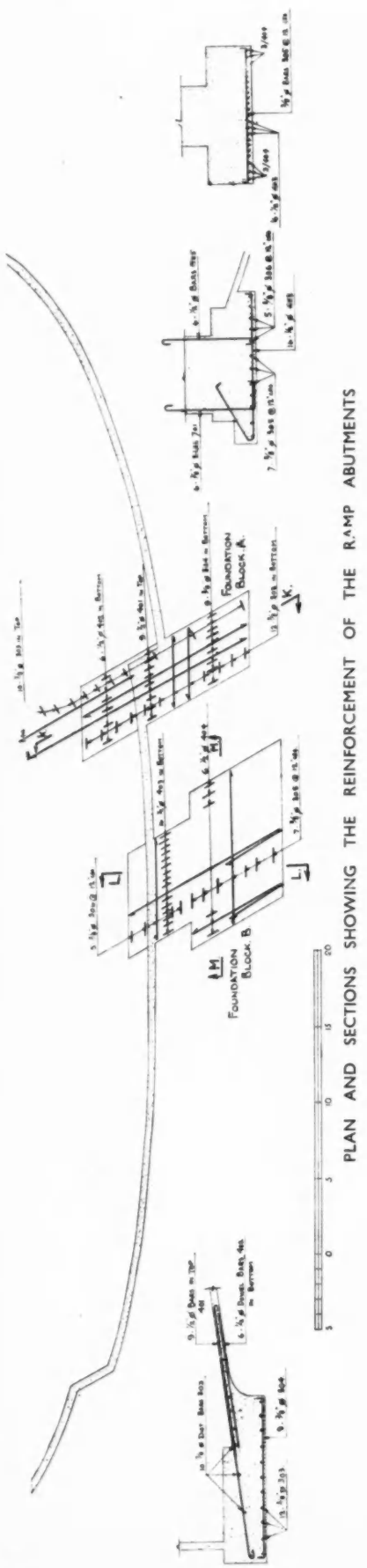


This illustration shows the shuttering and reinforcing rods of the spiral ramps in position before the pouring of the concrete. The ramps have a total unsupported length of 46 ft. and a width of 4 ft., the thickness varying from 6 ins. on the inside to 3 ins. on the outside, this variation producing a considerable reduction in the weight of the ramps themselves. They are designed to carry a load of 20 lb. per square foot, the equivalent of 24 people distributed along each ramp. Since the ramps are not true spirals, the calculations were extremely complicated, each section being subjected to bending moments in vertical and horizontal planes, a torsion moment, and two shearing and one axial force: it was necessary to go into the distribution and effect of all these forces before it could be shown that the ramps would stand up to their loads. The construction, details of which are given overleaf, does not come under the London Building Act.

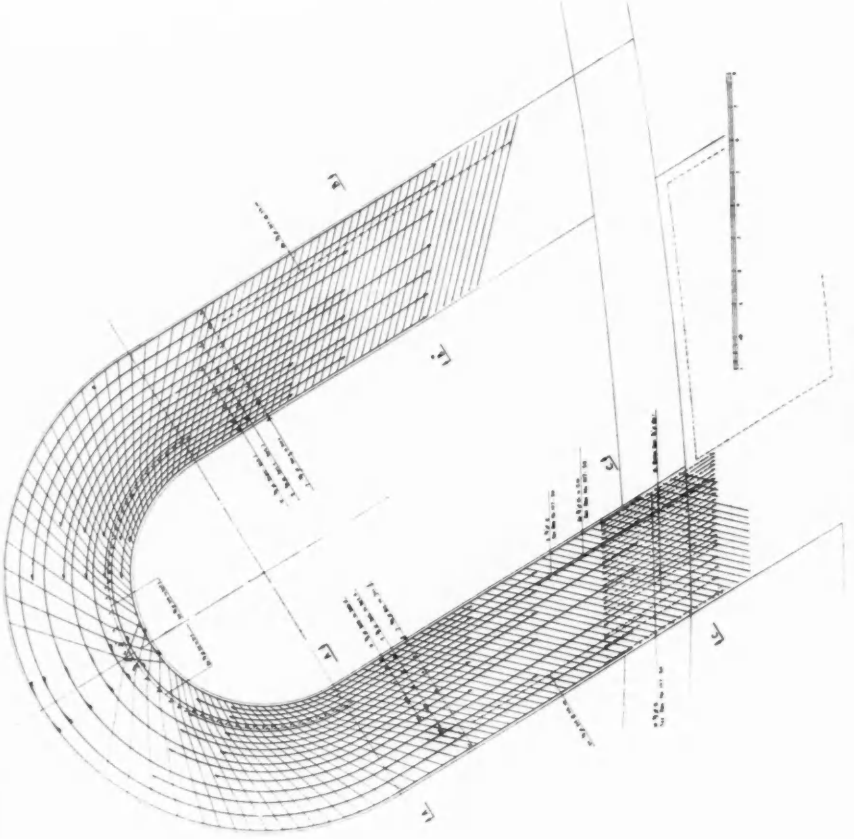
FILING REFERENCE:

WORKING DETAILS : 66

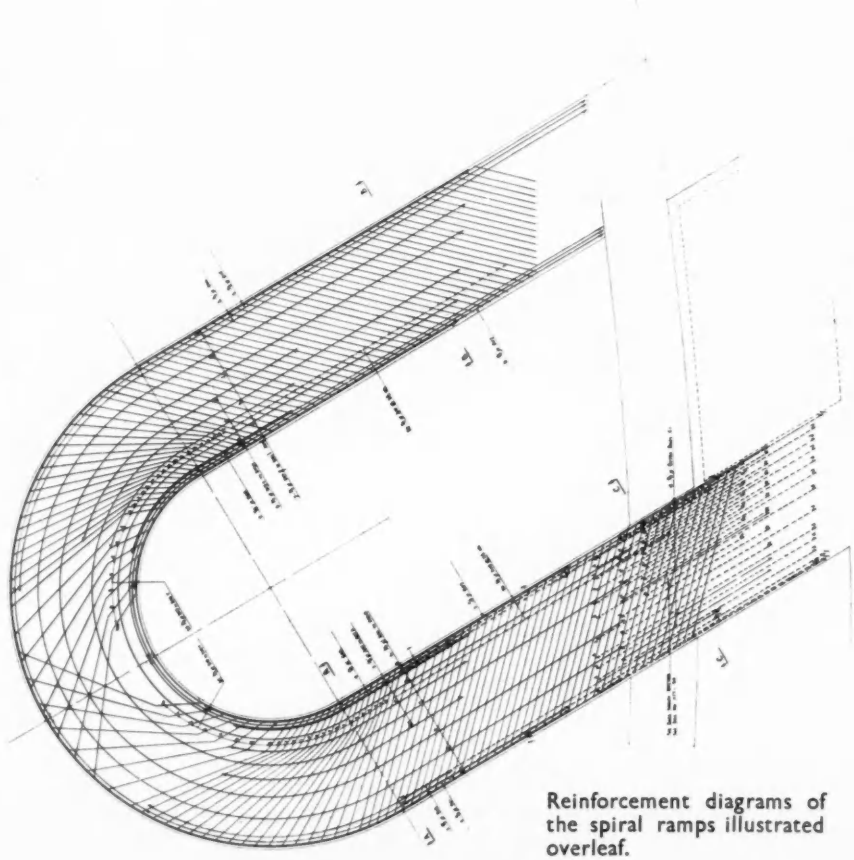
R. C. RAMPS • PENGUIN POOL • LUBETKIN, DRAKE & TECTON



PLAN AND SECTIONS SHOWING THE REINFORCEMENT OF THE RAMP ABUTMENTS



REINFORCEMENT (BOTTOM)

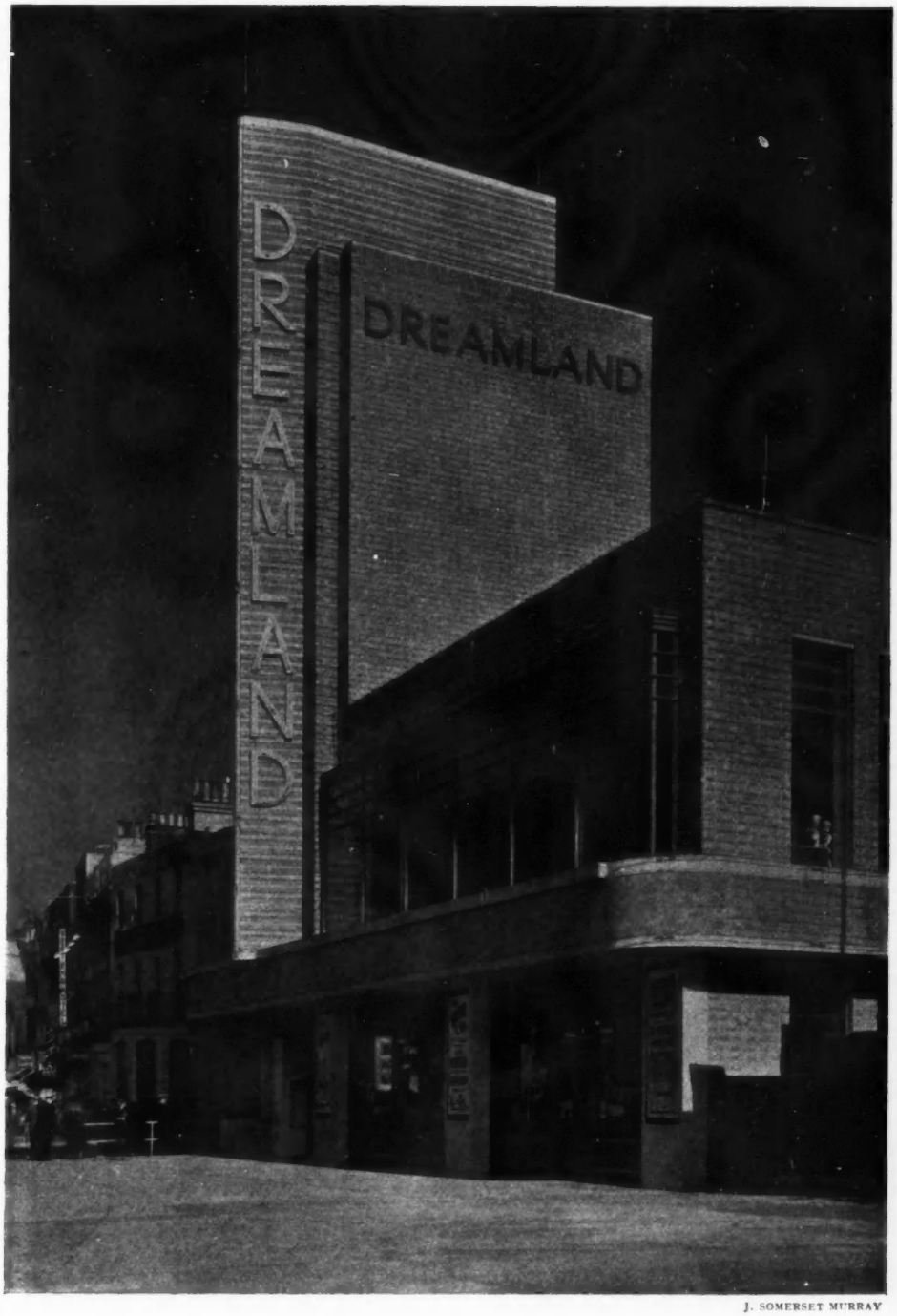


REINFORCEMENT (TOP)

Reinforcement diagrams of the spiral ramps illustrated overleaf.

WORKING DETAILS : 67

CAFÉ AND BAR • MARGATE • J. B. ILES, LEATHART & GRANGER

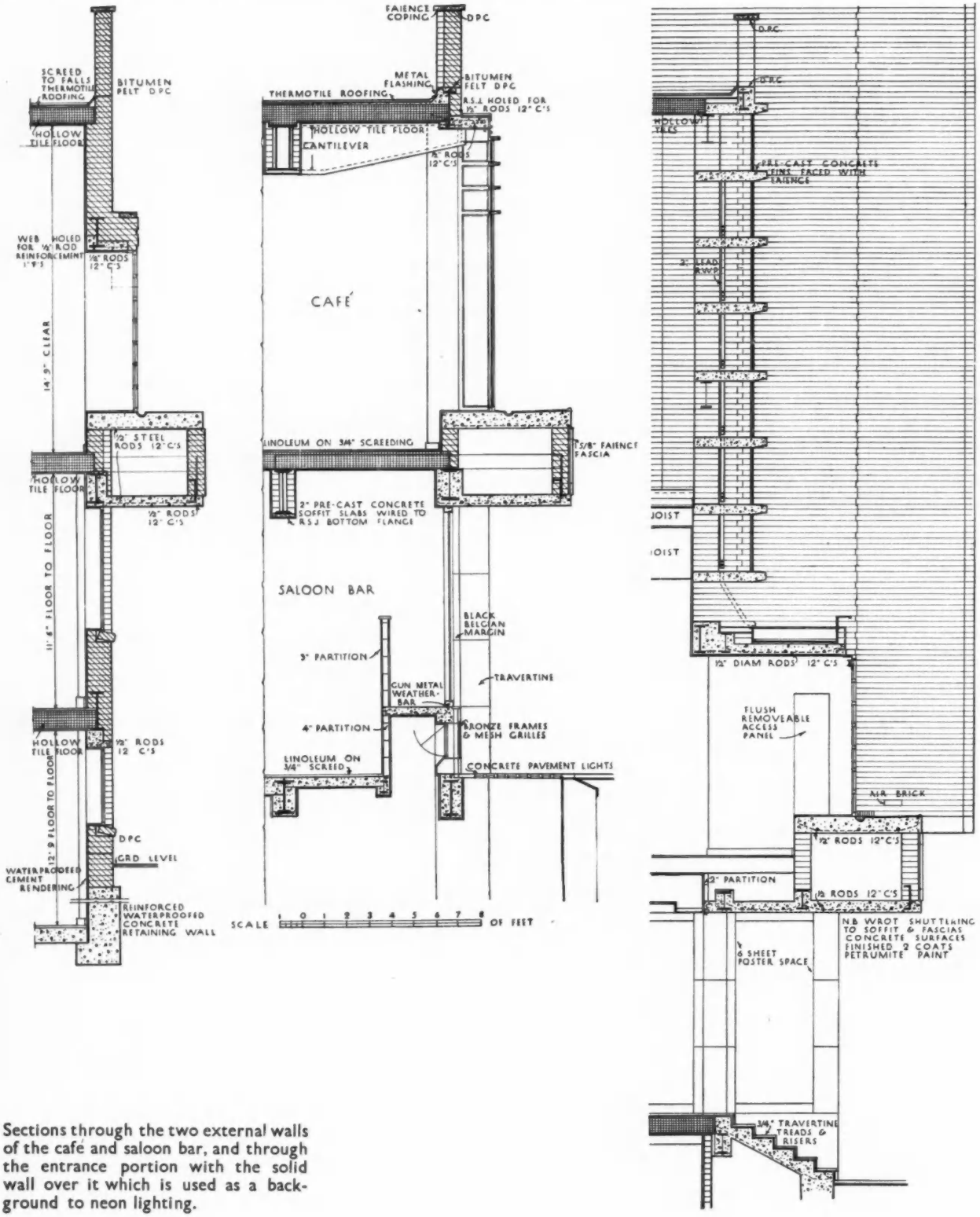


J. SOMERSET MURRAY

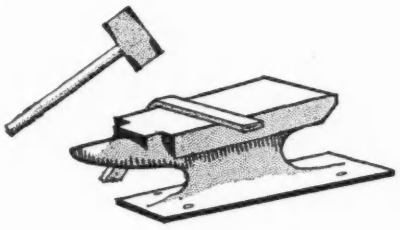
This photograph shows a general exterior of the building with the large windows of the first floor café and the tower beyond it. The tower is used as a permanent display feature, with signs illuminated at night. Sections through the external walls are given overleaf.

WORKING DETAILS : 68

CAFÉ AND BAR • MARGATE • J. B. ILES, LEATHART & GRANGER



Sections through the two external walls of the café and saloon bar, and through the entrance portion with the solid wall over it which is used as a background to neon lighting.



TRADE NOTES

[BY F. R. S. YORKE, A.R.I.B.A.]

Concrete Roads

IN the current edition of *The Concrete Year Book* there are 260 pages of unusually clearly written notes on concrete construction, including sections dealing with cement, aggregates, reinforcement, forms, joints, piling, foundations, guniting, and cementation, surface treatment, reinforced concrete design, and concrete roads.

•

Of the total mileage of concrete roads constructed in the British Isles in 1932, we are told 74 per cent. was designed with expansion joints, 16 per cent. was of alternate bay construction, and 10 per cent. was laid continuously without joints, that in the latter category principally in the North.

•

Factors essential to a satisfactory road are :

(1) Reasonably uniform and stable foundation.
(2) Strength of slab sufficient to support loads.
(3) Surface capable of withstanding wearing effects of traffic of all types.
(4) Ability to withstand varying temperatures and climatic conditions.
(5) Good riding qualities.

•

Foundation.—The principal causes of failure under a concrete road surface are insufficient consolidation of the formation and inadequate drainage.

•

The concrete slab is not designed to support the load unaided, and so protect the formation from pressure, but to distribute the load over the formation, so that high intensity of pressure on the road surface is reduced to an intensity the formation can withstand. Precautions are taken to ensure the nature of the formation will not be altered by moisture after the road is laid.

•

Strength of Slab.—Generally thicknesses of concrete roads are not less than

6 in. in residential areas ;
7 in. in town work ;
8 in. in main roads.

•

Wear.—Sound materials are essential. Cement should be best quality British Portland, aggregates should be clean and sharp, tough and roughly cubical in shape. Sometimes a hard and wearing aggregate, being more expensive, necessitates construction in two courses, with a cheaper aggregate in the lower course. Mixing water should be only sufficient to produce a workable plastic concrete. Mixing and tamping must be thorough, and the concrete should be properly protected and cured as soon as it is laid.

•

Concrete may be damaged, and its life shortened, if traffic is permitted too soon. Consequently rapid-hardening Portland cement is now almost universal for road work, since it will take traffic safely within four days of laying in summer, or within seven days in winter.

•

Climatic Conditions.—Provision must be made for expansion and contraction of concrete in hot and cold weather, and for the effects of varying humidity. Briefly, space should be left at intervals so that the concrete can expand, and careful consideration should be given to design and materials for use in a particular district.

•

Riding Qualities.—Not all roads that are satisfactory in resisting wear, make ideal running surfaces. If a road is laid on the alternate bay system, with joints near together, the slightest variation of level at the joints will tend to induce vibration in a passing vehicle. It is not a simple matter to ensure identical level in the surfaces of adjoining bays. There is always a tendency for bays laid first to be a little lower than the others, and though such differences may be imperceptible to the eye, regular repetition is liable to set up periodic vibrations in the springs of a vehicle at certain critical speeds.

•

In a road constructed continuously, with expansion joints at intervals, there is a tendency for an undulating surface to be formed behind the tamper after the finishing of the surface has been completed. This, together with carelessly made joints, gives poor riding qualities. A 5 ft. smoothing board, and careful checking with a straightedge, provides a successful and economical means of overcoming this difficulty.

•

Concrete provides a non-skid surface, because the coarse and fine aggregates are in themselves gritty. The breaking power provided is exceedingly high, and the coefficient of friction is not greatly reduced when the surface is wet. The use of a steel trowel should be prohibited, since, apart from other undesirable features, a steel produces a smooth skin of cement which is dangerous in wet weather.

Putty

Docker Brothers have recently taken over the rights for the manufacture of Stopstara glazing compound, and are now able to offer this material as a British-made product. It is already well known abroad as an efficient and satisfactory glazing compound for steel casements.

•

Ordinary putty is said to be subject to the following defects in glazing steel casements :

1. As steel has a non-absorbent surface, ordinary putty will not adhere satisfactorily to it.
2. It remains soft indefinitely.
3. It cannot be painted over, and often runs to wrinkles, shrinks, and exudes oil. Red lead putty and similar mixtures often

Reinforced concrete road with reinforced concrete footpath.

crack in drying and separate from the steel channel and glass, thereby letting in moisture.

•

Stopstara, I am told, will overcome all the above defects. It works easily and smoothly, and finishes clean and level. It is packed in 22 lb. tins, containing 20 lb. glazing paste and an inner tin of 2 lb. hardening paste. The 2 lb. of hardening paste is exactly the quantity to be mixed with 20 lb. glazing paste, and the method of mixing is to knead it into and through the glazing paste immediately before use. This material will then harden in a few hours, so that only sufficient quantity required for immediate purposes should be mixed. The material costs 10s. per tin up to 25 tins; and is cheaper in larger quantities. Five tins equal approximately 1 cwt.

University of Manchester

The Manchester City Council is again offering a number of scholarships tenable in the Faculty of Technology of the University of Manchester. Successful candidates are required to follow a full-time course leading to the degree of Bachelor of Technical Science in the College of Technology. Candidates must have passed, or be exempt from passing, the Matriculation Examination of the Joint Matriculation Board of the Northern Universities, and must also be qualified to enter upon a Higher Course.

Candidates not qualified to enter upon a Higher Course will be eligible to apply for a Maintenance Allowance to enable them to take an Ordinary Course.

The scholarships will be open to part-time day or evening students in the College and others whose parents are ratepayers of the city. In the event of there not being sufficient Manchester students available or suitably qualified for the Scholarships, the Committee may offer the scholarships to suitably qualified students resident outside the Manchester City area.

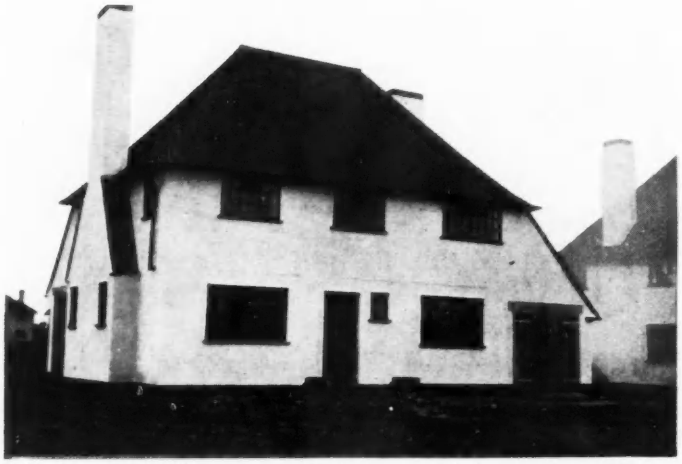
Forms of application and all information may be obtained by written application to the Registrar of the College of Technology. Completed forms of application must be received on or before June 20, 1934.

Wales—A Backward Country

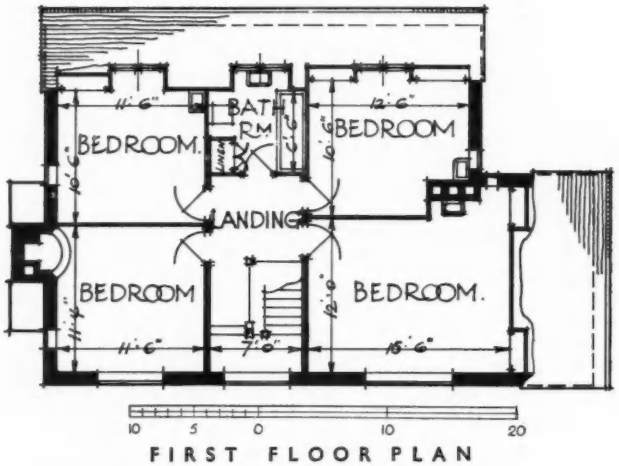
Mr. Clough Williams-Ellis, F.R.I.B.A., speaking at the opening of an art exhibition at the Technical College, Cardiff, last week, said :

" Wales undoubtedly is one of the most backward countries in the world as regards architecture, and it would seem that we are impervious to visual art generally. I travelled 200 miles through eight Welsh counties to come here today, but I only saw three or four examples of new buildings of which I was not heartily ashamed. There were exceptions in Brecon and a new telephone exchange at Lampeter. This is all very tragic and I hope that the Cardiff School of Art will alter this in the years to come."

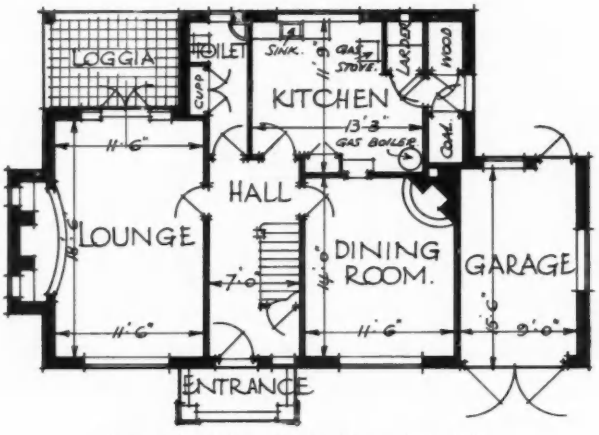
HOUSE AT MIDDLETON



This house at Middleton, Bognor Regis, was erected for a total cost of £850. Construction is in 11 in. hollow brick walls, rendered on the outside in a buff colour, with tarred plinth and roof of hand-made tiles. Bonnet tiles are used for hips and the dormers have tile-hung cheeks. All windows are metal casements with quarry tile cills throughout.



FIRST FLOOR PLAN



GROUND FLOOR PLAN

DESIGNED BY G. A. BRYAN

QUESTIONS THAT ARISE

Septic Tank

¶ B. writes: "*I have to design a septic tank for sewage disposal for a small bungalow (4 rooms and kitchen, with probably only two or three inhabitants), and I should be grateful if you would inform me if the following arrangement would be satisfactory: I propose to construct a settling tank about 5 ft. by 4 ft. by 3 ft. deep from inlet, built of 4½ in. brickwork, rendered, this tank overflowing into a second tank about 5 ft. by 4 ft. by 1 ft. 6 in. deep, having about 1 ft. deep layer of breeze on 6 inches of brick rubble, the effluent from the bottom of this tank passing through a rubble-filled trench to a neighbouring ditch. The local Council Surveyor has no regulations to guide me, and does not object to anything so long as no nuisance is caused. Should the tanks be covered with concrete with inspection covers, or left open, or covered with removable wooden covers? A section (Figure 1) of the proposed work is enclosed.*"

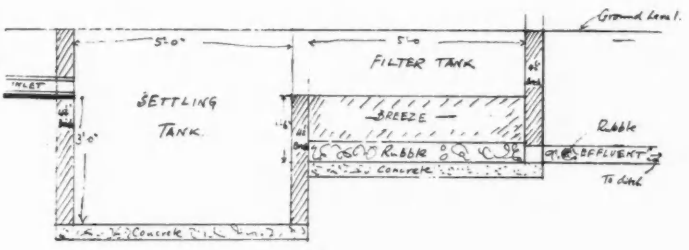


Figure 1

The system usually adopted for the disposal of sewage for small communities is shown on the sketch (Figure 2). The sewage from the house drains to a septic tank, in which the solid matter is reduced to liquid and gases by the aid of an ærobic bacteria.

For large installations, the capacity of the septic tank should be equal to one day's flow of sewage, but for small schemes the tank must be proportionately larger. In the present case the quantity of sewage would not exceed 100 gallons per day and the septic tank should have a liquid capacity of about 300 gallons.

The liquid, after leaving the septic tank, must pass through a filter bed consisting of clinker, breeze, coke or any clean hard material broken to about half-inch mesh, which is supported on about 6 inches of larger material at the bottom of the bed. The object of the filter is to oxidize the organic substances in the sewage by the aid of ærobic bacteria which readily thrive on the surfaces of the clinker.

It is essential that the liquid should be evenly distributed intermittently over the top of the filter, and this may be done by providing an automatic tipper and distributing channels. The tipper, which may be made in galvanized sheet iron and fitted with an iron spindle at each end, is so constructed that, when empty, it stands in a vertical position, but when nearly filled with liquid it overbalances, discharges the contents into the distributing channels and returns again to its original position. The channels may be of galvanized sheet iron, and must be perforated on either side with holes about 3-16 in. diameter and 3 in. apart to ensure even distribution.

N. H.

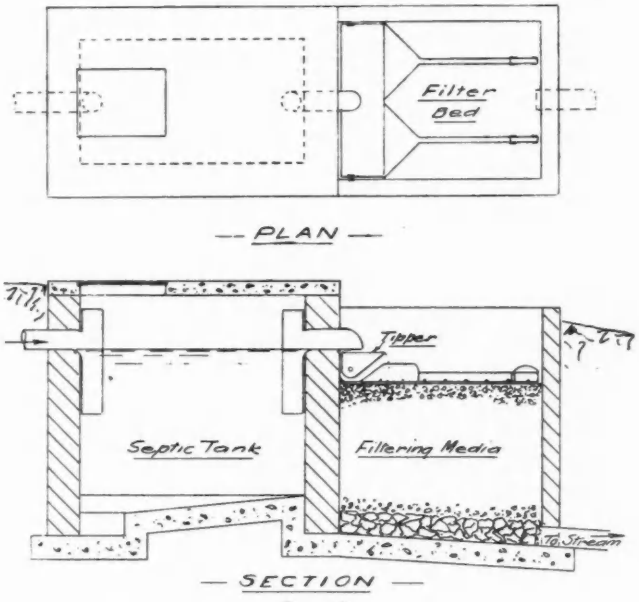


Figure 2

Brick Joints in Models

¶ C. S. writes: "*I am anxious to obtain information on the subject of brick facings for architectural models of ¼ in., ½ in., and other scales. The difficulty, of course, is to form pronounced joints on the face of a model which in the case of ¼ in. scale are only 1/16 in. apart horizontally, and the perpends 3/16 in. at the outside. I should like, if possible, to form the joints slightly recessed in plaster or any other suitable material.*"

One good way of doing this is to give the model a thick coat of brick-coloured distemper on a cream or white base, and to mark the joints by scoring them with a sharp ruling pen set to joint width. This cuts out the distemper exposing the base. This works quite well for bed joints, but any method of fully indicating vertical joints will be needlessly laborious. A few patches fully jointed by cutting-out in this way will probably be sufficient to give the effect.

E. G.

LAW REPORTS

ARCHITECT'S CLAIM FOR FEES

Walter v. Moore—King's Bench Division. Before Mr. Justice Finlay.

THIS was an action by Mr. Joseph Edward Walter, an architect residing at Paignton, Devon, against Mr. George Moore, of the Sandringham Hotel, Hastings, to recover £372 for professional services rendered in connection with the proposed demolition and reconstruction of the Sandringham Hotel, at Pelham Crescent, Hastings.

Mr. Slade appeared for the plaintiff and Mr. Caswell for the defendant.

Mr. Slade said that in August, 1932, plaintiff received instructions from the defendant to prepare plans and drawings for the reconstruction of the premises.

As the plaintiff lived in Devon, Mr. Buck, also an architect, who lived at Brighton, gave the plaintiff his assistance. However, in October, 1932, the whole scheme was revised by reason of the willingness of an adjoining owner to bring his premises into the scheme. No charge was made for the work done in connection with the original scheme, but plaintiff's case was that he was to be paid 1½ per cent. under the R.I.B.A. scale upon the estimated cost of the building, £24,800, under the second scheme.

The defence was an admission that plaintiff was instructed in August to make plans and drawings and that in October he was instructed to prepare a revised scheme, and the plaintiff did a certain amount of work. Defendant's case was that plaintiff agreed to do the work upon the basis of payment for out-of-pocket expenses.

Mr. Slade said the plaintiff's reply to that was that there was not one word of truth in any such arrangement or agreement, and counsel submitted that the correspondence would show that their suggestion was inconsistent with the ideas of the parties.

Plaintiff gave evidence in support of his case and also called other evidence.

Defendant gave evidence and denied that plaintiff had made any sketches or plans at his request. Not a word, defendant declared, was ever mentioned about plaintiff getting certain fees for his work. All he understood plaintiff agreed to was to have his expenses. When he received plaintiff's account defendant said he wrote plaintiff that the arrangement was that plaintiff should have out-of-pocket expenses. Defendant declared that he never agreed to the R.I.B.A. scale, neither did he appoint plaintiff his architect.

Mr. K. F. Ray, A.R.I.B.A., of Henry Ward, Son and Ray, Hastings, gave the opinion that a fair and reasonable remuneration for the work done was £75.

Other evidence was given for the defence.

His Lordship, in giving judgment, said he came to the conclusion that the plaintiff was right as to the agreement made between him and the defendant as to the remuneration plaintiff was to be paid for his work. He thought that the pleaded defence failed and failed entirely, and that plaintiff was entitled to the full amount of his claim. He accordingly gave judgment for the plaintiff for £372 with costs.

His Lordship granted the defendant a stay of execution on terms, with the view to an appeal.

DELABOLE SLATE

Old Delabole Slate Co., Ltd., v. the North Cornwall Brick Co., Ltd.—Chancery Division—Before Mr. Justice Eve.

IN the Chancery Division recently Mr. Justice Eve had before him the action of Old Delabole Slate Company, Ltd., against the North Cornwall Brick Company, Ltd., on a motion for judgment.

Counsel for the plaintiff company said they were asking for an order in accordance with certain agreed minutes. It was a passing off action. The plaintiffs set out their title to quarries in Delabole, and they claimed that "Delabole" or "Old Delabole" was their trade name or names for slates from those quarries.

Mr. Burrell, for the defendants, said he agreed to the order asked for.

Mr. Justice Eve: This is a trial of the action?—Counsel said that was so.

His Lordship said there would be judgment for plaintiffs in accordance with the agreed minutes.

IN PARLIAMENT

[BY OUR SPECIAL REPRESENTATIVE]

Memorial to Pavlova

In reply to Sir Gifford Fox, Mr. Ormsby-Gore, the First Commissioner of Works, said he understood that an international appeal for the funds necessary to provide a memorial to the late Anna Pavlova would shortly be made. He had been asked to allow its erection in one of the royal parks, and had come to the conclusion that the centre of the Rose Garden in the Inner Circle Garden, Regent's Park, would provide an admirable setting. Both the site and the proposed memorial, which would take the form of a fountain, designed by Professor Carl Milles, of Stockholm, had been approved by the Royal Fine Art Commissioners. He would like to add that he deeply appreciated the proposed gift of the fountain by a sculptor of world-wide reputation, not only for itself but also as a memorial to one whose art and personality gave enjoyment to so many thousands of our countrymen.

Earl Haig Memorial Statue

Lieutenant-Colonel Moore asked the First Commissioner of Works if he would state the present position in regard to the Earl Haig memorial statue; whether he was satisfied with the progress made; and when it was anticipated the statue would be completed and erected.

Mr. Ormsby-Gore said that the full size model in clay was nearly completed and he had no reason to be dissatisfied with the progress made. In matters of this kind it was not always possible to adhere rigidly to a pre-arranged programme. Consequently, he was not in a position at present to say when the monument would be erected.

Sir W. Davison asked if the llama-like neck of the charger in the original sketch, to which exception was taken by so many people, had been reduced, so that the neck was now more in character with that of an ordinary charger.

There was no reply.

St. John's Lodge

Mr. Remer asked the First Commissioner of Works whether he was aware that the future use of the main fabric of St. John's Lodge, in the Regent's Park, had been under discussion for at least seven years; would he come to a decision during 1934 as to whether the derelict main fabric was to be demolished or utilized; and would he state what was the obstacle to his arriving at a decision in 1933.

Mr. Ormsby-Gore said he was aware that the future use to which St. John's Lodge might be put had been under consideration for some years, and, while several proposals had been discussed, the unsuitability of the building for official purposes, and the capital cost of any conversion being large, had so far proved obstacles in the way of a solution of the problem. It was possible that the building, which was not without some architectural interest, might be utilized for a museum, but failing this he might have to contemplate its complete removal.

Manufacturers' Items

Messrs. W. T. Henley's Telegraph Works Co., Ltd., of Holborn Viaduct, E.C.1, have just issued a booklet dealing with soil heating cables, entitled *For Increased Production*. The booklet should prove of special interest to electrical engineers and contractors in rural areas. The many advantages of soil heating by electricity are set out in detail, and it describes fully, with diagrams, the type of cable used and the method of installing in hot houses, garden frames, etc. A special section is devoted to thermostats for keeping the heat constant.

THE BUILDINGS ILLUSTRATED

Sub-Contractors' List

Following are the names of the general contractors and some of the sub-contractors for the buildings illustrated in this issue :—

Penguin Pond (pages 856-859). General contractors, J. L. Kier & Co., Ltd. Sub-contractors: Burlington Slate Quarries, slates; Pilkington Bros., Ltd., glass; North British Rubber Co., Ltd., rubber flooring; Williams and Williams, Ltd., door furniture; Steelway, Ltd., metalwork; Stic B. Paint Sales, Ltd., paint.

"Dreamland," Margate (pages 866-869). General contractors, Rice and Son, Ltd. Sub-contractors: London Brick Co. and Forders, Ltd., bricks; Banister Walton & Co., Ltd., steelwork; Diespeker & Co., Ltd., patent floors and terrazzo steps; D. Anderson and Sons, "Thermotile" roofing; Higgins and Griffiths, Ltd., and Wingfield Bowles and Partners, electrical installation; Claude-General Neon Signs, Ltd., Neon signwork; H. W. Dutton & Co., Ltd., heating and ventilating; James Walker, fibrous plaster work; Campbell Bros., Ltd., painting and decorating; Doulton & Co., Ltd., faience work and sanitary fittings; James Gibbons, Ltd., casements and door furniture; Luxfer, Ltd., cast iron bay window to café; Fenning & Co., Ltd., marble work; C. Harvey & Co., and Fredk. Jukes, decorative metal work; Troughton and Young, Ltd., and C. Harvey & Co., electrical fittings; J. and E. Hall, Ltd., lifts; W. J. Furse & Co., Ltd., lightning conductors; J. A. King & Co., Ltd., concrete window to café and pavement lighting; Pearson Bros. and Campbell, concrete steps; H. Lazarus and Son, Ltd., linoleum floor covering; Jefferriss, Ltd., parquet flooring; Gaskell and Chambers, Ltd., bar fittings; General Asphalte Co., Ltd., asphalte; R. I. W. Products, Ltd., waterproofing; Walpamur, Ltd., paint and distemper; Walpole Champneys, mural decorations and interior colour scheme; Pressure Piling Co., Ltd., concrete piling; Merryweather and Sons, Ltd., fire mains and hydrants.

House at Bognor Regis (page 878). General contractors, A. V. Greenfield. Sub-contractors: Newall & Co., electrical work; T. A. Harris, Ltd., sanitary fittings; Crittall Manufacturing Co., casements.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILE RADIUS)

ENFIELD. *Houses.* New Ideal Homesteads, Ltd., propose to erect 132 houses in the vicinity of Napier Road.

ENFIELD. *Houses and Factory.* Plans passed by the U.D.C. : Two houses, Cedar Road, for Mr. Geo. P. Walker ; four houses, Cypress Avenue, for Mr. Chas. V. Cable ; 10 houses, Clay Hill, for Messrs. Seymour, Crouchman and Sons ; 210 houses, Enfield Town estate, for Messrs. W. Goodchild & Co. ; 14 houses, Gilbert Street, for Messrs. Bethell and Swannell ; four houses, Fyfield Road, for Mr. G. H. Beech ; factory, Bridge Works, Southbury Road, for Mr. C. R. Belling ; two houses, Lancaster Avenue, for Messrs. Noel Bros. ; three shops and houses, High Street, Ponders End, for Messrs. Montago Holmes and Son ; 25 houses, off Clay Hill, for Mr. E. W. Palmer.

FINCHLEY. *Houses.* Plans passed by the Corporation : Seven houses, Crooked Usage, for Messrs. Golders, Ltd. ; two houses, Aylmer Road, for Messrs. Kingstons, Ltd. ; two houses, Kingsley Way, for Mr. L. C. Gibson ; 39 houses, Abbots Gardens, for Messrs. Comben and Wakeling ; two houses, Lichfield Way, for Coombs Construction Co., Ltd. ; two houses, Claremount Park, for Mr. C. Lawes.

MARYLEBONE. *Flats.* Plans submitted to the B.C. : Block of flats, 44-54 Maida Vale, for Mr. F. Scarlett ; conversion to flats, 10-2 Ormonde Terrace, for Mr. Austin Blomfield ; two houses, Grove End Road, for Mr. H. W. Binns ; shops and flats, Wellington Road and Circus Road, for Mr. S. B. Caulfield ; block of flats, Stockleigh Hall, Regent's Park, for Messrs. Wimperis, Simpson and Guthrie ; block of flats, Albert Road and Frederick Street, for Mr. R. J. Hugh Minty ; shops and flats, Marylebone Road and Upper Gloucester Place, for Messrs. T. P. Bennett and Son. The B.C. has approved plans for the erection of 32 additional flats on the Fisherton Street estate, at a cost of £17,750.

SOUTHERN COUNTIES

EASTBOURNE. *Houses.* Plans passed by the Corporation : Three houses, Longland Road, house, Osborne Road, three houses, Queen's Crescent, 4 houses, Queen's Road, and house, Victoria Drive, for Mr. A. Ford; 16 flats, Ceylon Place, for Mr. J. C. Bowley.

OXFORD. *Roads.* The Corporation is to construct roads at a cost of £6,250 on the Marston Road estate, where it is proposed to erect 120 houses.

WORTHING. *Hospital Block.* The Health Committee of the Corporation recommends plans prepared by the Worthing Hospital Committee for the erection of a maternity block at the hospital, at an estimated cost of £12,000, and suggests that the Corporation contributes £1,000 towards such cost.

SOUTH-WESTERN COUNTIES

CHELTENHAM. *Houses.* Plans passed by the Corporation : 20 houses, Jersey Avenue, for Messrs. Goddard and Hunt ; two houses, Hale's Road, for Mr. C. C. Castle ; four cottages, Little Shurdington, for Mr. H. A. Bendall ; 28 building plots, Greenway Lane, Charlton Kings, for Mr. B. Gough.

PLYMOUTH. *Houses.* Plans passed by the Corporation : Shops and flats, Marlborough Road, for Mr. S. W. C. Slee; four houses, Cemetery Road, for Mr. G. Holmes ; two houses, Berrow Park Road, for Mr. J. F. Woodley ; two houses, Culme Seymour estate, for Mr. R. H. Roberts ; six houses, Ridge Park Avenue, for Mr. A. Jackson ; two houses, Vine Gardens, for Messrs. Williams and Gray.

MIDLAND COUNTIES

BIRMINGHAM. *Houses.* The Ideal Benefit Society is to develop the Cherry Orchard estate, Handsworth Wood. The estate has an area of 68 acres and will accommodate 816 houses. The Corporation has approved a scheme for the erection of 318 houses at Parsons Hill, King's Norton, at a cost of £107,000.

BIRMINGHAM. *Shops and Flats.* In connection with the new central fire station, the Corporation has made arrangements for the erection on the site of a row of shops, and flats for firemen, at a cost of £22,000.

BIRMINGHAM. *Water Mains.* The Corporation is to extend water mains, involving an expenditure of £200,000.

ILKESTON. *Factory, Houses, etc.* Plans passed by the Corporation : Two houses, Heanor Road, for Mr. W. H. Dawson ; two houses, Sudbury Avenue, for Messrs. D. Roberts and Son ; two houses, Manners Avenue, for Mr. H. Dolman ; two houses, Derby Road, for Mr. H. Aldred ; two houses, Field Road, for Mr. R. M. Tickle ; two houses, Heanor Road, for Mr. W. H. Dawson ; two shops, factory, Park Road, for Messrs. Beardsley and Widdowson ; estate lay-out, South Ilkeston building estate, for Mr. H. Middleton.

NORTHAMPTON. *Houses.* Plans passed by the Corporation : Shop and six houses, Balfour Road, for Messrs. T. Wilson and Son, Ltd. ; 10 shops, Broadmead Avenue, for Messrs. H. Martin, Ltd. ; 37 houses, Fullingdale Road, for Mr. J. E. Lucas ; two houses, Cranmere Avenue, for Messrs. A. Glenn and Sons, Ltd. ; four houses, Boothville estate, for Messrs. Jordans ; 75 houses, Highlands estate, for Messrs. Chowns, Ltd. ; four houses, Balfour Road, for Messrs. Roughton and Butt ; factory extensions, Guildhall Road, for Messrs. Phipps and Son, Ltd. ; seven houses, Black Lion Terrace, for Mr. J. Huckle.

NORTHAMPTON. *Houses and Shops.* Mr. James Blythe is to develop the Delapre Abbey estate, by the erection of 1,200 houses and shops.

STOKE-ON-TRENT. *Mental Wards.* The Corporation is to prepare a scheme for the estension of the mental wards at the London Road institution.

STOKE-ON-TRENT. *Streets.* The Corporation has approved plans for new streets between Raymond Street and Victoria Road, Hanley, for proposed new streets at Longton Hall Farm estate, and for proposed streets to be laid out on land off Station Road, Meir.

SUTTON COLDFIELD. *Houses.* Plans passed by the Corporation: Two houses, Maxstoke Road, for Mr. G. E. Clarke ; two houses, Tamworth Road, for Alton Estates, Ltd.; four houses, Tamworth Road, for Messrs. Davis and Son ; two houses, Digby Road, for Messrs. Davis and Son ; six houses, Antrobus Road, for Mr. R. P. Garner ; offices, Boldmere Road, for Messrs. Clarke & Co. ; two houses, Chester Road, New Oscott, for Mr. C. Bishop ; five houses, Fernwood Grange Estate, for Midland Dwellings, Ltd. ; nine houses, Clarence Road, for Mr. A. Robinson. Plans submitted to the Corporation : Four houses, Withy Hill Road, for Mr. A. Blackband ; 10 houses, Chester Road, Banners Gate, for Mr. C. Hayward ; and 10 houses, Cremorne Road, for Mrs. Harrison.

NORTHERN COUNTIES

BOLTON. *Houses.* The Corporation has decided to reconstruct steel houses on the Union Road estate, at a cost of £14,700.

The Corporation has approved plans for the development of land for rehousing purposes at Willows Lane.

BRANDES BURTON. *Pavilions.* East Riding and York Joint Board, for the Mentally Defective, is to erect two additional pavilions at the mental colony, at a cost of £13,252.

CHADDERTON. *School.* The Education Committee is to provide a new elementary school for about 300 infants and juniors at Roughs.

KEIGHLEY. *Houses, etc.* Plans passed by the Corporation : 18 houses, Aireworth Grove, for Aireworth Park Estate Co., Ltd.; 12 bungalows, Primrose Street, for Mr. M. G. Spencer ; two houses, Braithwaite Road, for Mr. Thomas Lister ; two houses, Exley Crescent, for Messrs. Hird Bros. & Co., Ltd. ; 18 houses, Exley Grove, for Messrs. Hird Bros. & Co., Ltd.

LEEDS. *Houses and Flats.* The Corporation has approved plans for the erection of 796 houses and flats on the Gipton estate.

MANCHESTER. *Shops.* The Corporation has approved proposals for the redevelopment of the Collyhurst and West Gorton clearance areas, but is to vary the lay-out to permit of the erection of 20 shops in lieu of 10 on the West Gorton site, and also to prepare an alternative lay-out to provide for the erection of 30 shops on the same site.

MANCHESTER. *Schools.* The Education Committee has approved plans for the extension of Yew Tree municipal school, and for the erection of a municipal school at Haveley Hey.

MANCHESTER. *Flats.* The Corporation has approved a revised scheme for the erection of 181 flats at Smedley Road, Cheetham, at a cost of £89,769.

MANCHESTER. *Rehousing.* The Corporation is to clear the Red Bank and St. Clement's areas, and rehouse the displaced tenants, at a cost of £42,000.

MORECAMBE. *Houses.* Plans passed by the Corporation : Six houses, Heysham Road, for Messrs. Taylor & Vollans ; 10 houses, Carleton Street, for Messrs. Threlfall and Pars ; four houses, Hest Bank Road, for Mr. T. A. Baxter ; two houses, Norton Road, for Messrs. G. M. Wild, Ltd. ; 22 houses, Low Lane, for Kay Building Co. ; two houses, Regent Road, for Mr. F. Crossley ; two houses, Ridge Grove, for Mr. H. Blake ; two bungalows, Michaelson Avenue, for Mr. H. Allen ; five houses, Scowcroft Drive, for Mr. E. Turner ; two houses, Lancaster Road, for Messrs. Barlow and Brown ; four houses, St. Patrick's Walk, for Mr. Wm. Huddleston.

RAWTENSTALL. *Houses.* Plans have been submitted to the Corporation for the erection of 22 houses at Haslingden Road.

SHEFFIELD. *Houses.* Plans passed by the Corporation : 10 houses, Cockshutt Drive, for Mr. W. Redmile ; four houses, Crawshaw Avenue, for Mr. F. Talbot ; 30 houses, Poole Place, for Messrs. W. and E. Sadler ; 20 houses, Button Hill, for Messrs. Cussins, Ltd. ; six houses, Hunter House Road, for Mr. C. W. Alflat ; 12 houses, Heeley Bank Road, for Mr. G. R. Parkin ; 12 houses, Ringstead Road, for Messrs. T. A. Knowles & Sons ; six houses, Earl Marshal Road, for Mr. M. Bonner ; two houses, Barnsley Road, for Mr. A. Clayton ; two houses, Springfield Road, for Mr. W. Plant ; six houses, Townhead Road, for Messrs. T. R. Hinchliffe and Sons ; two houses, Lyminster Road, for Mr. D. A. Hurrell ; two houses, Ivanhoe Road, for Mr. Thompson ; 34 houses, Helmton Road, for Messrs. M. J. Gleeson, Ltd. ; 47 flats, Lambert Street, and 17 flats, Furnace Hill, for Estates Committee ; 22 houses, Glen View Road, for Messrs. Wright and Walton ; 20 houses, Glen View Road, for Messrs. C. Middleton and Sons ; two bungalows, Stradbrooke Road, for Mr. A. Owen ; two houses, Silverdale Crescent, for Mr. J. B. Brown ; five houses, Norton Lees Road, for Mr. W. C. Mander ; two houses, Redcar Road, for Mr. A. D. Donmall ; four houses, King Egbert Road, for Mr. E. Elliott ; two houses, Fox Hill Road, for Mr. H. Haywood ; two houses, shops and bakehouse, Prince of Wales Road, for Mr. Thorpe ; eight houses, Den Bank Crescent, for Mr. A. Spooner ; two houses, Springfield Road, for Messrs. Walters and Westley ; 11 bungalows, Abbey Lane, for Mr. A. Yeardley ; eight flats, Abbeydale Road, for Mr. T. Bookless ; eight houses, Upper Albert Road, for Mr. W. A. Wright ; two houses, Hollinshead Road, for Mr. G. H. Bellamy ; 105 houses, Bishopscourt Road, for Mr. A. Ramsay.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I s. d.	II s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A_1	Abergavenny ..	S Wales & M.	1 5	1 0½
A_2	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1½
A_2	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1½
A	Airdrie ..	Scotland	•1 5½	1 1½
C	Aldeburgh ..	E. Counties	1 1½	10½
A	Altrincham ..	N.W. Counties	1 5½	1 1½
B_2	Appleby ..	N.W. Counties	1 2	10½
A	Ashton-under-Lyne	N.W. Counties	1 5½	1 1½
A_2	Atherstone ..	Mid. Counties	1 4	1 0
B_2	Aylesbury ..	S. Counties	1 2½	11
B_1	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_2	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1½
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow ..	N.W. Counties	1 5½	1 1½
A	Barry ..	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke ..	S.W. Counties	1 3	11½
A_2	Bath	S.W. Counties	1 4½	1 0½
A	Batley ..	Yorkshire	1 5½	1 1½
A_2	Bedford ..	E. Counties	1 4½	1 0½
A_2	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_2	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	•1 7	1 2½
A	Birmingham	Mid. Counties	1 5½	1 1½
A_1	Bishop Auckland	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1½
A	Blackpool ..	N.W. Counties	1 5½	1 1½
A	Blyth ..	N.E. Coast	1 5½	1 1½
B_1	Bognor ..	S. Counties	1 3	11½
A	Bolton ..	N.W. Counties	1 5½	1 1½
A_2	Boston ..	Mid. Counties	1 4	1 0
A_2	Bournemouth ..	S. Counties	1 4	1 0
B_2	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1½
A_1	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M.	1 5½	1 1½
B_1	Bridgwater ..	S.W. Counties	1 3	11½
A_1	Bridlington ..	Yorkshire	1 5	1 0½
A	Brighouse ..	Yorkshire	1 5½	1 1½
A_2	Brighton ..	S. Counties	1 4	1 0
A	Bristol ..	S.W. Counties	1 5½	1 1½
B_2	Brixham ..	S.W. Counties	1 2½	11
A_2	Bromsgrove ..	Mid. Counties	1 4½	1 0½
B_2	Bromyard ..	Mid. Counties	1 2	10½
A	Burnley ..	N.W. Counties	1 5½	1 1½
A	Bursiem ..	Mid. Counties	1 5½	1 1½
A	Burton-on-Trent	Mid. Counties	1 5½	1 1½
A	Bury ..	N.W. Counties	1 5½	1 1½
A_1	Buxton ..	N.W. Counties	1 5	1 0½
A_1	CAMBRIDGE	E. Counties	1 5	1 0½
B_1	Canterbury ..	S. Counties	1 3	11½
A	Cardiff ..	S. Wales & M.	1 5½	1 1½
A	Carlisle ..	N.W. Counties	1 5½	1 1½
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Carnforth ..	N.W. Counties	1 5½	1 1½
A	Castleford ..	Yorkshire	1 5½	1 1½
B	Chatham ..	S. Counties	1 3½	11½
A_2	Chelmsford ..	E. Counties	1 4	1 0
A_2	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester ..	N.W. Counties	1 5½	1 1½
A	Chesterfield ..	Mid. Counties	1 5½	1 1½
B_1	Chichester ..	S. Counties	1 3	11½
A	Chorley ..	N.W. Counties	1 5½	1 1½
B_1	Cirencester ..	S. Counties	1 3	11½
A	Clitheroe ..	N.W. Counties	1 5½	1 1½
A	Clydebank ..	Scotland	1 5½	1 1½
A	Coalville ..	Mid. Counties	1 5½	1 1½
A_2	Colchester ..	E. Counties	1 4	1 0
A	Colne ..	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_1	Consett ..	N.E. Coast	1 5	1 0½
A_2	Conway ..	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1½
A_2	Crewe	N.W. Counties	1 4½	1 0½
A	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1½
A	Darwen ..	N.W. Counties	1 5½	1 1½
B_1	Deal ..	S. Counties	1 3	11½
A_2	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby ..	Mid. Counties	1 5½	1 1½
A	Dewsbury ..	Yorkshire	1 5½	1 1½
B	Didcot ..	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1½
B_2	Dorchester ..	S.W. Counties	1 2½	11
A	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley ..	Mid. Counties	1 5½	1 1½
A	Dundee ..	Scotland	1 5½	1 1½
A	Durham ..	N.E. Coast	1 5½	1 1½
A_2	EASTBOURNE	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1½
A_1	E. Glamorganshire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter ..	S.W. Counties	•1 4½	1 0½
B	Exmouth ..	S.W. Counties	1 3½	11½
A_2	FELIXSTOWE	E. Counties	1 4	1 0
A_2	Filey	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1½
B_1	Folkestone ..	S. Counties	1 3	11½
A	Frodsham ..	N.W. Counties	1 5½	1 1½
B_2	Frome	S.W. Counties	1 2½	11
A	GATESHEAD	N.E. Coast	1 5½	1 1½
B	Gillingham ..	S. Counties	1 3½	11½
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole ..	Yorkshire	1 4½	1 0½
A_2	Gosport ..	S. Counties	1 4½	1 0½
A_2	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0½
A	Greenock ..	Scotland	•1 5½	1 1½
A	Grimsby ..	Yorkshire	1 5½	1 1½
B	Guildford ..	S. Counties	1 3½	11½
A	HALIFAX ..	Yorkshire	1 5½	1 1½
A	Hanley ..	Mid. Counties	1 5½	1 1½
A	Harrogate ..	Yorkshire	1 5½	1 1½
A	Hartlepools ..	N.E. Coast	1 5½	1 1½
B	Harwich ..	E. Counties	1 3½	11½
B_1	Hastings ..	S. Counties	1 3	11½
A_2	Hatfield ..	S. Counties	1 4½	1 0½
B	Hereford ..	S.W. Counties	1 3½	11½
A_2	Hertford ..	E. Counties	1 4½	1 0½
A	Heysham ..	N.W. Counties	1 5½	1 1½
A	Howden ..	N.E. Coast	1 5½	1 1½
A	Huddersfield ..	Yorkshire	1 5½	1 1½
A	Hull ..	Yorkshire	1 5½	1 1½
A	ILKLEY ..	Yorkshire	1 5½	1 1½
A	Immingham ..	Mid. Counties	1 5½	1 1½
A_2	Ipswich ..	E. Counties	1 4½	1 0½
B_2	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1½
A	KEIGHLEY ..	Yorkshire	1 5½	1 1½
B	Kendal ..	N.W. Counties	1 3½	11½
B	Keswick ..	N.W. Counties	1 3½	11½
A_2	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster	Mid. Counties	1 4½	1 0½
B_1	King's Lynn ..	E. Counties	1 3	11½
A	LANCASTER ..	N.W. Counties	1 5½	1 1½
A_1	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester ..	Mid. Counties	1 5½	1 1½
A	Leigh	N.W. Counties	1 5½	1 1½
B_2	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln ..	Mid. Counties	1 5½	1 1½
	Liverpool ..	N.W. Counties	•1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly ..	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12-15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1½
A	Loughborough	Mid. Counties	1 5½	1 1½
A_2	Luton	E. Counties	1 4	1 0
A	Lytham ..	N.W. Counties	1 5½	1 1½
A_1	MACCLESFIELD	N.W. Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11½
A_2	Malvern ..	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1½
A	Mansfield ..	Mid. Counties	1 5½	1 1½
B_1	Margate ..	S. Counties	1 3	11½
A	Matlock ..	Mid. Counties	1 4	1 0
A_1	Merthyr ..	S. Wales & M.	1 5	1 0½
A	Middesbrough	N.E. Coast	1 5½	1 1½
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1 2½	11
A	Morecambe ..	N.W. Counties	1 5½	1 1½
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson	N.W. Counties	1 5½	1 1½
A	Newcastle ..	N.E. Coast	1 5½	1 1½
A	Newport ..	S. Wales & M.	1 5½	1 1½
A	Normanton ..	Yorkshire	1 5½	1 1½
A	Northampton	Mid. Counties	1 5½	1 1½
A	North Staffs ..	Mid. Counties	1 5½	1 1½
A	North Shields ..	N.E. Coast	1 5½	1 1½
A_1	Norwich ..	E. Counties	1 5	1 0½
A	Nottingham ..	Mid. Counties	1 5½	1 1½
A	Nuneaton ..	Mid. Counties	1 5½	1 1½
A_2	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham ..	N.W. Counties	1 5½	1 1½
A_2	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford ..	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	•1 5½	1 1½
B_2	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth ..	Scotland	•1 5½	1 1½
A_2	Peterborough ..	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	•1 5½	1 1½
A	Pontefract ..	Yorkshire	1 5½	1 1½
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_2	Portsmouth ..	S. Counties	1 4½	1 0½
A	Preston ..	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate ..	S. Counties	1 3½	11½
A_3	Retford ..	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A_3	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1½
B	Rochester ..	S. Counties	1 3½	11½
A_1	Ruabon ..	N.W. Counties	1 5	1 0½
A	Rugby ..	Mid. Counties	1 5½	1 1½
A_2	Rugeley ..	Mid. Counties	1 4½	1 0½
A	Runcorn ..	N.W. Counties	1 5½	1 1½
A_1	ST. ALBANS ..	E. Counties	1 5	1 0½
A	St. Helens ..	N.W. Counties	1 5½	1 1½
B_2	Salisbury ..	S.W. Counties	1 2½	11
A_1	Scarborough ..	Yorkshire	1 5	1 0½
A	Scunthorpe ..	Mid. Counties	1 5½	1 1½
A	Sheffield ..	Yorkshire	1 5½	1 1½
A	Shipley ..	Yorkshire	1 5½	1 1½
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton ..	Yorkshire	1 4½	1 0½
A_2	Slough ..	S. Counties	1 4½	1 0½
A_1	Solihull ..	Mid. Counties	1 5	1 0½
A_2	Southampton ..	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A_2	Southport ..	N.W. Counties	1 5½	1 1½
A	S. Shields ..	N.E. Coast	1 5½	1 1½
A_1	Stafford ..	Mid. Counties	1 5	1 0½
A	Stockport ..	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud ..	S.W. Counties	1 3½	11½
A	Sunderland ..	N.E. Coast	1 5½	1 1½
A	Swadlincote ..	Mid. Counties	1 5½	1 1½
A	Swansea ..	S. Wales & M.	1 5½	1 1½
A_2	Swindon ..	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton ..	S.W. Counties	1 3½	11½
A	Teesside Dist. ..	N.E. Counties	1 5½	1 1½
A_2	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1½
A_1	Torquay ..	S.W. Counties	1 5	1 0½
B_2	Truro	S.W. Counties	1 2½	11
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall ..	Mid. Counties	1 5½	1 1½
A	Tyne District ..	N.E. Coast	1 5½	1 1½
A	WAKEFIELD	Yorkshire	1 5½	1 1½
A	Walsall ..	Mid. Counties	1 5½	1 1½
A	Warrington ..	N.W. Counties	1 5½	1 1½
A_1	Warwick ..	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid. Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby ..	Yorkshire	1 4½	1 0½
A	Widnes ..	N.W. Counties	1 5½	1 1½
A	Wigan	N.W. Counties	1 5½	1 1½
B	Winchester ..	S. Counties	1 3½	11½
A_2	Windsor ..	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_2	Worksop ..	Yorkshire	1 4	1 0
A_1	Wrexham ..	N.W. Counties	1 5	1 0½
A_2	Wycombe ..	S. Counties	1 4	1 0
B_1	YARMOUTH ..	E. Counties	1 3	11½
B_1	Yeovil	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	11½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	£ s. d.
Bricklayer . . . . . per hour	1 7
Carpenter . . . . . ,,	1 7
Joiner . . . . . ,,	1 7
Machinist . . . . . ,,	1 8
Mason (Banker) . . . . . ,,	1 7
,, (Fixer) . . . . . ,,	1 8
Plumber . . . . . ,,	1 7
Painter . . . . . ,,	1 6
Paperhanger . . . . . ,,	1 6
Glazier . . . . . ,,	1 7
Slater . . . . . ,,	1 7
Scaffolder . . . . . ,,	1 3
Timberman . . . . . ,,	1 3
Navvy . . . . . ,,	1 2½
General Labourer . . . . . ,,	1 2½
Lorryman . . . . . ,,	1 5
Crane Driver . . . . . ,,	1 6
Watchman . . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£ s. d.
Grey Stone Lime . . . . . per ton	2 2 0
Blue Lias Lime . . . . . ,,	1 16 6
Hydrated Lime . . . . . ,,	3 0 9
Portland Cement, in 4 ton lots (d/d site, including Paper Bags) . . ,,	1 18 0
Rapid Hardening Cement, in 4 ton lots (d/d site, including Paper Bags) ,,	2 5 6
White Portland Cement, in 1 ton lots ,,	8 15 0
Thames Ballast . . . . . per Y.C.	6 3
¾" Crushed Ballast . . . . . ,,	6 9
Building Sand . . . . . ,,	7 3
Washed Sand . . . . . ,,	8 3
2" Broken Brick . . . . . ,,	8 0
¾" ,, ,, ... ,,	10 3
Pan Breeze . . . . . ,,	6 6
Coke Breeze . . . . . ,,	8 9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

	4" s. d.	6" s. d.
Straight Pipes . .per F.R	0 9	1 1
Bends . . . each	1 9	2 6
Taper Bends . . ,,	3 6	5 3
Rest Bends . . ,,	4 3	6 3
Single junctions . ,,	3 6	5 3
Double . . . ,,	4 9	6 6
Straight channels . .per F.R.	1 6	2 6
¾" Channel bends . . each	2 9	4 0
Channel junctions . ,,	4 6	6 6
Channel tapers . . ,,	2 9	4 0
Yard gullies . . ,,	6 9	8 9
Interceptors . . ,,	16 0	19 6
IRON DRAINS:		
Iron drain pipe . . per F.R.	1 6	2 6
Bends . . . each	5 0	10 6
Inspection bends . . ,,	9 0	15 0
Single junctions . . ,,	8 9	18 0
Double junctions . . ,,	13 6	30 0
Lead wool . . . lb.	6	—
Gaskin . . . ,,	5	—

BRICKLAYER

	£ s. d.
Flettons . . . . . per M.	2 18 0
Grooved do. . . . . ,,	3 0 0
Phorpres bricks . . . . ,,	2 17 3
Phorpres Cellular bricks . . ,,	2 17 3
Stocks, 1st quality	4 11 0
,, 2nd ,, . . . ,,	4 2 6
Blue Bricks, Pressed . . . ,,	8 17 6
,, Wirecuts . . . ,,	7 17 6
,, Brindles . . . ,,	7 0 0
,, Bullnose . . . ,,	9 0 0
Red Sand-faced Facings . . .	6 18 6
Red Rubbers for Arches . . ,,	12 0 0
Multicoloured Facings . . .	7 10 0
Luton Facings . . . . ,,	7 10 0
Phorpres White Facings . . ,,	3 17 3
Phorpres Rustic Facings . . ,,	3 12 3
Midhurst White Facings . . ,,	5 0 0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:	
Stretchers . . . . . ,,	21 0 0
Headers . . . . . ,,	20 10 0
Bullnose . . . . . ,,	27 10 0
Double Stretchers . . . ,,	29 10 0
Double Headers . . . . ,,	26 10 0
Glazed Second Quality, *Less* ,,	1 0 0
,, Buffs and Creams, *Add* ,,	2 0 0
,, Other Colours . . ,,	5 10 0
2" Breeze Partition Blocks . . per Y.S.	1 7
2½" ,, ,, ,, . . ,,	1 10
3" ,, ,, ,, . . ,,	2 1
4" ,, ,, ,, . . ,,	2 6

MASON

The following d/d F.O.R. at Nine Elms:	s. d.
Portland stone, Whitbed . . F.C.	4 4½
,, ,, Basebed . . ,,	4 9
Bath stone . . . . . ,,	2 11
York stone . . . . . ,,	6 6
,, ,, Sawn templates . . ,,	7 6
,, ,, Paving, 2" . . . F.S.	1 8
,, ,, 3" . . . ,,	2 6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£ s. d.
24" × 12" Duchesses . . per M.	28 17 6
22" × 12" Marchionesses . . ,,	24 10 0
20" × 10" Countesses . . ,,	19 5 0
18" × 10" Viscountesses . . ,,	15 10 0
18" × 9" Ladies . . . ,,	13 17 6
Westmorland green (random sizes) . per ton	8 10 0
Old Delabole slates d/d in full truck loads to Nine Elms Station:	
20" × 10" medium grey per 1,000 (actual)	21 11 6
,, green ,, ,,	24 7 4
Best machine roofing tiles . . ,,	4 10 0
Best hand-made do. . . . ,,	5 0 0
Hips and valleys . . . each	9½
,, hand-made . . . ,,	10
Nails, compo . . . . lb.	1 4
,, copper . . . ,,	1 6

CARPENTER AND JOINER

	s. d.
Good carcassing timber . . F.C.	2 2
Birch . . . . as 1" F.S.	9
Deal, Joiner's . . . ,, ,,	5
,, ,, 2nds . . ,, ,,	4
Mahogany, Honduras . . ,, ,,	1 3
,, African . . ,, ,,	1 1
,, Cuban . . ,, ,,	2 6
Oak, plain American . . ,, ,,	1 0
,, Figured ,, . . ,, ,,	1 3
,, Plain Japanese . . ,, ,,	1 2
,, Figured ,, . . ,, ,,	1 5
,, Austrian wainscot . . ,, ,,	1 6
,, English . . . ,, ,,	1 11
Pine, Yellow . . . ,, ,,	1 0
,, Oregon . . . ,, ,,	4
,, British Columbian . . ,, ,,	4
Teak, Moulmein . . . ,, ,,	1 3
,, Burma . . . ,, ,,	1 2
Walnut, American . . . ,, ,,	2 3
,, French . . . ,, ,,	2 3
Whitewood, American . . ,, ,,	1 1
Deal floorings, ¾" . . . Sq.	18 6
,, 1" . . . ,,	1 1 6
,, 1¼" . . . ,,	1 2 0
,, 1½" . . . ,,	1 5 0
,, 1¾" . . . ,,	1 10 0
Deal matchings ¾" . . . ,,	14 0
,, 1" . . . ,,	15 6
,, 1¼" . . . ,,	1 4 0
Rough boarding ¾" . . . ,,	16 0
,, 1" . . . ,,	18 0
,, 1¼" . . . ,,	1 6 0

Plywood, per ft. sup.

Thickness	¼"	⅜"	½"	⅝"	¾"
Qualities	AA. A. B.	AA. A. B.	AA. A. B.	AA. A. B.	AA. A. B.
	d. d. d.	d. d. d.	d. d. d.	d. d. d.	d. d. d.
Birch	4 3 2	5 4 3	7½ 6 4½	8½ 7 6	
Alder	3½ 3 2	5 4 3	6½ 5½ 4½	8 7 6	
Gaboon Mahogany	4 3 3	6½ 5½ 4½	9½ 7½ –	1/0½ 10 –	
Figured Oak 1 side	8½ 7 –	10 8 –	11½ – –	1/6 – –	
Plain Oak 1 side	6½ 6 –	7½ 7 –	9½ – –	1/– – –	
Oregon Pine	5 4 –	5½ 5 –	6 – –	– – –	

	d.
Scotch glue . . . . . lb.	8

SMITH AND FOUNDER

Tubes and Fittings:

(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	½"	¾"	1"	1½"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9
,, 3"-11½" long ,,	7	9	1/3	1/8	3/–
Long screws, 12"-23½" long ,,	11	1/3	2/2	2/10	5/3
,, ,, 3"M-½" long ,,	8	10	1/5	1/11	3/6
Bends . . . . ,,	8	11	1/7½	2/7½	5/2
Springs not socketed . ,,	5	7	1/1½	1/11½	3/11
Socket unions . . ,,	2/–	3/–	5/6	6/9	10/–
Elbows, square . . ,,	10	1/1	1/6	2/2	4/3
Tees . . . . ,,	1/–	1/3	1/10	2/6	5/1
Crosses . . . ,,	2/2	2/9	4/1	5/6	10/6
Plain Sockets and nipples ,,	3	4	6	8	1/3
Diminished sockets . ,,	4	6	9	1/–	2/–
Flanges . . . ,,	9	1/–	1/4	1/9	2/9
Caps . . . . ,,	3½	5	8	1/–	2/–
Backnuts . . . ,,	2	3	5	6	1/1
Iron main cocks . . ,,	1/6	2/3	4/2	5/4	11/6
,, ,, with brass plugs ,,	—	4/–	7/6	10/–	21/–

Discounts:

TUBES.

	Per cent.		Per cent.
Gas . . .	65	Galvanized gas .	52½
Water . . .	61½	,, water	47½
Steam . . .	57½	,, steam	42½

FITTINGS.

Gas . . .	57½	Galvanized gas .	47½
Water . . .	52½	,, water	42½
Steam . . .	47½	,, steam	37½

SMITH AND FOUNDER—*continued*

	s. d.
Rolled steel joists cut to length . . cwt.	10 9
Mild steel reinforcing rods, ¾" . . ,,	8 6
,, ,, ½" . . ,,	8 3
,, ,, ⅝" . . ,,	8 0
,, ,, ¾" . . ,,	7 6
,, ,, ⅞" . . ,,	7 6
,, ,, 1" . . ,,	7 6
,, ,, 1¼" . . ,,	7 6
,, ,, 1½" . . ,,	7 6
,, ,, 3" . . ,,	4 6

	s. d.
Cast-iron rain-water pipes of ordinary thickness metal . . F.R	8
Shoes . . . . each	2 0
Anti-splash shoes . . ,,	4 6
Boots . . . . ,,	3 0
Bends . . . . ,,	2 7
,, with access door . . ,,	—
Heads . . . . ,,	4 0
Swan-necks up to 9" offsets . ,,	3 9
Plinth bends, 4½" to 6" . ,,	3 9
Half-round rain-water gutters of ordinary thickness metal . . F.R.	5
Stop ends . . . . each	6
Angles . . . . ,,	1 7
Obtuse angles . . . ,,	2 0
Outlets . . . . ,,	1 9

	3" s. d.	4" s. d.	6" s. d.
Cast-iron rain-water pipes of ordinary thickness metal . . F.R	8		10
Shoes . . . . each	2 0		3 0
Anti-splash shoes . . ,,	4 6		8 0
Boots . . . . ,,	3 0		4 0
Bends . . . . ,,	2 7		9
,, with access door . . ,,	—		3
Heads . . . . ,,	4 0		5 0
Swan-necks up to 9" offsets . ,,	3 9		6 0
Plinth bends, 4½" to 6" . ,,	3 9		5 3
Half-round rain-water gutters of ordinary thickness metal . . F.R.	5		6
Stop ends . . . . each	6		6
Angles . . . . ,,	1 7		1 11
Obtuse angles . . . ,,	2 0		2 6
Outlets . . . . ,,	1 9		2 3

PLUMBER

	£ s. d.
Lead, milled sheets . . . cwt.	18 6
,, drawn pipes . . . ,,	17 0
,, soil pipe . . . ,,	18 6
,, scrap . . . ,,	10 6
Solder, plumbers' . . . lb.	9½
,, fine do. . . . ,,	1 0
Copper, sheet . . . ,,	8½
,, tubes . . . ,,	11

L.C.C soil and waste pipes:	3"	4"	6"
Plain cast . . F.R.	1 0	1 2	2 6
Coated . . ,,	1 1	1 3	2 8
Galvanized . . ,,	2 0	2 6	4 6
Holderbats . . each	3 10	4 0	4 9
Bends . . . ,,	3 9	5 3	10 3
Shoes . . . ,,	2 10	4 4	9 6
Heads . . . ,,	4 8	8 5	12 9

PLASTERER

	£ s. d.
Lime, chalk . . . per ton	2 5 0
Plaster, coarse . . ,,	2 10 0
,, fine . . ,,	4 15 0
Hydrated lime . . ,,	3 0 0
Sirapite . . . ,,	3 6 0
Keene's cement . . ,,	5 0 0
Sand, washed . . Y.C.	11 6
Hair . . . . lb.	6
Laths, sawn . . bundle	2 4
,, rent . . ,,	3 9
Lath nails . . . lb.	3½

GLAZIER

	s. d.	s. d.
Sheet glass, 21 oz., squares n/e 2 ft.	s. F.S.	2½
,, ,, 26 oz. ,, ,, ,, ,,		3½
Flemish, Arctic, Figured (white)* ,,		7
Blazoned glasses . . . ,,		2 6
Reeded; Cross Reeded ,,		11
Cathedrals: eleven varieties (white)* ,,		6½
Crown sheet glass (n/e 12 in. x 10 in) ,,		2 0
Flashed opals (white and coloured) ,,	1 0 and 2	0
¼" rough cast; rolled plate . . ,,		7
¼" wired cast; wired rolled . . ,,		10
¼" Georgian wired cast . . ,,		11
¼" Polished plate, n/e 1 ft. . . ,,	†10 to ‡1	1
,, ,, 2 . . ,,	†1 2 ,, ‡1	4
,, ,, 4 . . ,,	†2 3 ,, ‡2	6
,, ,, 8 . . ,,	†2 9 ,, ‡3	2
,, ,, 20 . . ,,	†3 7 ,, ‡4	2
,, ,, 45 . . ,,	†3 11 ,, ‡4	7
,, ,, 100 . . ,,	†5 0 ,, ‡5	7
Vita glass, sheet, n/e 2 ft. . . ,,		1 3
,, ,, over 2 . . ,,		1 9
,, ,, plate, n/e 2 ft. . . ,,		3 0
,, ,, ,, 7 . . ,,		5 0
,, ,, ,, 15 . . ,,		6 0
,, ,, ,, over 15 . . ,,		7 6
"Calorex" sheet 21 oz., and 32 oz. ,,	2 6 and 3	6
,, rough cast ¼" and ¼" ,,	8½ ,, 1	0
Putty, linseed oil . . lb.		3

*Colours 1d. F.S. extra.

†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

	£ s. d.
White lead in 1 cwt. casks . . cwt.	2 6 0
Linseed oil . . . . gall.	2 2½
Boiled oil . . . . ,,	2 4½
Turpentine . . . . ,,	4 1½
Patent knotting . . . ,,	14 0
Distemper, washable . . cwt.	2 6 0
,, ordinary . . ,,	2 0 0
Whitening . . . . ,,	4 0
Size, double . . . firkin	3 0
Copal varnish . . . gall.	13 0
Flat varnish . . . ,,	14 0
Outside varnish . . ,,	16 0
White enamel . . . ,,	1 15 0
Ready-mixed paint . . ,,	13 6
Brunswick black . . ,,	7 6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR		£ s. d.
Digging over surface n/e 12" deep and cart away	Y.S.	2 9
" to reduce levels n/e 5' 0" deep and cart away	Y.C.	8 6
" to form basement n/e 5' 0" deep and cart away	"	9 0
" " 10' 0" deep and cart away	"	9 6
" " 15' 0" deep and cart away	"	10 0
If in stiff clay	add "	2 6
If in underpinning	" "	4 0
Planking and strutting to sides of excavation	F.S.	1 0
" " to pier holes	"	5
" " to trenches	"	5
" " extra, only if left in	"	3
Hardcore, filled in and rammed	Y.C.	10 0
Portland cement concrete in foundations (6-1)	"	1 6 0
" " (4-2-1)	"	1 12 6
" " underpinning	"	1 16 0
Finishing surface of concrete, spade face	Y.S.	7

DRAINLAYER		4" s. d.	6" s. d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1 6	2 3
Extra, only for bends	Each	2 8	3 9
" junctions	"	3 9	4 6
Gullies and gratings	"	16 6	18 0
Cast iron drains, and laying and jointing	F.R.	4 9	6 9
Extra, only for bends	Each	10 6	15 6

BRICKLAYER		£ s. d.
Brickwork, Flettons in lime mortar	Per Rod	27 10 0
" " in cement	"	28 15 0
" Stocks in cement	"	35 0 0
" Blues in cement	"	52 0 0
Extra only for circular on plan	"	2 0 0
" backing to masonry	"	1 10 0
" raising on old walls	"	2 0 0
" underpinning	"	5 10 0
Fair Face and pointing internally	F.S.	1½
Extra over fletton brickwork for picked stock facings and pointing	"	8½
" " " red brick facings and pointing	"	11
" " " blue brick facings and pointing	"	1 4
" " " glazed brick facings and pointing	"	3 6
Tuck pointing	"	7
Weather pointing in cement	"	3½
Slate dampcourse	"	10
Vertical dampcourse	"	1 1

ASPHALTER		s. d.
½" Horizontal dampcourse	Y.S.	4 6
½" Vertical dampcourse	"	6 9
½" paving on flat	"	4 0
1" paving on flat	"	5 6
1" × 6" skirting	F.R.	1 0
Angle fillet	"	2
Rounded angle	"	2
Cesspools	Each	5 0

MASON		s. d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C.	17 9
Bath stone and do., all as last	"	15 6
Artificial stone and do.	"	13 0
York stone templates, fixed complete	"	10 6
" thresholds	"	13 6
" sills	"	1 0 6

SLATER AND TILER		£ s. d.
Slating, Bangor or equal, laid to a 3" lap, and fixing with compo nails, 20" × 10"	Sqr.	3 10 0
Do., 18" × 9"	"	3 7 0
Do., 24" × 12"	"	3 17 0
Westmorland slating, laid with diminished courses	"	6 0 0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course	"	3 0 0
Do., all as last, but of machine-made tiles	"	2 16 0
20" × 10" medium Old Delabole slating, laid to a 3" lap (grey)	"	4 6 0
" " " " " (green)	"	4 15 0

CARPENTER AND JOINER		£ s. d.
Flat boarded centering to concrete floors, including all strutting	Sqr.	2 5 0
Shuttering to sides and soffits of beams	F.S.	8
" to stanchions	"	8
" to staircases	"	1 8
Fir and fixing in wall plates, lintols, etc.	F.C.	3 9
Fir framed in floors	"	4 6
" " roofs	"	6 6
" " trusses	"	7 6
" " partitions	"	8 6
½" deal sawn boarding and fixing to joists	Sqr.	1 14 6
1" " " " "	"	1 17 6
1½" " " " "	"	2 3 0
1" × 2" fir battening for Countess slating	"	9 6
Do. for 4" gauge tiling	"	12 0
Stout feather-edged tilting fillet	F.R.	4½
Patent inodorous felt, 1 ply	Y.S.	2 3
" " " 2 "	"	2 9
" " " 3 "	"	3 3
Stout herringbone strutting to 9" joists	F.R.	10½
1" deal gutter boards and bearers	F.S.	1 2
1½" " " " "	"	1 6
2" deal wrought rounded roll	F.R.	8
1" deal grooved and tongued flooring, laid complete, including cleaning off	Sqr.	2 1 0
1¼" do.	"	2 10 0
1½" do.	"	2 17 0
1" deal moulded skirting, fixed on, and including grounds plugged to wall	F.S.	1 6
1½" do.	"	1 9

CARPENTER AND JOINER—*continued*		s. d.
1¼" deal moulded sashes of average size	F.S.	1 9½
2" " " "	"	1 11½
1¼" deal cased frames double hung, of 6" × 3" oak sills, 1¼" pulley stiles, 1¼" heads, 1" inside and outside linings, ½" parting beads, and with brass faced axle pulleys, etc., fixed complete	"	3 7
2" " " " "	"	3 10
Extra only for moulded horns	Each	6
1¼" deal four-panel square, both sides, door	F.S.	2 0
2" " " " "	"	2 8
1½" " but moulded both sides	"	2 4
2" " " " "	"	3 0
4" × 3" deal, rebated and moulded frames	F.R.	1 0
4½" × 3½" " "	"	1 4
1¼" deal tongued and moulded window board, on and including deal bearers	F.S.	1 9
1¼" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	"	2 6
1¼" deal moulded wall strings	"	2 1
1¼" " outer strings	"	2 4
Ends of treads and risers housed to string	Each	1 9
3" × 2" deal moulded handrail	F.R.	1 3
1" × 1" deal balusters and housing each end	Each	2 0
1½" × 1½" " " "	"	2 9
3½ × 3" deal wrought framed newels	F.R.	1 3
Extra only for newel caps	Each	6 0
Do., pendants	"	6 0

SMITH AND FOUNDER		£ s. d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt.	15 6
Riveted plate or compound girders, and hoisting and fixing in position	"	19 6
Do. stanchions with riveted caps and bases and do.	"	19 0
Mild steel bar reinforcement, ½" and up, bent and fixed complete	"	17 6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S.	11
Wrot-iron caulked and cambered chimney bars	Per cwt.	1 10 0

PLUMBER		£ s. d.
Milled lead and labour in flats	cwt.	1 12 0
Do. in flashings	"	1 15 6
Do. in covering to turrets	"	2 3 0
Do. in soakers	"	1 7 6
Labour to welted edge	F.R.	3½
Open copper nailing	"	3
Close " "	"	4

Lead service pipe and fixing with pipe hooks	½" s. d.	¾" s. d.	1" s. d.	1½" s. d.	2" s. d.	4" s. d.
	F.R. 10	1 0	1 3	2 0	2 10	—
Do. soil pipe and fixing with cast lead tacks	—	—	—	—	—	5 6
Extra, only to bends	Each —	—	—	—	2 0	6 9
Do. to stop ends	" 6½	8	9	11	1 0	—
Boiler screws and unions	" 3 3	3 9	5 0	8 0	—	—
Lead traps	" —	—	—	6 3	8 9	—
Screw down bib valves	" 6 9	9 6	11 0	—	—	—
Do. stop cocks	" 7 0	9 6	12 6	—	—	—

		s. d.
4" cast-iron ½-rd. gutter and fixing	F.R.	1 0
Extra, only stop ends	Each	1 0
Do. angles	"	1 6
Do. outlets	"	2 9
4" dia. cast-iron rain-water pipe and fixing with ears cast on	F.R.	1 2
Extra, only for shoes	Each	1 3
Do. for plain heads	"	5 6

PLASTERER AND TILING		s. d.
Expanded metal lathing, small mesh	Y.S.	2 0
Do. in n/w to beams, stanchions, etc.	"	2 9
Lathing with sawn laths to ceilings	"	1 3
½" screeding in Portland cement and sand for tiling, wood block floor, etc.	"	1 5
Do. vertical	"	1 7
Rough render on walls	"	1 2½
Render, float and set in lime and hair	"	1 9
Render and set in Sirapite	"	1 11
Render, backing in cement and sand, and set in Keene's cement	"	2 9
Extra, only if on lathing	"	4
Keene's cement, angle and arris	F.R.	6
Arris	"	1½
Rounded angle, small	"	3
Plain cornices in plaster, including dubbing out, per 1" girth	"	1½
1" granolithic pavings	Y.S.	3 0
1½" " "	"	4 6
6" × 6" white glazed wall tiling and fixing on prepared screed	"	17 6
9" × 3" " " " "	"	1 2 6
Extra, only for small quadrant angle	F.R.	8

GLAZIER		s. d.
21 oz. sheet glass and glazing with putty	F.S.	7½
26 oz. do. and do.	"	8½
Flemish, Arctic, Figured (white) and glazing with putty	"	1 1
Cathedral glass and do.	"	1 2
Glazing only, British polished plate	"	7
Extra, only if in beads	"	2
Washleather	F.R.	4

PAINTER		s. d.
Clearcolle and whiten ceilings	Y.S.	6
Do. and distemper walls	"	9
Do. with washable distemper	"	1 1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	"	3 3
Do. on woodwork	"	3 6
Do. on steelwork	"	3 0
Do. and brush grain and twice varnish	"	5 6
Stain and twice varnish woodwork	"	1 11
Stain and wax-polish woodwork	"	4 6
French polishing	F.S.	1 2
Stripping off old paper	Piece	2 0
Hanging ordinary paper	from "	2 9

WORKING-CLASS FLATS FOR ST. PANCRAS

WORK TO BE STARTED IMMEDIATELY

WORK is to be started immediately on the block of working-class flats, of which the above is an axonometric drawing, designed by Messrs. Connell and Ward for the St. Pancras House Improvement Society Ltd.

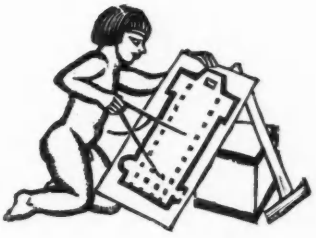
The block is constructed throughout of reinforced concrete and contains 20 flats, mostly of the three-room type but with a number with four and five rooms. The total cost is £8,045. Each flat has, on an average, six built-in cupboards, and all rooms open off a private entrance hall.

The flats are to be built in two sections, so that tenants now living on the site can move into the new flats before their present homes have to be demolished. The work is expected to be completed in about six months. The designs were shown to the Minister of Health, Sir Hilton Young, when he paid a visit recently to the Society.

J. SOMERSET MURRAY

WHAT BUILDING IS THIS?

An unfamiliar view of the new R.I.B.A. building taken this week. The back of the building is shown, as seen from William's Mews; this side of it should appeal particularly to the young who like their buildings without their party dress. The photograph also shows the extent to which the exterior is now nearing completion.



LUNCHEON

CIVILIZATION has gradually progressed from the early Roman days, when bread was distributed to the destitute ; during the last century education has been provided free of charge, and it is now generally agreed that the humblest member of society is entitled to a roof over his head. This end has been accepted as essential, but the means have involved lengthy discussions as to the type of housing required and its position. This JOURNAL has consistently agitated for a radical consideration of the whole problem, involving the demolition of existing slum property and the erection of multi-storey flats on the same site, rather than the promiscuous scattering of cottages round the circumference of our larger cities, and we feel some small measure of satisfaction that this policy has been officially endorsed by two men whose positions carry more than a little weight in the housing world.

At a luncheon given the day before yesterday by the Council for Research on Housing Construction, with the Earl of Dudley in the chair, two speeches were made, definite and outspoken, in marked contrast to the usual vague expressions of mutual admiration which the press has learnt to expect at "publicity functions." After speeches describing the work of the Council and drawing attention to its recent admirable report, the moving spirit of which has been Mr. Kavanagh, we were electrified by the broadminded solutions put forward by Mr. Silkin, the Chairman of the recently-elected Labour L.C.C.'s Housing Committee. He had come to the conclusion, he said, that the solution of the problem did not lie in cottage construction, far away from the dweller's work, but in the erection of flat blocks on the cleared site. He did not at present favour blocks more than five storeys in height, but he was quite prepared to find that a greater height than this was essential. We ourselves would go further than this ; we believe that the present leaning towards blocks of four or five storeys is due to a desire for compromise between the two-storey cottage and the ten-storey flat block as proposed in the Council's report. Like all compromises, this solution falls between two stools, but it is refreshing to find that those in authority at the County Hall are prepared to consider the higher buildings on their own merits, and not in terms of the obsolete London Building Act. In Mr. Silkin's own words, "If the L.C.C. housing department finds that it is prevented from carrying out its work by the L.C.C. bye-laws, then the time will have come for the bye-laws to be revised : new houses, slum-clearance and re-housing are inseparable problems, and their proper solution must not be hampered by unnecessary restrictions." That the Chairman of so important a committee should dare to lay such winning cards so boldly on the table gives us some hope that the L.C.C.'s previous tentative nibblings at the problem will soon give place to a broad solution of the whole of London's redevelopment and building regulations.

After Mr. Silkin, Mr. Keay, the director of Liverpool housing, went on to deal with the various methods of organizing housing services. He, too, was of the opinion that flat blocks must inevitably become higher, but he was *not* of the opinion that local authorities could carry out the work. He was himself employed by a local authority, but he felt that the difficulties of municipal elections and the customary accusations of extravagance tended to prevent justifiable expenditure on broader schemes. He implied that housing should be carried out by a National board, acting in conjunction with the local authorities, but under Government control.

Consider for a moment this luncheon and its implications. The report of the Council for Research on Housing Construction has been presented unanimously by committees consisting of architects, town-planners, engineers, sanitary experts and representatives of many manufacturers in the building industry. Some of the best brains in the country have combined to produce a "Housing Bible" showing at great length the ways and means of attacking and solving the problem ; the chairman of the housing committee of the largest authority in the country has given the report his wholehearted approval ; and Liverpool's housing director has gone a step further by suggesting the best method of carrying out the proposed solution by hinting very broadly that the local authorities will have to be backed up by a national organization.

As a result of this luncheon the responsible authorities on housing have laid down these simple rules :—

The building of flats in the centre and not cottages at the edge.

Flats to be ten storeys, not five.

The revision of bye-laws.

The creation of a National Housing Board to co-ordinate the work of the local authorities.

The Architects' Journal
9 Queen Annes Gate
Westminster, S.W.1.
Telephones: Victoria
9212-7
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Buildable
Parl
London

NOTES & TOPICS

RUISLIP

THE absolutely net result of the Ruislip panel case is to be judged from the Council's announcement, reproduced elsewhere in this issue, of the modifications in Connell and Ward's design required by the Council before they will pass the plans.

*

In effect we have now to witness a most intolerable incursion into matters of personal taste, preference, prejudice, æsthetics or whatever you choose to call it by the local Council. Fully qualified architects, members of the Royal Institute, through the action of the panel, are deprived of their responsibility as architects, which function has now in part been transferred to the Council, to whom it may very easily appear as a precedent for future conduct when dealing with architects.

*

This seems to me to have been one of the poorest services to the profession ever performed by a group of that profession's own members.

AN ENGINEER REPLANS LONDON

Mr. Victor Bayley, C.I.E., C.B.E., M.I.C.E., F.R.S.A., described in the *Daily Mirror* last week a dream city that he would like to erect should London be obliterated by some catastrophe. It was so sane and orderly and concise, so admirable in its expansive lucidity, that before the war it would have been dismissed as Wellsian or (worse) Utopian, and, anyway, unpractical.

*

Now, everybody knows that London could be replanned, and knows, too, that millions of pounds will be wasted, and millions of lives will be darkened year by year until it is replanned. Mr. Bayley assembled for his visionary project all the conveniences that exist, and applied them with vigorous common sense. He linked all the termini with a great circular road—but it was all so obvious and desirable.

*

A glimmer of hope lies in the fact that the popular press is willing to publish intelligent and constructive suggestions occasionally. In time the snowball of thought thus started may gather enough weight to push down the obstacles to planning.

MR. DUDOK'S BRICK

When Mr. Dudok was over in England from Holland I was talking to him about bricks. I found he had a pet one, whose dimensions he has worked out as the ideal dimensions a brick should have, and which he uses whenever possible in his own work.

*

He made a sketch of it for me on the back of an envelope. I reproduce it here.

CIRCULATION

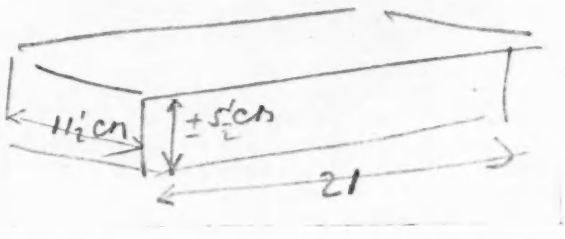
I referred a week or two ago to the possibilities of borrowing pictures on the circulating library principle. Since then I have heard from several different parts of the country of proposals to put such a system into practice. I am still surprised that it hasn't been the common practice for a long time.

*

But it will lose half its point if it is applied to academic work only; it is the modern people that should benefit from it most. The more vital the art the more important to test it by giving it a chance in its proper social surroundings; and it is just this kind of art that few people have the courage to buy outright without a trial.

*

Dare one suggest that *Unit One*, for instance, circulate its produce among a body of subscribers. If it would that



Mr. W. M. Dudok's own brick, drawn by himself.

Sculpture on the new R.I.B.A. Building: The head of "The Artisan," by C. Bainbridge Copnall.

would be a gigantic step towards the better appreciation of modern art.

*

Even the most rigorously cultivated homes are sometimes entered by the philistine, to whom a picture would appear far more reasonable doing its job in someone's sitting-room than hanging defiantly in a gallery, preaching only to the converted.

*

I recommend this seriously to *Unit One* and all other groups of modern workers. You must widen your sphere of influence before you can hope to widen your sphere of patronage.

*

In the case of *Unit One* there might be some difficulty in working the architect members of the group into the scheme. I am afraid that for them the procedure would have to be reversed ; the works of art remaining stationary while the subscribers circulated through them.

*

It would make existence much more exciting. I can think of nothing more stimulating than to know that at the end of the month you were due to move from a block of flats to a boat-house and thence to the interior of the B.B.C.

THE 1935 EXHIBITION OF INDUSTRIAL ART

Many manufacturers are taking this Academy Exhibition with becoming seriousness. The joint forces of the Royal Academy and the R.S.A. have impressed industry. But I doubt whether so much effort would have been made without the vigorous encouragement of that initial speech by the Prince of Wales.

*

I see that Mr. Geoffry Holme promises us a book on the Future of Industrial Art in the Autumn. He is closely associated with the preparations for the Exhibition, and his vast experience of this subject should produce a work that really matters.

USELESS WATER

Read quickly, as the 'buses flash by, the admonition on the Metropolitan Water Board posters : "Use Less Water," becomes two words instead of three. And the appearance of this warning coincides, appropriately enough, with the completion of many new swimming-baths.

*

A spacious open-air swimming-bath has been built in record time at Roehampton. Will it have to remain dry this summer as a tribute to the affection for planning that distinguishes our far-sighted administrators ? It is to be opened today by Sir Henry Jackson ; and presumably it will be filled for the opening ceremony, but what will the Metropolitan Water Board say ?

A NEW SORT OF CRAFT REVIVAL

The association of the words "craft" and "revival" has an intemperately sentimental suggestion about it, but a new form of craft revival is arising in the provinces, unhymned by any ardent followers of Morris, and sponsored by hard-headed, close-fisted people who have acquired a taste for good design.

*

One of these new patrons of good design told me that he got all the furniture made for his new house by a local cabinet-maker, a good, independent craftsman. It was a cheap way of getting good furniture.

*

"Did he design the furniture for you ?" I asked, and was told : "Well, not exactly. But I paid his fare up to London, and got him to go round some of the modern furniture shops—to get ideas, you know."

*

Just before everybody gets angry about this procedure, let me ask the question : did Chippendale, Seddon, Ince, Mayhew, Shearer, Hepplewhite, and the rest of the fashionable "modern" furniture makers of the eighteenth century feel aggrieved when their stuff was copied by country craftsmen ?

*

Isn't this, after all, an example of the real influence exerted upon contemporary taste by the pioneers of decent design ? Isn't it a proof of betterment in taste that their work should be imitated in the twentieth century instead of Chippendale's ?

ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

Housing blocks of more than five storeys in height are contemplated by the Chairman of the Housing Committee of the L.C.C. 887

Competitions for three new town halls (at Bury, Romford and Southall-Norwood) have recently been announced 890

The names of manufactured articles are frequently treated as purely technical or generic terms, and inserted in specifications or other instructions to builders without either initial capitals or quotation marks 899

It is most difficult to apply successfully any decorative finish to the face of a solid parapet wall the back of which is exposed 912

THE ARCHITECTS' DIARY

Thursday, June 21

VICTORIA AND ALBERT MUSEUM, *South Kensington, S.W.7. In the Central Hall. Exhibition of English Silversmiths' Work, old and modern, showing the development of various domestic types. Open during June and July.*

BRITISH STEELWORK ASSOCIATION. *At the Dorchester Hotel. International Congress for Steel Development. Official dinner. 7.0 for 7.30 p.m.*

INSTITUTION OF ELECTRICAL ENGINEERS. *At the Natural History Museum, South Kensington, S.W. Conversazione. 8.30 p.m.*

INTERNATIONAL CONGRESS FOR STEEL DEVELOPMENT. *At the Institution of Civil Engineers, Gt. George Street, S.W.1. Until June 22.*

Friday, June 22

R.I.B.A. *At 9, Conduit Street, W.1. Exhibition of Designs submitted in the Final Competition for the Rome Scholarship in Architecture. Opening day. Open until June 30.*

ARCHITECTS' UNEMPLOYED RELIEF FUND. *At No. 7 Bedford Square, W.C.1. Exhibition of the drawings and models of London and Provinces made during the past two years under the direction of the Architects' Unemployment Committee and the London Society. To be opened by Lord Snell at 3 p.m. (10 a.m. to 8 p.m.) 10 a.m.*

Monday, June 25

THE LONDON SOCIETY. *Visit to the Post Office Engineering Research Station, in Brook Road and Dollis Hill Lane, N.W.2. 2.15 p.m.*

TOWN AND COUNTRY PLANNING ADVISORY COMMITTEE

The Minister of Health has appointed an Advisory Committee to consider general questions relating to the administration of town and country planning in England and Wales, and any other related matters which may from time to time be referred by the Minister to the Committee, and, as occasion may require, to make recommendations to him. The Chairman of the Committee is Mr. E. J. Maude, C.B., Deputy Secretary of the Ministry of Health. The members of the Committee are : Professor P. Abercrombie, M.A., F.R.I.B.A., Major H. Barnes, F.R.I.B.A., F.S.I., Colonel Sir G. Courthope, Bart., M.P., Major W. H. Hamilton, J.P., Alderman G. A. Lansdown, J.P., F.R.I.B.A., F.S.I., Sir Raymond Unwin, F.R.I.B.A., Colonel C. W. Whitaker, M.A., and Messrs. E. J. Churchman, J.P., F.A.L.P.A., F. M. Elgood, C.B.E., F.R.I.B.A., C. Gerald Eve, E. P. Everest, M.B.E., T. W. Haward, F.L.A.S., H. H. Humphries, C.B.E., M.INST.C.E., J. E. James, E. C. King, T. Alwyn Lloyd, F.R.I.B.A., A. M. Oliver, W. L. Platts, W. Prescott and R. A. Reay-Nadin.

Mr. E. S. Hill, of the Ministry of Health, has been appointed secretary of the committee.

ARCHITECTS AND A VISIT TO AMERICA

Sir Raymond Unwin, PP.R.I.B.A., and Mr. L. H. Keay, F.R.I.B.A., Liverpool's housing director, have been invited by the National Association of Housing Officials of the United States to visit the States and undertake a two months' tour of fifteen American cities.

The object of the tour, in which leading architects and town-planners of the United States will join, is the obtaining of the best advice, not so much on designing and planning, as on administration, organization, and management of municipal housing.

The letter of invitation sent through the Lord Mayor of Liverpool, which was considered at last week's meeting of the Housing Committee, says, "We have made inquiries in several quarters in England and are advised on every hand that Mr. Keay is by far the best equipped man to transmit to us the benefits of your country's long experience in the management of municipal housing."

Mr. Duncan French, chairman of the committee, and other members said that the invitation was an honour to Mr. Keay and to Liverpool, and that it would have been agreeable to everybody if it were possible to release the director for the three months which acceptance of the invitation would involve.

However, the committee, in view of the volume of work in front of the department, especially in connection with the slum programme, decided that it could not recommend the City Council to release Mr. Keay.

OPENING OF CLUB FOR ARCHITECTS IN MOSCOW

The official opening has recently taken place in Moscow of a new club for architects. The club is known as the Architects' House. The idea of this club originated with Mr. L. M. Kaganovich. The club is housed on the premises of the former institute of health resorts, which have undergone thorough repair. The house has a library, reading-room, a studio, rest rooms and a hall for meetings and concerts.

THE PANEL SYSTEM

Following is an extract from a report in *The Farnham Herald* for June 9, of a meeting of the Farnham Urban Council. It is published under the heading, "Panel of Architects' Helpful Suggestions."

Mr. Baber having related that certain plans had been submitted to the advisory panel of architects,

Mr. Borelli said that an invitation was issued to members of the Town Planning Committee to meet these architects at Dorking last week. He was very favourably impressed—as he thought were other members of the Committee—with the attitude taken by the three architects. They were not faddists, but gave some most helpful suggestions, and he thought the scheme which the Council had adopted for the control of elevations was likely to lead to a great deal of good. He could not imagine it could do anything but good, not only to the town and district, but to the people who sent in plans. He looked forward to the future with a great deal of hope.

Colonel Underhill said he understood the plans of the new hospital were submitted to the board of architects.

Mr. Baber said they were and stated that the comment of the panel was as follows : "As the elevation of the building will depend on the character of the brickwork, the panel recommend a well-chosen multi-colour brick as being suitable." He would like to add that the joint Housing and Town Planning Committees had approved of these comments, said Mr. Baber.

Mr. Ewart enquired what the panel said about what were called modern dwellings.

Mr. Baber quoted one comment, which was to the effect that the panel recommended that the building should be faced with multi-colour bricks, and that the staircase turret should be reduced in height. In other words, they did not say that the modern design should be absolutely stopped, but that as long as it was not too offensive it should be approved.

CHANGE OF ADDRESS

Mr. Graham Dawbarn, M.A., F.R.I.B.A., has removed his offices to 43 Grosvenor Place, S.W.1. Telephone No. : Sloane 5161.

COMPETITION NEWS

BURY : TOWN HALL

An open competition is to be held for a proposed new town hall at Bury, estimated to cost £220,000. Mr. J. Hubert Worthington, O.B.E., F.R.I.B.A., has been appointed assessor.

ROMFORD : MUNICIPAL CENTRE

The Romford U.D.C. is to hold an open competition for a new municipal centre. Premiums of £250, £100 and £50 are to be offered for the designs placed first, second and third respectively. Competitors are to be invited to submit schemes showing (1) a lay-out of municipal buildings on Swan Meadow, with detailed plans and an estimate of the cost of municipal offices as the immediate work to be carried out, the estimate to indicate also the costs of an assembly hall to be built (*a*) at once with the municipal offices, and (*b*) at a later date ; the municipal offices to be erected at a cost in the neighbourhood of £25,000, and to provide accommodation for a 50 per

cent. increase in the present staffs ; (2) a lay-out on Mercury Gardens of other buildings such as a library, baths and fire station.

SOUTHALL-NORWOOD U.D.C. : PROPOSED TOWN HALL

The General Purposes Committee of the Southall-Norwood U.D.C. has decided to recommend the Council to hold an open competition for the proposed town hall, and that the President of the R.I.B.A. be approached with a view to assisting in the appointment of an assessor.

TUNBRIDGE WELLS : CIVIC CENTRE

The Corporation of Tunbridge Wells has decided to proceed with the scheme for a new civic centre.

Mr. E. Berry Webber, F.R.I.B.A., has been appointed assessor ; and four premiums of £300, £200, £100 and £75 are offered. Conditions are now obtainable (deposit £1 1s.) from Mr. J. Whitehead, Town Clerk, Tunbridge Wells. The last day for submission of designs is September 22.

Competitions Open

June 23.—Sending-in Day. Venesta, Ltd., invite architects resident in Great Britain and under the age of 30 on January 31, 1935, to submit in competition designs for an exhibition stand to display Venesta plywoods at the Building Trades Exhibition at Olympia in September, 1934. Assessors : H. de C. Hastings, Editor, *The Architects' Journal*, W. L. Wood, Editor, *The Architect and Building News* ; W. T. Plume, Editor, *The Builder* ; Henry Rutherford ; John Gloag ; and E. Maxwell Fry, A.R.I.B.A., (nominated by the Editor of *The Architectural Review*). Premiums : £100 and four of £10 each. Conditions of the competition may be obtained from Messrs. Venesta, Ltd., Vintry House, Queen Street Place, London, E.C.4.

June 26.—Sending-in Day. Proposed Council Offices, Slough, for the Slough U.D.C. Assessor : H. S. Goodhart-Rendel, V-P.R.I.B.A. Premiums : £250, £150 and £100 for designs placed first, second and third, respectively. Conditions, etc., may be obtained from F. R. Duxbury, Clerk to the Council, Council Offices, Slough. (Deposit £1 1s.). Last day for submission of designs : June 26.

July 16.—Sending-in Day. Proposed Council School, Dudley. The competition is limited to architects having an office within 15 miles radius of Dudley. Assessor, H. T. Buckland, F.R.I.B.A. Premiums : £150, £100 and £50. The last day for application for questions was May 7. Designs should be submitted to the Director of Education, Education Offices, St. James' Road, Dudley.

July 31.—Sending-in Day. Proposed Municipal Sanatorium and Children's Hospital, Belfast. Competition limited to architects who have resided in Northern Ireland since March 1, 1933. Assessor : R. S. Wilshere, F.R.I.B.A, Premiums : 500, 200 and 100 guineas. The last day for questions was April 28. Designs should be submitted to the Town Clerk, City Hall, Belfast.

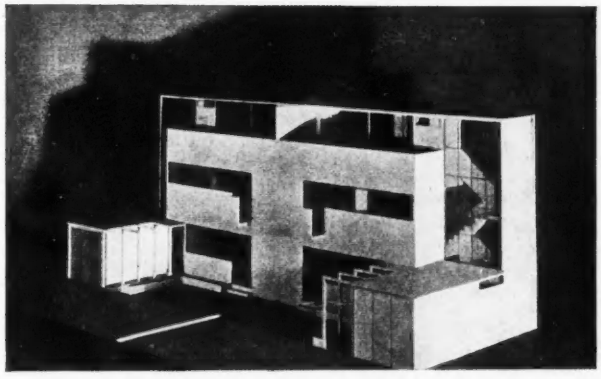
August 17.—Sending-in Day. Proposed new Municipal Offices for the Swinton and Pendlebury Urban District Council. Assessor—J. R. Adamson, F.R.I.B.A. Premiums : £150, £100, £75. Last day for questions was June 11. Conditions (deposit one guinea) from the Clerk to the Council, Council Offices, Swinton, Manchester.

August 31.—Sending-in Day. Proposed Memorial Assembly Hall at Methodist College, Belfast. Assessor : Mr. R. S. Wilshere, F.R.I.B.A. Competition is open to architects resident in Ireland. Premiums : £100 and £50. Designs must be submitted to Mr. Wilshere at the Education Offices, Belfast, not later than 10 a.m. on Friday, August 31. The last date for questions is July 2.

September 22.—Sending-in Day. Civic Centre, Tunbridge Wells. (See note above.)

October 1.—Sending-in Day. Proposed Municipal Assembly Halls, Wolverhampton, for the Wolverhampton Corporation. Assessor : C. Cowles Voysey, F.R.I.B.A. Premiums : £350, £250 ond £150. Conditions from the Town Clerk, Town Hall, Wolverhampton. Last day for questions was May 21. (Deposit £1 1s.

THE RUISLIP CASE — LATEST



The Ruislip-Northwood Urban Council have now issued an announcement of the modifications they require to be made in the house at Ruislip illustrated above, designed by Connell and Ward. The original design, it will be remembered, was rejected by the Council, who were advised to persist in their rejection by the local Advisory Panel, their decision being upheld by an arbitrator appointed by the R.I.B.A. Under the present law they have to announce the modifications they require within 28 days. Following is the text of the Council's announcement, as issued to the clients :—

PLAN No. 4179.

Dear Sirs,—My Council yesterday considered Clause 7 of the Arbitrator's Award (in respect of which you were good enough slightly to extend the period of 28 days) and passed the following Resolution :—

That the Council require that Plan No. 4179 be modified as follows :—

(1) By the re-designing of the staircase wings so as

(a) materially to reduce the area of glass therein, and

(b) to reduce the height and the width thereof.

(2) By the re-designing of the bedroom windows so as to provide breaks in the continuity of the glass. In this connection I have to state that, quite unofficially, a sketch plan has been prepared, which gives some indication of what the Council have in mind. If you think that it would assist you, we shall be very pleased for you or Messrs. Connell and Ward to inspect it here.

Yours faithfully,

(Signed) GORDON H. TAYLOR
Clerk to the Council.

[*The story of the Ruislip case, together with an account of the arbitration proceedings, appeared in our issue for May 24. See also Astragal's note in this issue.*]

THIS ARSHETECTURE

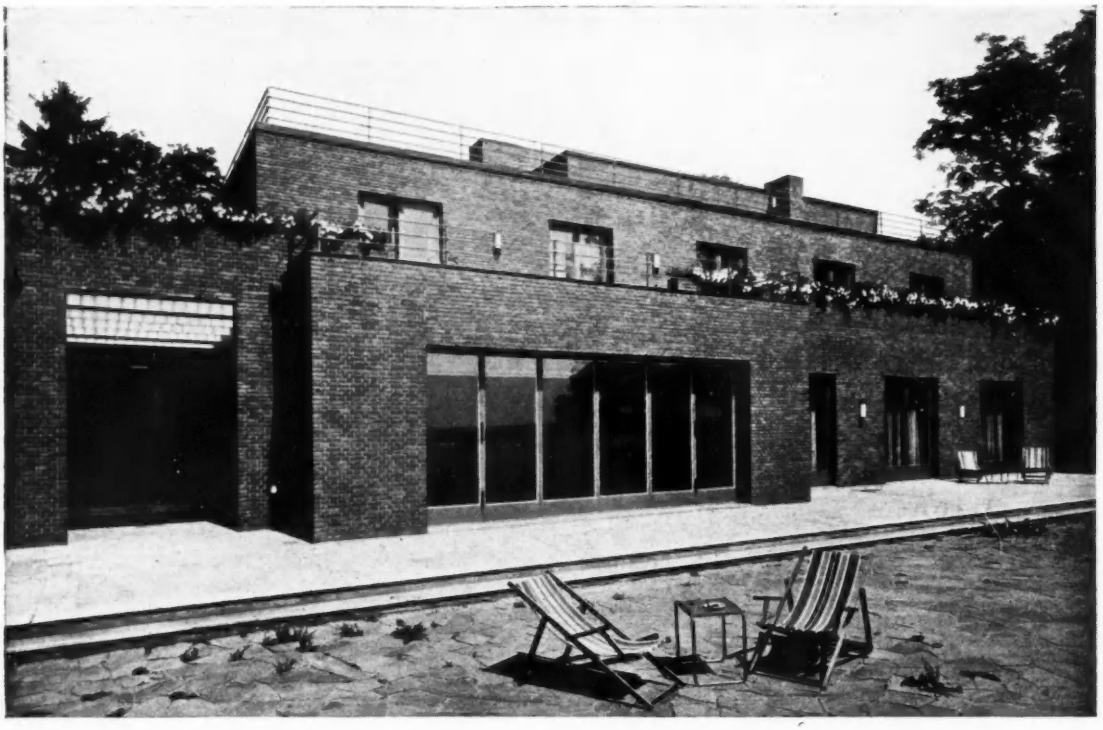
In the midst of insistent demands that the countryside should be preserved from unsightly hoardings and filling stations, it is noteworthy that Mr. H. Johns, a Hucknall councillor, has erected on the Annesley main road a building which stands unique in its class as a petrol retailing depot.

The structure is outstanding by reason of the fact that old materials have been utilized to erect a building on modern lines with tower and battlements.

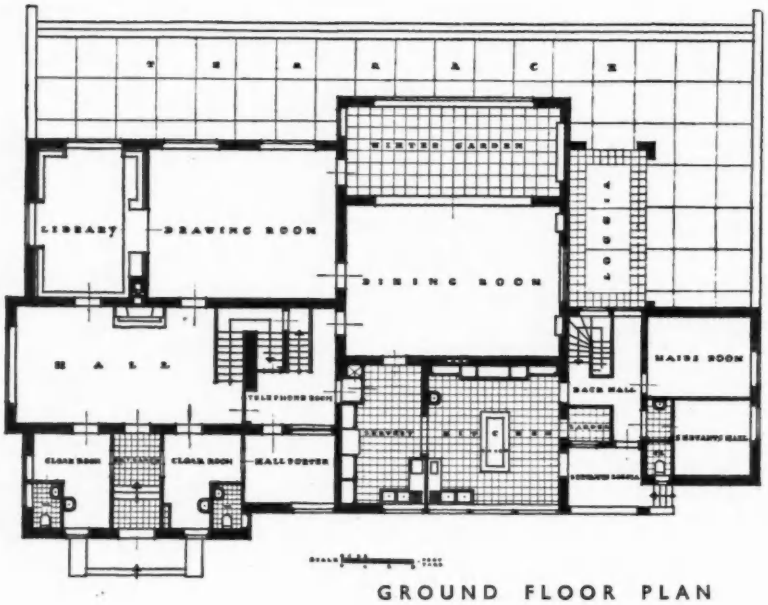
The stone used was from century-old houses recently demolished at Hucknall, but the charm of the building lies in the fact that the stone pillars, windows and doors are from the Nuthall Temple Estate. It is the work of amateurs.

From THE NOTTINGHAM GUARDIAN.

COUNTRY HOUSE ON



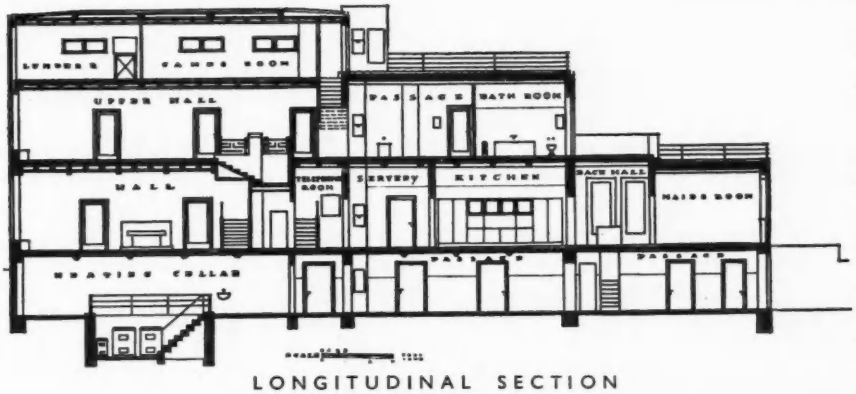
The south elevation. The folding door, about 20 feet wide, gives access to the winter garden. The view from the house is seen reflected in the glass panels of the door. The walls are constructed of Dutch and surfaced bricks; the flowers are in metal troughs sunk in the walls. The railings are of iron, painted blue; and the gutter and rainwater pipes are in copper. The paving of the upper terrace is of marble in various tints, that of the lower being laid with red sandstone.



GROUND FLOOR PLAN

A LAKE NEAR BERLIN

DESIGNED BY ERNST L. FREUD

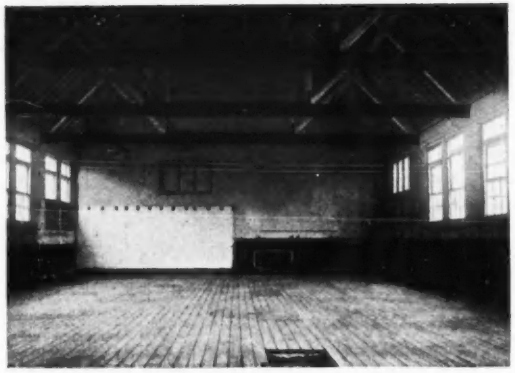


LONGITUDINAL SECTION

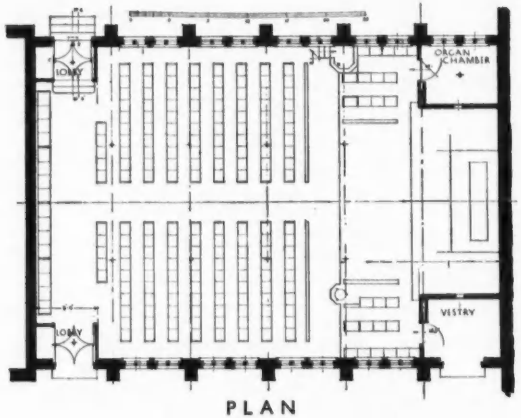
Above: A view from the roof terrace, looking down on to the balcony and ground-floor terrace.

Below: The upper hall. The ceilings and walls are painted light grey; and the floor is covered with dark blue linoleum. The doors are of oregon pine, light stained; the door panels are of celotex covered with bright blue linoleum; and the lighting fittings are of opal glass in new-silver frames.

CHURCH OF ST. BARBARA, WHALE ISLAND



The ammunition room before conversion.



PLAN

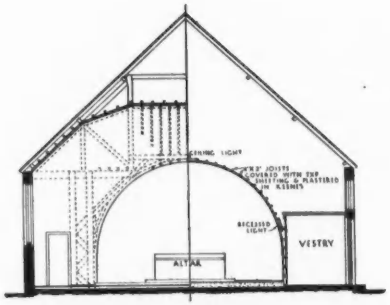
The interior of the church after conversion.

The site of the Church is the old ammunition room off the "Quarter Deck" of Whale Island. It is planned to seat 200 and to form a complete building with altar, pulpit, choir stalls, vestry, and organ chamber for a future organ.

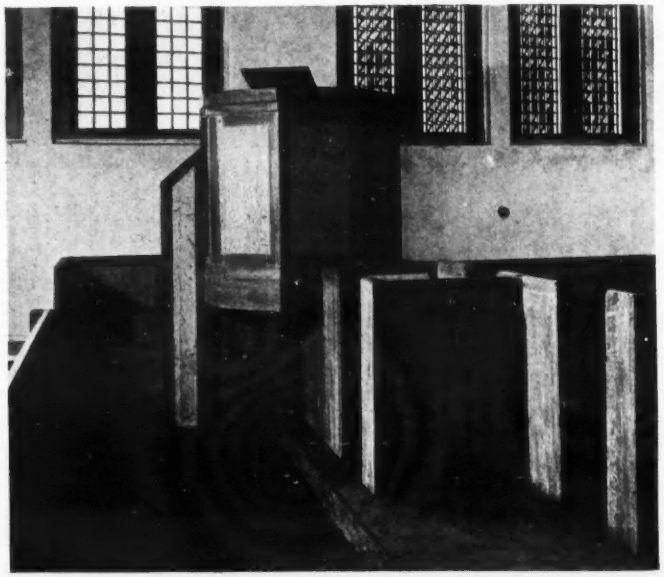
Economy being an important consideration it was decided to carry out various structural alterations to the inside of the building in one or two fundamental ways in order to improve the proportions and to provide a dignified shelter for the altar. The roof has been boarded in at a somewhat lower level, with boards of a pleasant cream colour and rough texture, the existing trusses painted to match. The sanctuary, vestry and organ chamber have been formed by cutting off one bay and covering the altar with an arch 24 ft. in diameter, doors on either side leading to the vestry and organ chamber. The existing sashes to the windows have been removed and each window divided into two tall and narrow openings by new mullions. New porches have been formed at the end, and the walls plastered inside, giving a natural pale cream colour and slightly rough texture, which is a good acoustic surface. The effect of these alterations is entirely to change the appearance of the old ammunition room and to provide a building of a definitely ecclesiastical form.

The decorations and fittings are designed to show clearly that the Church is a sailors' Church. The altar frontal is blue, and the dorsal and riddels gold: the cross and candlesticks are silver plated, and before the altar hangs a silver plated lamp designed on the lines of a ship's lantern. The doors are blue and the windows of the choir have coloured glass with blue as the predominating colour. The electric fittings are blue and gold.

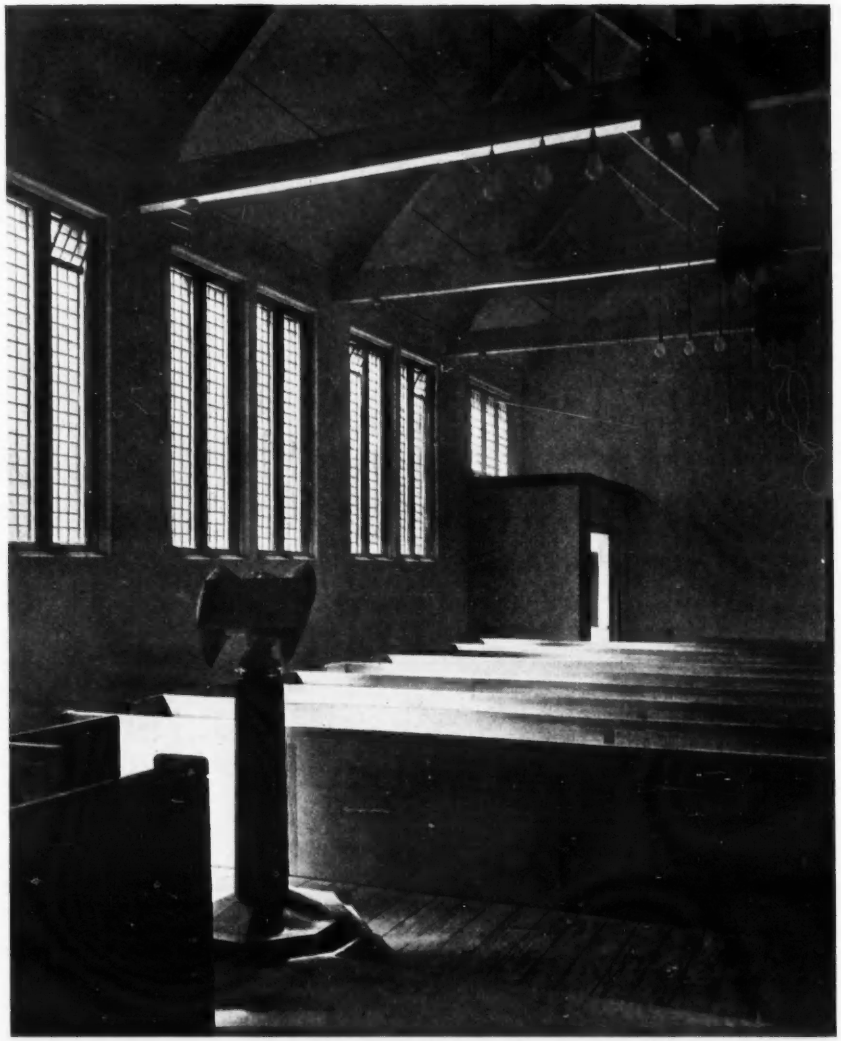
The floor of the main body of the Church is decking scrubbed white, and the floor of the choir granolithic of an eggshell colour. The sanctuary floor is black granolithic.



CROSS SECTION



A detail of the pulpit and choir stalls.



The choir stalls and pews are in limed oak, giving a silver-grey finish.

DESIGNED BY WELCH, CACHEMAILLE-DAY AND LANDER

OBITUARY

THE LATE FREDERICK CHATTERTON

AN APPRECIATION: BY C. W. GLOVER

THE news of the sudden death of Mr. Frederick Chatterton, F.R.I.B.A., was received with universal expressions of deepest regret by his numerous friends in the architectural profession. Heart failure at 6 a.m. on Saturday last was responsible for the untimely loss of one of the profession's most dignified and beloved members.

Mr. Chatterton, by his outstanding personality, carved for himself an unassailable position in the architectural world and his unfailing charm of manner endeared him to all with whom he came in contact both in the architectural and engineering professions and the building trade generally.

To those of us who were brought into daily contact with him, his passing came as the greatest of shocks, as he was well and in good spirits the evening before.

His memory will be preserved in the minds of the members of the profession for many generations to come, not only for his much appreciated services to them, but also on account of his many publications, including *Specification*, of which he was the distinguished Editor for so many years.

Born in London in 1871, Mr. Chatterton was the third son of the late Mr. George J. Chatterton, of Derby. He received his architectural education at the Royal Academy School, the Regent Street Polytechnic, and abroad. He was articled to Mr. John T. Lee, F.R.I.B.A., and later served as assistant to Mr. C. J. Phipps, Mr. J. T. Micklethwaite, Surveyor to Westminster Abbey, and Mr. Somers Clarke, Surveyor to St. Paul's Cathedral. Mr. Chatterton was appointed lecturer in building construction and quantities at the Egyptian Government School of Engineering, Giza, in 1909; three years later he joined the architectural staff of the Ministry of Public Works, Cairo. During the latter part of the war he was R.E. Shipping Officer at Kantara, Suez Canal.

In 1919 Mr. Chatterton resigned his post at the Ministry of Public Works, Cairo, and returned to England, and was appointed Editor of *Specification*, which position he held until his resignation in February last, when he decided to resume private practice. During this period he was also responsible for a number of books which include *Who's Who in Architecture*; *English Architecture at a Glance* (1923); *Houses, Cottages and Bungalows* (1926); *Shop Fronts* (1927); and *Small Houses and Bungalows* (1932); also technical articles and book reviews for *The Architectural Review*, THE ARCHITECTS' JOURNAL and the *R.I.B.A. Journal*. Mr. Chatterton was a member of the R.I.B.A. Literature Standing Committee in 1908, and the R.I.B.A. Practice Standing Committee since 1924.

His architectural works included: St. Patrick's Church, Pietermaritzburg, Natal; masonry approaches to the New English Bridge, Cairo; and, in partnership with W. E. Couch, offices at Lloyd's Avenue, Fenchurch Street; residence at Bilbao, Spain.

The body was interred at Fulham New Cemetery, North Sheen, on Tuesday last.

R. I. B. A. ELECTIONS

At a general meeting of the Institute held on Monday last, the results of the annual elections to the Council and the Standing Committees were announced as follows:—

PRESIDENT: Sir Giles Gilbert Scott, HON.D.C.L., HON.LL.D., R.A.

PAST PRESIDENTS: Mr. E. Guy Dawber, A.R.A., F.S.A., and Sir Raymond Unwin.

VICE-PRESIDENTS: Messrs. W. H. Ansell, M.C., John Begg (Edinburgh), H. S. Goodhart-Rendel and Maurice E. Webb, D.S.O., M.C., M.A.CANTAB.

HONORARY SECRETARY: Mr. Henry M. Fletcher, M.A.CANTAB.

HONORARY TREASURER: Lt.-Col. P. A. Hopkins, O.B.E.

MEMBERS OF COUNCIL: Professor Patrick Abercrombie, M.A.LIVERPOOL (Liverpool), Professor S. D. Adshead, M.A.LIVERPOOL, Professor C. H. Reilly, O.B.E., M.A.CANTAB. (Brighton), Professor A. E. Richardson, F.S.A., and Messrs. Henry V. Ashley, E. C. Bewlay (Birmingham), Herbert T. Buckland (Birmingham), Joseph Emberton, W. Curtis Green, R.A., E. Stanley Hall, M.A.OXON., P. D. Hepworth, Charles H. Holden, H. V. Lanchester, Oswald P. Milne, Howard M. Robertson, M.C., S.A.D.G., L. Sylvester Sullivan, Sydney Tatchell, Percy E. Thomas, O.B.E. (Cardiff).

ASSOCIATE MEMBERS OF COUNCIL: Messrs. W. Naseby Adams, Cyril A. Farey, E. Maxwell Fry, B.ARCH.LIVERPOOL, R. Goulburn Lovell (Eastbourne), R. Norman Mackellar (Newcastle-upon-Tyne), W. S. Purchon, M.A. (Cardiff), Michael J. Tapper, M.C., E. Berry Webber and Charles Woodward.

LICENTIATE MEMBERS OF COUNCIL: Major F. W. Rees (Croydon) and Messrs. H. L. Baker (Romford), Stanley A. Heaps, G. N. Kent, F.S.I., Francis R. Taylor and Percy J. Waldram, F.S.I.

REPRESENTATIVES OF ALLIED SOCIETIES: (1) Six Representatives from the Northern Province of England: Colonel William Milburn, T.D., B.SC., F.S.I. (Northern Architectural Association), Mr. James R. Adamson (Manchester Society of Architects), Lieut.-Colonel Ernest Gee (Liverpool Architectural Society), Mr. Frederick J. Horth (York and East Yorkshire Architectural Society), Mr. B. R. Gribbon (West Yorkshire Society of Architects), Mr. J. M. Jenkinson (Sheffield, South Yorkshire and District Society of Architects and Surveyors).

(2) Five Representatives from the Midland Province of England: Mr. W. T. Benslyn, A.R.C.A. (Birmingham and Five Counties Architectural Association); Mr. T. Trevor Sawday (Leicester and Leicestershire Society of Architects), Mr. W. A. Lea (Northamptonshire, Bedfordshire and Huntingdonshire Association of Architects), Major Charles H. Calvert, M.C. (Nottingham, Derby and Lincoln Architectural Society), Mr. Eric W. B. Scott (East Anglian Society of Architects).

(3) Six Representatives from the Southern Province of England: Messrs. Arthur H. Ough, M.INST.C.E. (Devon and Cornwall Architectural Society), G. C. Lawrence, R.W.A. (Wessex Society of Architects), Stanley H. Hamp (Berks, Bucks and Oxon Architectural Association), Hugo R. Bird (Essex, Cambridge and Hertfordshire Society of Architects), Lieut.-Colonel R. F. Gutteridge, T.D. (Hampshire and Isle of Wight Architectural Association), one representative to be nominated by the Council of the South-Eastern Society of Architects.

REPRESENTATIVE OF THE ARCHITECTURAL ASSOCIATION (LONDON): The Hon. Humphrey A. Pakington.

CHAIRMAN OF THE BOARD OF ARCHITECTURAL EDUCATION: Mr. A. H. Moberly.

ART STANDING COMMITTEE.—*Fellows:* Professor Stanley Davenport Adshead, M.A., LVPL. and Messrs. L. H. Bucknell, Joseph Emberton, C. Lovett Gill, Stanley Hamp, A. B. Knapp-Fisher, H. V. Lanchester, F. W. Newman, T. S. Tait and G. G. Wornum. *Associates:* Messrs. N. F. Cachemaille-Day, E. Maxwell Fry, B.ARCH.,LVPL., W. M. Keesey, M.C. (Birmingham), Raymond McGrath, B.ARCH.,SYDNEY, Frederick Towndrow and E. Berry Webber. *Licentiates:* Messrs. R. G. Brocklehurst (High Wycombe), A. S. Soutar, S. L. Whitehouse (Birmingham).

LITERATURE STANDING COMMITTEE.—*Fellows:* Professor Leslie Patrick Abercrombie, M.A.,LVPL. (Liverpool), Professor A. E. Richardson, F.S.A., Professor L. B. Budden, M.A.,LVPL., and Messrs. Louis Ambler, F.S.A., M. S. Briggs, D. Theodore Fyfe, M.A.,CANTAB. (Cambridge), H. S. Goodhart-Rendel, P. D. Hepworth, Sydney D. Kitson, M.A.,CANTAB., F.S.A. (Kidlington), and A. L. N. Russell. *Associates:* Messrs. Hope Bagenal, D.C.M., S. E. D. Bower, M.A.,OXON., W. G. Holford, B.ARCH.,LVPL. (Liverpool), G. A. Jellicoe, G. B. Tubbs and Miss Elizabeth Scott. *Licentiates:* Miss Jocelyn Frere Abram, Messrs. W. W. Begley and N. Jewson, M.A., CANTAB. (Cirencester).

PRACTICE STANDING COMMITTEE.—*Fellows:* Messrs. Henry V. Ashley, H. T. Buckland (Birmingham), W. T. Curtis, H. S. Fairhurst (Manchester), Arthur Keen (Limpsfield), Edmund B. Kirby, O.B.E. (Liverpool), L. Sylvester Sullivan, Percy E. Thomas, O.B.E. (Cardiff), Herbert A. Welch and Major C. F. Skipper (Cambridge). *Associates:* Messrs. John Batty, D. Herman Beaty-Pownall, B. Stewart Hume, R. Norman Mackellar (Newcastle-upon-Tyne), James M. Ross, Charles Woodward. *Licentiates:* Messrs. Louis Blanc, A. B. Hayward, P.A.S.I., M. W. Matts.

SCIENCE STANDING COMMITTEE.—*Fellows:* Messrs. H. M. Fairweather, W. A. Harvey (Birmingham), Alan E. Munby, M.A.,CANTAB., T. E. Scott, H. D. Searles-Wood (Sutton), John Swarbrick (Manchester), Reginald M. Taylor, S. Pointon Taylor, Thomas Wallis and Lieut.-Col. Percy Alfred Hopkins, O.B.E. *Associates:* Messrs. A. E. Cameron, F. M. Cashmore, Alister G. MacDonald, Charles S. White, L. W. Thornton White, R. C. White-Cooper, M.C., B.A.,LOND. *Licentiates:* Messrs. Oliver P. Bernard, O.B.E., M.C., Francis R. Taylor and P. J. Waldram, F.S.I.

LETTERS *FROM* READERS

Ruislip

SIR,—In view of recent affairs which involved the dangerous action of "qualified architects" criticizing "qualified architects," might I suggest that this be made impossible by ensuring that the advice of the panel is sought only in cases where the proposals are prepared and submitted by persons other than members of bodies affiliated to the R.I.B.A.

If this cannot be arranged, I think the matter may quite well be left as it always has been. Let the Engineer to the Council decide whether a building is suitable for its intended neighbourhood. He may not be a "qualified architect"—but he will probably have a pretty fair idea of what is suitable. As to commenting on the construction of a building, surely this is beyond the intended scope of the Panel.

It would be only fair to add, although it is probably rather obvious, that I am a Local Government Officer.

J. ROGER HALE
London

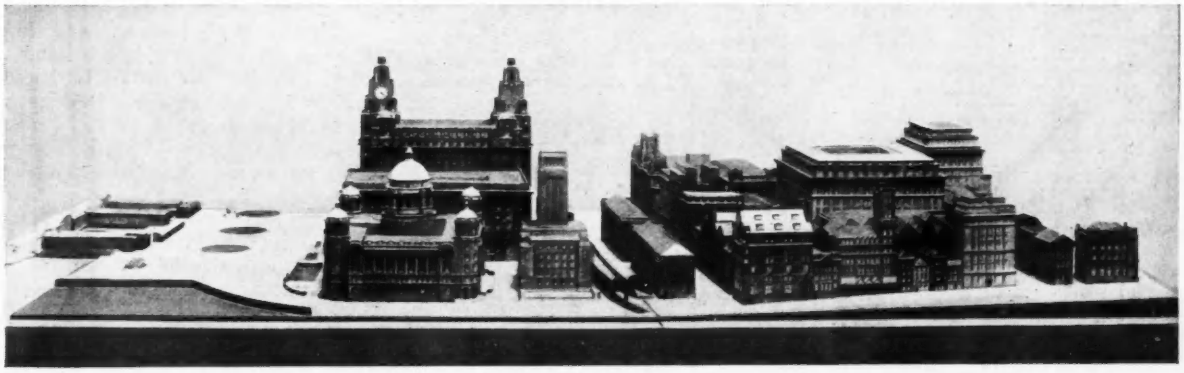
SIR,—I think it is a pity that the proverb does not read: "Those who like glass houses should not throw stones," because I feel somehow that the approach to this matter has not been really in the best interests of anyone concerned. Still, the game having started, we may as well all join in, and if we coat our stones with mud, it is only to make our throwing more humane.

Although I do not quite agree with the Panel's views as published, I am not sure that their decision may not ultimately be in the best interests of the profession.

The houses that have caused all this flutter seem to me again to demonstrate the danger of style in architecture. For the last hundred years we have been prone to admire a building because of its style and not on its architectural merits, and these houses, whilst no doubt a sincere effort to produce a modern design, in my judgment are just as much a collection of features as the speculative builder's Tudor efforts are.

These houses have all the necessary ingredients required to give the building a label of "Modern." We have the glass encased stairs. These will cost a small fortune if curtains are used, will be expensive to keep clean outside and

J. ROGER HALE, P.A.S.I.
R. S. WILSHERE, A.R.I.B.A., P.A.S.I.
MANUFACTURER
H. L. CURTIS, A.R.I.B.A.
A. E. HAMMOND
R. MYERSCOUGH-WALKER, A.R.I.B.A.
ANDREW CARDEN
RICHARD W. GRAY
EDWIN WILLIAMS M.A., B.Arch., F.R.I.B.A., M.R.I.A.I.
SIR BENJAMIN DRAGE



The changed aspect of the shipping quarter of Liverpool brought about by the construction of the main ventilation building and administrative and control offices for the new Mersey Tunnel at George's Dock is illustrated by a model now on view in Liverpool, a photograph of which is reproduced above. On the extreme left are the ferry structures; the first group of buildings contains the Mersey Docks and Harbour Board offices, the Cunard Building, and, at the back of the model, the Liver Building, from whose towers the celebrated Liver birds are absent. The ventilation building is behind the Dock Board building. This is one of the two faced in Portland stone, and is the only one of the six to have windows. The Overhead Railway runs close behind it, and to the right again are the old Goree Piazzas, warehouses dating from Liverpool's slave-trade days. The principal buildings in the remainder of the model are the large ones on the right of the picture, for both of which Mr. Herbert J. Rowse, F.R.I.B.A., the tunnel architect, is responsible. The larger is the India Building (for Messrs. Alfred Holt) and the smaller is Martin's Bank building. The model is the work of Mr. Edmund C. Thompson and Mr. G. T. Capstick.

difficult to clean inside, will tend to make the house too hot in summer and too cold in winter, and will probably give much bother with condensation enclosing such a relatively small area. Such windows may be and are quite logical in many large buildings where they can really serve a useful purpose. Then we must have a balcony. In this case, however, it is so small that it serves no useful purpose, and with its open sides only makes the bedroom more difficult to curtain for privacy. A flat roof is, of course, essential; but why a flat roof is the feature that really makes a building modern is a little difficult to understand, as in all styles and periods we find the flat roof used, and no one uses a flat roof if their garden is suitable for sitting in.

But my real objection is not that these "modern details" have been used, but that if they are used a design is hailed with delight, regardless as to whether the result is pleasing or efficient.

If all that is required to produce a modern design is to provide one or more super-sized windows, a few balconies and a flat roof, I think the speculative builder will soon find this is easier to achieve without an architect's assistance than are his present Tudor efforts.

If we are to go modern, and I hope we may, I think we want to study the best Continental buildings a little more deeply and remember that architecture is not just a collection of fashionable features; it is not even a building of concrete instead of brick; it is a matter of producing a building that is pleasing in itself, whatever its style, to be judged by its æsthetic appeal and not by its individual features.

R. S. WILSHERE
Belfast

Substitution

SIR,—I have read with interest the correspondence which has already appeared on this subject, and I think you may be interested in a case in which I was intimately concerned.

The caste, who must remain anonymous, consists of:

The architect, A;
The contractor, C;
The suppliers of insulating board, B;
The suppliers of plywood, P.

The specification demanded the use of a particular type of veneered plywood, cemented to a particular type of wallboard by a patented process, and sold under a registered trade name, "P-B."

A quantity of the specified wallboard was supplied to the contractor and the job proceeded. It was not until representatives of the two supplying firms visited the site that the presence of unspecified materials was revealed.

The following correspondence then passed between the suppliers, the contractor and the architect.

Wallboard supplier, B, to architect, A:

Referring to our visit to ——— House with a member of Messrs. P.'s staff, we beg to confirm that the material used on the job was not "P-B," and further, that the wallboard to which the mahogany is fixed is not "B," and we cannot be held responsible for the job in question.

Our recommendations and statements were based upon the use of "P-B," the process of manufacture of which has been thoroughly tested and all of which statements and recommendations were based on the assumption that this specific material would be used.

Contractor to wallboard supplier:

Mr. A. (the architect) sent us a copy of your letter of the 1st instant. We are very much surprised at your statement that the "B" board supplied to us under this order for use at ——— House, was not "B."

We shall be glad to have your explanation of this, as it was invoiced to us as "B," and supplied to the job in the belief that it had been correctly described. If the material was not "B," please let us know what it was.

Architect to wallboard supplier:

I thank you for your letter of December 1st. I have taken the matter up with the contractors, and received a copy of the invoice for about 4,000 ft. of "B," dated November 1st and 5th.

I am assured by the Managing Director that the whole of this consignment was used on this job, except for some small strips around the architraves of the glazed frieze.

I therefore take it that your recommendations and statements with regard to the "B" board *will* apply to the work under my supervision at ——— House, and I do not understand why your representative assumes "B" generally has not been used.

Wallboard supplier to architect:

We thank you for your esteemed favour of yesterday's date. We still contend that the material used on ——— House was not "P-B." We supplied the general contractors with 3,584 square feet of "B" board, and believe you have in your specification, "B" wallboard faced with "P" plywood to be purchased from Messrs. P. As "P" plywood has not been used and the "B" wallboard has not been cemented by a process which we know and can guarantee, namely, the "P-B" process, we thought it advisable to write you as we did on the 1st instant. Furthermore, the samples we have at our offices, which were picked up on the job, are of insulating board covered with mahogany. The insulating board is not "B" board, and the wood is not "P" plywood.

Wallboard supplier to contractor:

We note that you are surprised at our statement in our letter to the architects of the 1st instant, of which they have sent you a copy. We agree we supplied you, delivered to your works, with 3,584 square feet of "B" board. When our representative visited ——— House he collected two samples of insulating board covered with mahogany and the insulating board is not "B," neither is the mahogany plywood, and it is not cemented together by the "P-B" process. We are very pleased to hear that you have used our material on this job, but at the same time we are bound to bring to the notice of the architect the facts as stated above. Furthermore, the architects' specification was "B" board covered with "P" plywood, to be purchased from Messrs. P., and when we gave our recommendations to the architects, we gave them on "P-B." This job is not "P-B," and neither is the mahogany finished plywood, and where plywood is used it is not "P" plywood.

At this point, as so frequently happens, the whole question was closed. The client was anxious for the job to be completed, and the architect was unwilling to risk his reputation by delaying completion or revealing that he had allowed another material to be used without his knowledge, although he could hardly be blamed for it.

As a manufacturer I have been informed more than once that my products have failed, and, on examination, I find that they have not been used at all. You, sir, are performing a service of great value when you draw the attention of the profession to these serious abuses. The architect is, after all, responsible to his client, and the substitution of inferior materials can only damage his own reputation.

MANUFACTURER
London

SIR,—Astragal's note on Substitution suggests that his architect friends are unlucky in their contractors, but though, no doubt, unscrupulous builders are at times guilty of substitution, I suspect that in many cases the trouble arises from vague specification. The phrase "or equal" beloved of the old school of architects is not suitable to modern conditions, and the old rule that a specification should contain as few P.C. amounts as possible is no longer valid.

The rule was based on the supposition that one should leave the contractor free to use his expert knowledge as a buyer to obtain the lowest price. The rule may still apply to materials of which the quality can be judged by external inspection, for both contractor and architect can reject them if they are evidently unsatisfactory.

Very many materials nowadays, however, can only be satisfactorily tested in the factory during manufacture, and one must rely on the reputation of the manufacturers for the quality of the

material. It is therefore necessary with materials of this type to specify the firm to supply the material, and the price. When work is started the specified firm should be notified by the architect that an order is to be expected, and it is safe to say that they will inform the architect if the order is not received. The price should be specified, for, if it is not, tendering contractors must all obtain quotations from the manufacturer, who thereby obtains a complete list of tendering firms, which makes collusive tendering a possibility.

H. LEWIS CURTIS
London

SIR,—In his reference to the menace of substitution of materials by builders and contractors Astragal overlooks the fact that architects are themselves largely to blame for this owing to their indifferent methods of specifying materials, and their failure to differentiate between technical terms and proprietary brand names, or between genus and species.

The names of many manufactured articles that have come into popular use as building materials are frequently treated as purely technical or generic terms, and inserted in specifications or other instructions to builders without either initial capitals or quotation marks.

This loosely applied nomenclature is notorious in connection with plastic moulded products like synthetic resin, with opaque glass, and with the proprietary metal alloys. I have frequently heard proprietary brand names applied to materials which I have known to be of entirely different brands.

The technical and (be it whispered) the architectural press, which should surely have a scrupulous regard for this technical terminology, are, with a few rare exceptions, frequent offenders in this misuse of proprietary trade names, and it is an unfortunate fact that several of the most reputable standard dictionaries are now providing valuable free advertising for manufacturers by treating the protected names of some of their products as common nouns.

A. EDWARD HAMMOND
Upminster

Differentiation

SIR,—I like Raymond Walker and applaud his enthusiasm for the innumerable worthy causes he appears to sponsor. We were at school together, and I should hate it if he imagined my desire *not* to be associated with his name were anything but the desire of mine to live peacefully.

Briefly, our names are becoming confused. Could you devote a little space in your "Letters from Readers" department to make known this fact to those who insist on writing to me to save them from being un-registered architects, or over-registered surveyors.

RAYMOND MYERSCOUGH-WALKER
London

Economics for the Architect

Sir,—There is no physical obstacle to carrying out any architectural project. There is unprecedented abundance of materials, mechanical power and technical knowledge. Yet the most pressing needs of the community are entirely neglected, because the money tokens in the hands of the public are insufficient to meet the costs (financial not physical) of the undertaking. So long as the monetary system is run in the interests of those who deal in money as a commodity, so long will there be the paradoxical deadlock. Slums and housing shortage on the one hand and unemployment and bankruptcy in the building trade on the other. Your correspondent "Archiconomist" drew attention to this problem and its solution—the Social Credit proposals of Major C. H. Douglas.

This problem is of paramount importance to architects both professionally and as members of the community. May we suggest that THE ARCHITECTS' JOURNAL should include in its survey of the housing problem an investigation into the Monetary System, which is the controlling factor in that problem?

ANDREW CARDEN
RICHARD W. GRAY
London

SIR,—Surely your correspondent who writes under the name of "Archiconomist" is in error when he suggests that no writer has as yet discussed slum clearance in terms of the modern theories of monetary reform. Perhaps he is unaware that there has been published recently a pamphlet advocating the building of a hundred new towns for Britain, and that the author of this scheme, who signs himself under the pseudonym of J. 47485, has proposed that the Treasury should be empowered to create new money on the surety of the buildings to be erected by its use.

This "debt free" method of finance has the advantage over many of the modern theories in that it has been put to the test, for it was most successfully employed in the island of Guernsey one hundred years ago. In case some of your readers may not be conversant with the details of this notable experiment may I describe it very briefly?

Soon after the Napoleonic Wars the people of Guernsey found themselves in a state of extreme poverty. The island apparently had no financial resources and no securities on which to borrow money. Fortunately, however, the Tory squires who governed the island had a bright idea. There was an urgent need for a covered market place to protect from the weather the agricultural produce of the island on the occasions on which it was displayed for sale. They printed six thousand £1 notes with which they paid the contractors and workmen for the erection of a handsome stone building which exists to this day. They charged rents for the stalls of the market which amounted to £600 a year, and the money received from this source was promptly destroyed. At the end of ten years all of the six thousand £1 notes had been cancelled.

Let us sum up this transaction. Ultimately, there was no inflation because the amount of money in circulation had not been increased. Yet the State had come into possession of a very fine building without getting into debt or taxing its citizens. Strange to say, no punishment either human or divine descended on them on account of this flagrant defiance of the canons of orthodox finance.

Emboldened by this initial success they proceeded on their wicked course to further deeds, and had the hardihood to employ the same financial technique for the building of a new harbour, a number of broad streets lined with charming buildings in the admirable architectural style of the period, not to mention schools and other structures, all of which redounded to the honour and the credit, both spiritual and financial, of the inhabitants.

For 30 years the island enjoyed a remarkable degree of prosperity until some local bankers, deprived, alas, of their opportunity to grow rich by the practice of usury in connection with these transactions, complained to the Privy Council, who, after consultation with the Governors of the Bank of England, deprived the Guernsey State of its sovereign right to create its own currency.

The author of the pamphlet, *A Hundred New Towns for Britain*, expressed the view that the Treasury should be empowered to employ at its discretion a similar method for financing the building of houses for those wage earners who cannot possibly afford to pay the rents which must necessarily be demanded of them under the present system, whereby provision must be made for the repayment of interest and sinking fund.

In confining monetary reform to the sphere of building alone is he not showing a more acute political sense than is displayed by those who make a frontal attack upon the financial system as a whole? Yet the proposal surely has the merit of being based upon a realization that in no circumstances whatsoever is it possible

to solve the slum problem satisfactorily by what is known as "orthodox finance."

EDWIN WILLIAMS
London

Empire Timbers

SIR,—The Prince of Wales, speaking a few days ago as president at the annual meeting of the Empire Forestry Association in London, said, after a reference to the high quality of Empire timbers :

"It now remains with architects, builders, furniture makers and wood users generally to make good use of the varied and extensive choice at their disposal."

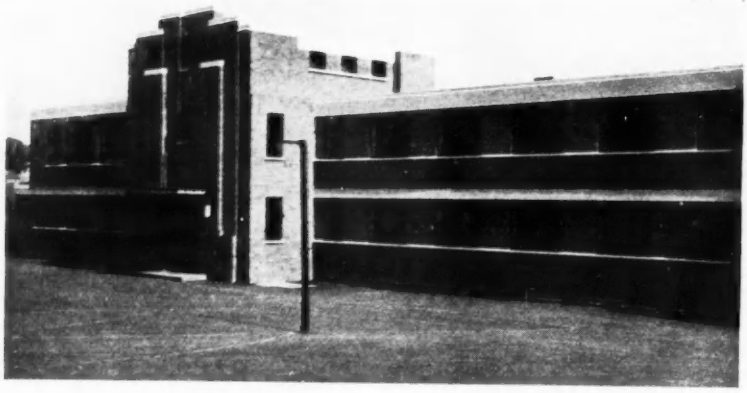
This is a definite lead from His Royal Highness to the nation generally, which one hopes will be widely welcomed and carefully taken to account. During the past few years there has developed an idea in certain quarters that the age of timber is passing. This has been encouraged by the persistent efforts on the part of those who have been apprehensive of the decline of the British steel industry to secure greater use for the products of our furnaces.

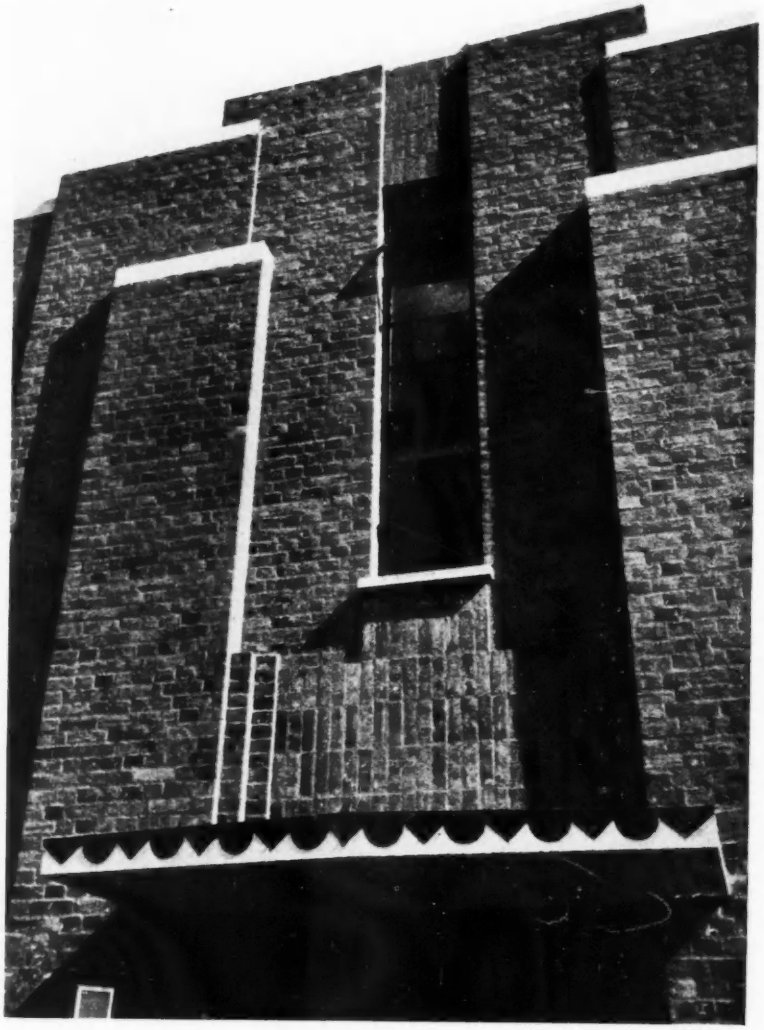
It is no part of my plan to decry steel ; there is manifestly a variety of purposes for which it is a pre-requisite. Equally, it is true that there are, as there always have been and always will be, purposes for which timber must be used, and for which no commodity is an effective substitute. It has already been discovered, for example, that the employment of steel in place of wood for furniture and interior decoration was a passing phrase which is now declining. Equally it is clear that efforts to popularize metal props in the mines must fail both on account of safety and on account of the objections of vast numbers of workers underground ; and for fencing, road laying, construction of houses and public institutions, and a hundred and one other things, it is now obvious that we must continue to resort to the products of the world's forests, especially when it is just as manifest that these materials are at least no dearer, and usually, in fact, cheaper than an alternative which must pass through many processes before the ore becomes the finished product.

That these facts are being more widely recognized is demonstrated by the greater planting now proceeding both at home and abroad, but it is, I repeat, a matter for congratulation that the Prince should have given his unqualified encouragement to public bodies and large commercial companies to use still more of this natural resource, without which the work of the world could not go on.

BENJAMIN DRAGE
London

SCHOOL AT NORTHWOOD.

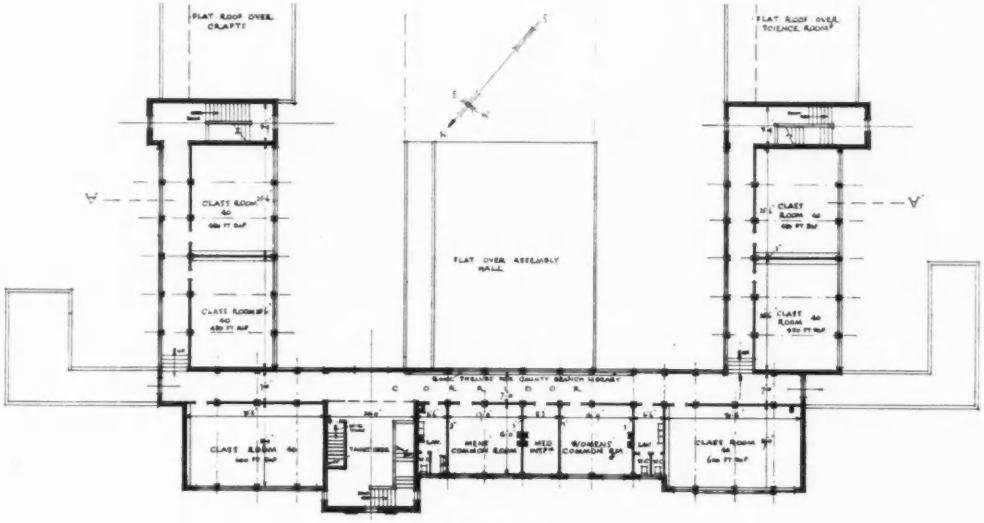




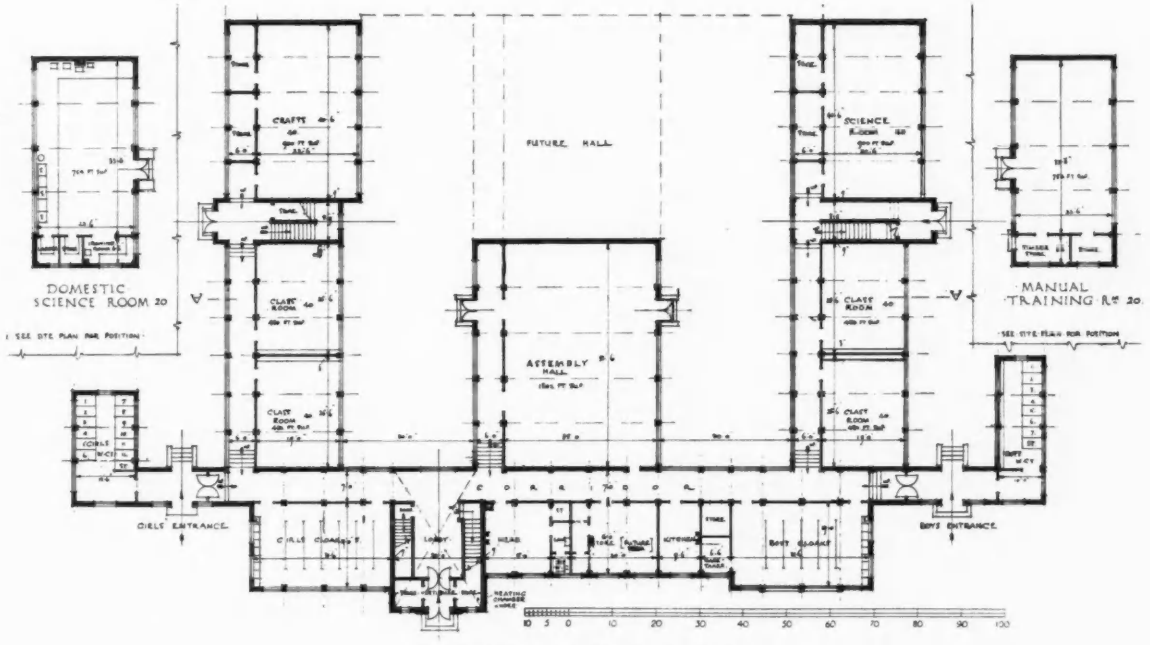
EVERARD

A general view (above) and a detail photograph of the main (north-west) elevation.

MIDDLESEX: DESIGNED BY W. T. CURTIS

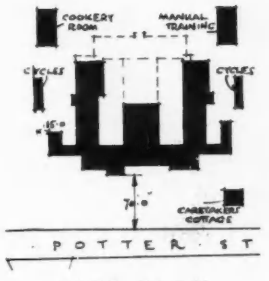


FIRST FLOOR PLAN



GROUND FLOOR PLAN

This new school, designed by the Middlesex County Architect, was put in hand after the financial crisis; the cost (£12,500, including cottage) has been considerably reduced by the adoption of a simple style of architecture. The structure consists of a reinforced concrete skeleton, with concrete floors and flat roofs, with brick cavity filling walls. Internally, the classroom walls are left fair face brickwork, the partition walls between the rooms being hollow building block; staff-room walls are plastered. Heating is by low pressure hot water apparatus. Artificial lighting is by electricity; gas is installed for emergency lighting, cooking, etc. A caretaker's cottage, designed to harmonize with the main school building, has been provided on the site (see site plan).



SITE PLAN

FIG. 1: *A pair of houses in Mulberry Lane, Little Tramworthy, one of a row of twenty-four identical pairs; typical of the speculative builders' development following the advent of the railway.*

THE TRAMWORTHY PANEL

A CAUTIONARY TALE

[*By James MacQuedy*]

THE village of Little Tramworthy lies in a secluded valley about 25 miles south-east of the Metropolis. Until a few years ago it remained the same simple country village that had lain there for several centuries, inhabited, at any rate in the eyes of the occasional visiting townsman, by the same simple country villagers. It had communications too inconvenient and sanitation too unenlightened even to provide a suitable week-end retreat for town-dwellers in search of rest and recuperation. A solitary novelist encamped in a discarded railway coach was the only representative of the progress of nearby civilization; all others by-passed the village in motor cars on their hurried journeys along the main coastal road, seven miles away across the fields or nine by the winding lane which was the only means of approach. The village square still remained the centre of village life, and every event that took place was still related to the village's corporate existence.

It was like this until six or seven years ago. Then the character of the neighbourhood was abruptly changed as the result of the enterprise of the Railway Company, who extended their electric service to town all the way along the valley in which Little Tramworthy is situated. Inevitably the district began to develop. First a nucleus of small shops and villas sprang up around the new Railway Station; then spread in every direction along the existing lanes and along hastily constructed new ones, enveloping the original village on their way. Little Tramworthy became a dormitory town and a "desirable residential neighbourhood." Its rural delights and urban conveniences were advertised in the evening press; its population rapidly increased, though (owing to the diminishing proportion of local employment) with the loss of all appreciation of a centralized existence.

Unhappily, the development took place on no considered plan. Land was bought from fortunate farmers who were glad to make a profit from it now that agriculture could no longer be made to pay. Their fields were labelled "estates," and estates multiplied as the demand for houses increased. Assorted houses were erected in rows by assorted builders who descended on the village to make hay of its advantages while the sun of inflated prices still shone. Besides the absence of planning, an absence of taste was also noticeable. Most of the designs were conceived in small wooden shanties on the Railway Station Approach: figs. 1, 2 and 3 are sketches of typical specimens. All the usual falsification of materials and delightfully meaningless adaptation of antique forms occurred; the English domestic tradition being perverted in the most picturesque way to the encouragement of a bourgeois pretentiousness. The "desirable residences" had blue slate roofs with crestings in red tile in the more expensive types, and pink asbestos roofs in the less; barge boards were wide and pendulous, sham half-timber filled the many gables and prize examples of pantomime Tudor perkily alternated with surprising editions of earlier English homesteads.

Within a short time, in fact, the whole district had acquired an all too familiar appearance of suburban unseemliness, to the satisfaction only of the suburban people who had migrated there (because it was what they expected), of the local contractors and tradesmen (because of increased business activity—though this, of course, brought with it increased competition), and of the local councillors and government officers who were able proudly to point, as evidence of the attractiveness and sound administration of their district, to a steady increase in population and rateable value; also, naturally, to the satisfaction of the builders.

The novelist was driven away to a remoter village where the inhabitants were still darkly dependent on the soil, and so more suitable as material for sophisticated observation and pathological analysis; but other residents of long standing in the neighbourhood, who had known and been fond of Little Tramworthy before development began, together with some of the more enlightened (or less apathetic) of the new arrivals, decided that steps ought to be taken to seek a remedy. A meeting was called for this purpose, at which members of the local council were invited to be present, the council concerned being the Tramworthy Urban District Council, which administers an area containing, besides Little Tramworthy itself, the adjoining villages of Martyr Tramworthy and Cooksbroth and some of the outlying portions of the market town of Much Pecksniff. With the aid of the influence of a couple of important local landowners, and of an encouraging letter from the local Member of Parliament, that was read out at the meeting, it was decided to prepare a town planning scheme and obtain powers for the protection of local amenities under the Town and Country Planning Act. After negotiation with the Ministry of Health and a not unreasonable amount of delay, a town planning scheme was accepted, and the Council thus acquired authority under an amenities clause to reject designs that they considered injurious to the neighbourhood.

Among the residents interested in this matter were a couple of architects, who perhaps alone realized the authority and opportunity provided by the amenity clause. Not wishing to see the clause administered and any kind of æsthetic control exercised without professional advice, they decided that here was a case where the assistance of an Advisory Panel of architects was needed, and to offer their services if such a Panel could be formed. They received the greatest possible encouragement in this endeavour from the Panels Committee of the R.I.B.A. and the C.P.R.E. This Committee approached the

Council and presented their proposal to establish a local Advisory Panel, explaining its purpose and mode of working to a general meeting of the Council. After correspondence with the district surveyor as the Council's building representative, the Council agreed that, if a Panel of architects were formed, they would ask its advice on any proposed buildings in their area on whose suitability they were uncertain. Thus the Tramworthy Panel came into existence.

All this occurred rather more than a year ago, and it was hoped that the formation of a Panel would have an immediate effect in curtailing the most distressing aspects of the speculative builders' activities; but to the infinite concern of all who mind about such things as civilized surroundings, little improvement can even now be noticed. Plans for all proposed buildings, of course, come before the Tramworthy Council for sanction; but the district surveyor, whose duty it is to examine them, seldom finds anything strange in the average elevation submitted to him—certainly nothing that deserves to be sent, to use his own words, "to these architect fellows to monkey about with." Nor is there anything that could be termed "injurious to the amenities" (whatever that new-fangled word may indicate). The houses all seem to be of the same kind as everybody lives in—in fact, he lives in one himself. So the speculative builders' designs pass as easily as before.

Not that the Panel has been entirely idle. There have been several cases where the surveyor has been confronted with designs of much less familiar aspects; for every now and again an architect has been given a commission to build a house in the Tramworthy neighbourhood and the surveyor, puzzled by the outlandish ideas architects seem to have—so different from the customary local architecture—has seen no alternative but to submit these to the Panel for criticism, feeling sure that such eccentricity will be severely dealt with by those who know. The Panel members, of course, have seized with pleasure such opportunities as these of putting their highly developed artistic training and opinions into actual practice, when their abilities can be of real public value. Some interesting discussions have resulted in each case.

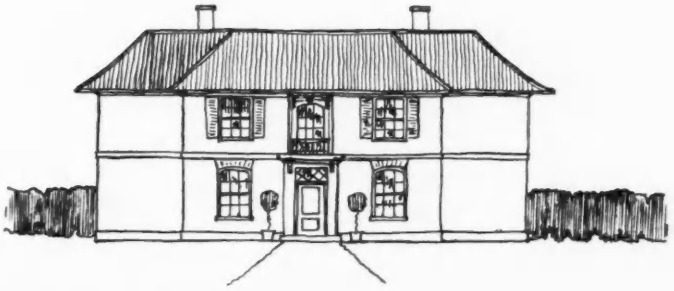
So far three architect-designed houses have been submitted to the Council, and each one the district surveyor has passed on to the Panel. The first was commissioned by a distinguished professor of bio-chemistry, who was also a keen student of social evolution and an admirer therefore of the standards of civilized living attained during the Regency period. He appointed as his architect Mr. Jonathan Skate of Gray's Inn, a personal friend of his, a scholar and a member of the Art Standing Committee of the R.I.B.A., who evolved a simple design that had the professor's complete approval. Its entrance front is sketched in Fig. 4. The Panel were horrified. They unanimously disliked the white stucco with which it was to be finished. They considered the proposed building both bare and ugly and, though they realized that the architect admired that sort of thing in all sincerity, felt it their duty to recommend the Council to refuse to sanction the plans. In a report to the Clerk of the Council, giving their reasons for disapproval, the Panel pointed out to the Council that the elevation was, after all, no more than a wall with holes in it, and that the residents of Tramworthy had the right to demand something better than a square white box. Also they considered that there was no justification for so rigid a plan as the square shape entailed. A more flexible plan was needed for a married man in the professor's position; since further additions to his family, which were only to be expected, would eventually compel him to abandon the house altogether. It would then fall into disrepair and become an unsightly blot on the neighbourhood. They also recommended that a projecting porch would provide better shelter in wet weather. Stucco, they added, further, was well known to be an unsatisfactory facing material, very costly in upkeep, and one that would particularly suffer in appearance after the house was vacated. On the strength of their recommendation the Tramworthy Council refused to sanction the plans. The professor, however, instead of accepting grace-

FIG. 2: *In Tennyson Avenue the houses are of a more variegated nature. This example (right) is a very popular model: approved by the Council.*

FIG. 3: *On the left is a type used in the more exclusive areas, possibly the costliest model produced by the speculative builder; nevertheless, like those illustrated in figs. 1 and 2, exceedingly profitable.*

FIG. 4: *Right, an architect-designed house; rejected by the Panel as "nothing more than a box with holes in it:" the project abandoned.*

FIG. 5: *Below, another architect-designed house, also rejected. See the Panel's letter on the next page.*



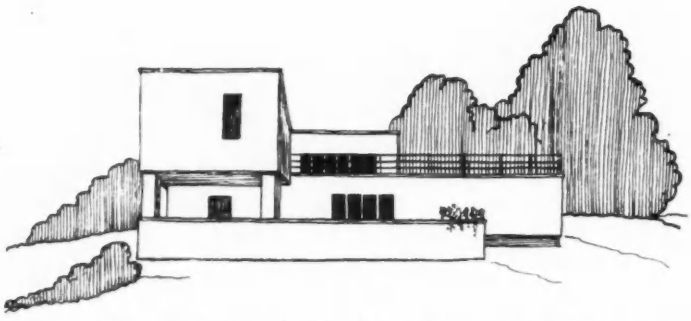


FIG. 6: *The house designed by Mr. Adrian Catchpole, A.R.I.B.A., for a secluded site near the road to Martyr Tramworthy; rejected by the Panel. The client decided to order his house from a speculative builder; see fig. 7.*

fully the views of the experts and insisting that his architect modify the designs in accordance with them, became enraged and abandoned his building scheme altogether. Instead, he rented a flat in one of the terraces on the east side of Regent's Park, and bought a small cottage, for use at week-ends, not far from Rye.

In the next case that came before the Panel the architect was also a member of the Institute, though of the older school, having been a pupil of the late Sir Ernest George. His client was a successful stockbroker, a Mr. Ampleforth, who had asked him to design "just a little country place I can run down to every evening in the car." The site he acquired was close to the golf course, hidden from it by a row of trees. In a position well set back from the road and approached by a sweeping gravel drive the architect proposed to place the house sketched in Fig. 5.

One member of the Panel, an architect from a neighbouring suburb, was quite favourable to this elevation, since he admired the detail of the door and fanlight, having a very similar door in his own house. The remaining members of the Panel were, however, profoundly shocked, and after discussion they agreed to recommend its rejection. A letter to the Council set out their reasons:

This strange and rather exotic design, though possibly excellent on the Riviera, is quite out of keeping with our English countryside. This type of design is entirely of foreign origin, and the Tramworthy Panel after prolonged consideration have decided that a building reminiscent of the looser living of sub-tropical localities would be definitely injurious to Tramworthy's amenities. The quite unjustifiable blank spaces on either side of the front elevation containing *no windows whatever* would certainly cause the inhabitants of Tramworthy to wonder what was taking place behind them. The larder, in the opinion of the Panel, is far too small, and the green glazed tiles indicated for the roof are considerably more expensive than ordinary sand-faced tiles.

The client in this case, discovering that the plans for his house would be sanctioned immediately he agreed to accept any modifications the Council suggested, and being eager to have the house finished by the spring, left the matter in the hands of the district surveyor and expressed his willingness to make any alterations demanded. The resignation of the architect caused him momentary annoyance, but he soon discovered that the job was completed more expeditiously without one, and was able to advise his influential friends in the city to avoid architects at all costs if they wished to carry out any building enterprises without hindrance. The house, as eventually built, though perhaps not so smart in appearance as the client had intended, was quite indistinguishable from the others in the same road.

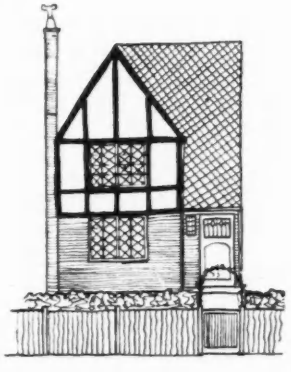
Meanwhile with unrestricted industry the speculative builders were covering acre after acre of "delectable Tramworthy" (as the Railway Company are accustomed to describe it) with the same assortment of ill-considered villas. The Panel, however, feel that they have justified their appointment by their energetic defence of the English tradition in the most recent case with which they have had to deal, and by their determination to stand no nonsense from a perverse and obstinate young architect. In their verdict on this case (the design is shown in Fig. 6) the Panel were completely unanimous. The district surveyor, as a matter of fact, was quite certain himself of the importance of disapproving so outlandish a design—he had never seen anything like it; but he submitted it to the Panel in order to be able to place their views as well as his own before the Council. He received their enthusiastic support. The author of the design was Mr. Adrian Catchpole, A.R.I.B.A., a recently elected Associate of the Institute and one of Professor Reilly's favourite pupils at Liverpool. The client was again a city man; without very definite personal tastes, but with sufficient faith in his architect's intelligence and ability to leave the design entirely in his hands. The site was an isolated one in a still undeveloped area close to the Martyr Tramworthy road. The Panel's report read as follows:

Although the youth and inexperience of the architect may have been a contributing factor, the Council should realize that this design is not entirely a case of ugliness arising from incompetence but is a deliberate and premeditated attempt to introduce into the English countryside a type of barbaric architecture at present fashionable among foreigners on the continent of Europe. We see no justification for the use of a flat roof: it is well known that a pitched roof, such as we are accustomed to in this country, serves to throw off any rain-water falling on it. If the roof is flat the water will remain there permanently, to the serious detriment of whatever roof-covering is employed and to the danger of the health of the occupants. The room marked "bicycles" on the plan appears to us a totally unnecessary feature, since this mode of travel is fast being superseded by others; and the room will thus inevitably fall into disrepair and may even become derelict, to the disadvantage of surrounding property. As a matter of detail the circular columns supporting part of the upper storey seem to have no advantages over square ones, and would certainly be more costly. We have examined the plans with the greatest care and can find no reason why the house should not be built in a style which the residents of Tramworthy would find more familiar. We therefore strongly recommend the Council to refuse to sanction a design of such deliberately eccentric type.

The Council were glad to have expert endorsement of their own emphatic opinion, and forthwith rejected the plans. The client was disappointed at the result of the faith he had placed in his young architect, and, having particular reasons for wishing to reside in the Little Tramworthy neighbourhood, decided to commission a house from a local builder. The design he selected is illustrated in Fig. 7, and he is now in contented residence.

Little Tramworthy is still a prosperous and rapidly growing suburb, and the Advisory Panel awaits with interest the next design the district surveyor thinks fit to pass on to it.

FIG. 7: *The house finally acquired by the client of fig. 6 above: no delay in getting this passed.*



Note: the characters in this story are entirely fictitious.

PERIODICALS

MAY ANTHOLOGY

AMERICA

Architectural Forum
(Monthly, $1)

MAY. Traditional Architecture at Yale by J. Russell Pope and some interesting photographs of an "Art and Machines" exhibition in New York. Measured drawings of old Pennsylvania farmhouses and a new section dealing with building money and finance under the new Recovery Act.

Pencil Points
(Monthly, 35 cents)

May. Leading article stating that the promised Government expenditure on new buildings is to be deferred in favour of loans to householders for reconstruction of existing buildings. Regrettable. A history of the firm of McKim, Meade and White and a well-reasoned article on the design of wrought ironwork. Notes on sketching and rendering, and some measured drawings.

Architectural Record
(Monthly, 50 cents)

May. An analysis by Siegfried Giedion of architectural teaching in various countries, and a more than usually interesting section on European architecture showing recent and little-known work in Sweden, Finland and Switzerland.

American Architect
(Monthly, 50 cents)

May. Small house designs; some interesting plans but less inspired elevations, with notes on office organization. Small house finance, an article by Morton Bodfish, and an excellent analysis of thermal insulation costs and the corresponding fuel savings.

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BELGIUM

Emulation
(Monthly, 10 f.)

No. 3. An article on old Belgian town plans and a report of the C.I.A.M. on town planning in Belgium. Some interesting legal notes, chiefly on architects' copyright.

La Cité
(Monthly, 5 f.)

No. 3. An analysis of the designs mentioned for the "Concours Van de Ven" prize for the most interesting building of the year. An article on an extremely interesting and space-saving system of common flues for multi-story tenements.

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FRANCE

L'Architecture
(Monthly, 6 f.)

May 15. A school at Châlons-sur-Marne by E. Maigrot and a chapel at Gennevilliers by Marcel Favier. An analysis of a competition for a new exhibition hall, won by MM. Tournon and Chappey: several other interesting schemes. Technical notes.

La Technique des Travaux
(Monthly, 10 f.)

May. An interesting reinforced concrete swimming bath at Saint-Denis, by Gaston Dollat. A golf club at Tokio, by Antonin Raymond and Tsutomo Sakai, interesting both for its plan and its anti-earthquake construction. Constructional notes on canal locks and reinforced concrete calculations, mainly of interest to the civil engineer.

L'Architecture d'aujourd'hui
(10 numbers yearly, 25 f.)

No. 3, 1934. An excellent number dealing thoroughly with the architecture of sport, starting from the Roman arena. Many interesting illustrations and plans of stadia, swimming baths, clubs and gymnasia in private houses. The usual interiors and technical notes.

•

GERMANY

Der Baumeister
(Monthly, 3 m.)

May. Traditional country houses in Germany, America and Sweden: housing schemes at Nurnberg and Linz. Useful constructional details.

Baugilde
(Fortnightly, 1 m. 50)

May 10. Various schemes submitted for a training school for teachers, mostly traditional.

May 25. New furniture designs, by Heinrich Michaelis.

Baukunst und Städtebau
(Monthly, 1 m. 90)

May. Several new churches in Munich: photographs, plans and some details. Three Norwegian wooden houses, by Andreas Bugge, of considerable structural interest. Notes on the supply of compressed gas in cylinders for lighting and heating in areas where no other services are available.

Bauwelt
(Weekly, 90 pf.)

May 3. Small houses, detached and in blocks, in working-class areas near Berlin.

May 10. Further housing schemes, and constructional notes on the new Columbushaus sky-sign.

May 17. Competition schemes; see *Baugilde* note.

May 24. Further competition schemes.

May 31. Buildings at the "Deutsches Volk-Deutsche Arbeit" exhibition, by Kurt Tischer, Benno von Arent and Alexander Uhlen.

Deutsche Bauzeitung
(Weekly, 3 m. 40 per month)

May 2. A housing scheme in Augsburg, by Holzer and a church at Dachau, by Ernest Jäger.

May 9. An article on the "Deutsches Volk-Deutsche Arbeit" exhibition. Traditional houses in Berlin suburbs.

May 16. Training school competition schemes; see *Baugilde* note.

May 23. A bank in East Russia, and an interesting country house, well equipped but cheap.

Moderne Bauformen
(Monthly, 3 m.)

May. Small country and suburban house schemes by Georg H. Appel; plans, elevations and interior details, of considerable interest. Illustrations of Fritz Breuhaus's own Berlin flat, and some current restaurant details.

Golf Club at Tokio. By Antonin Raymond and Tsutomo Sakai.
[LA TECHNIQUE DES TRAVAUX]

Sports Stadium at Croix-de-Berny.
[L'ARCHITECTURE D'AUJOURD'HUI]

HOLLAND

Bouwkundig Werkblad Architectura
(Weekly, 15 florins per annum)

May 12. A number devoted to the work of the late Willem Kromhout.

May 19. Schemes by Dudok, Luthmann, and Kropholler for the new Town Hall at 's-Gravenhage.

May 26. Further designs for the 's-Gravenhage Town Hall, by D. Roosenburg and J. F. Staal.

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ITALY

Architettura
(Monthly, 18 lire)

May. Open-air swimming baths at Bolzano, by Sot-Sas and Weyhenmeyer, fully illustrated by plans, sections and photographs. Competition results; a town planning scheme in Turin and a police station in Rome.

Il Politecnico
(Monthly, 10 lire)

April. Notes on the design of aerodrome buildings and several technical articles on current constructional methods.

Rassegna di Architettura
(Monthly, 12 lire)

May. Worker's housing in Stockholm and two more competition results.

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POLAND

Architektura i Budownictwo
(Monthly, 8 zl.)

April. The new Geological Institute in Warsaw, by Marjan Lalewicz: an interesting plan.

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SPAIN

Viviendas
(Monthly, 2 pesetas)

April. Special number on textiles for the house: carpets, fabrics and woven tapestries.

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SWEDEN

Boet
(Monthly 1.50 kronor)

May. Special textiles number.

Form
(Monthly, 1.25 kronor)

April. Articles on the technique of wood-carving and recent examples of bookbinding. Current furniture and porcelain designs.

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SWITZERLAND

Schweizerische Bauzeitung
(Weekly, 1 f.)

May 5. A funicular railway lay-out of some interest; notes on traffic regulation by automatic signals.

May 12. Constructional notes on the recently-completed Bologna-Firenze railway tunnel, and two competition schemes for a 150 ft. span exhibition hall at Lucerne.

May 19. Further notes on the tunnel and exhibition hall schemes referred to above.

Das Werk
(Monthly, 3.60 f.)

May. Concert halls, cinemas and theatres in Switzerland, France and Germany.

LAW REPORT

CONTRACT THAT BECAME UNECONOMICAL :— ALLEGED DELAY OF PLANS.

Johnson v. Birmingham Corporation.—Official Referees Court.—Before Mr. C. M. Pitman, K.C.

THIS was an action by Mr. T. L. Johnson, a building contractor of Great Brook Street, Birmingham, against the Birmingham Corporation to recover damages for alleged breach of contract. The matter arose out of a contract for the reconstruction of the Kent Street Baths, the plaintiff alleging that he was so hindered by various acts of the Corporation and its delay in furnishing plans and instructions that the contract became uneconomical. The plaintiff further set up that in July, 1931, the Corporation wrongfully entered upon the site and repudiated the contract. He claimed £3,076 balance owing on work executed, £5,400 for loss of profit on uncompleted work and damages for conversion of plant and materials.

The matter came before the Court on a preliminary point, the Official Referee being asked to decide whether the Corporation acted legally in taking the work out of the hands of the plaintiff.

Mr. Singleton, K.C., appeared for the plaintiff and said if the action were tried it would be a long one and there would be much evidence, but if the plaintiff's contention on the preliminary point succeeded it would dispose of most of the case. Under the general conditions of the Corporation, it was provided that, in the event of the works not being carried out with such dispatch as to ensure their completion within the stipulated time, the architect could give three days' notice to the contractor, after which the Corporation would have the power to take the work out of his hands. On April 28, 1931, a three days' notice was given by the architect that, as the work was greatly behind, the Corporation would enter into possession. On May 5, however, the Town Clerk wrote that the Baths Committee had agreed to wait two months before deciding to take possession, and it was not till July 14 that possession was taken. Plaintiff contended that the letter of May 5 was a waiver of the right to act on the notice of April 28, and that the Corporation could not act upon it two months later. It could not remain in force all the time, during which the contractor brought more materials on to the site, and a second notice should have been given before the Corporation acted.

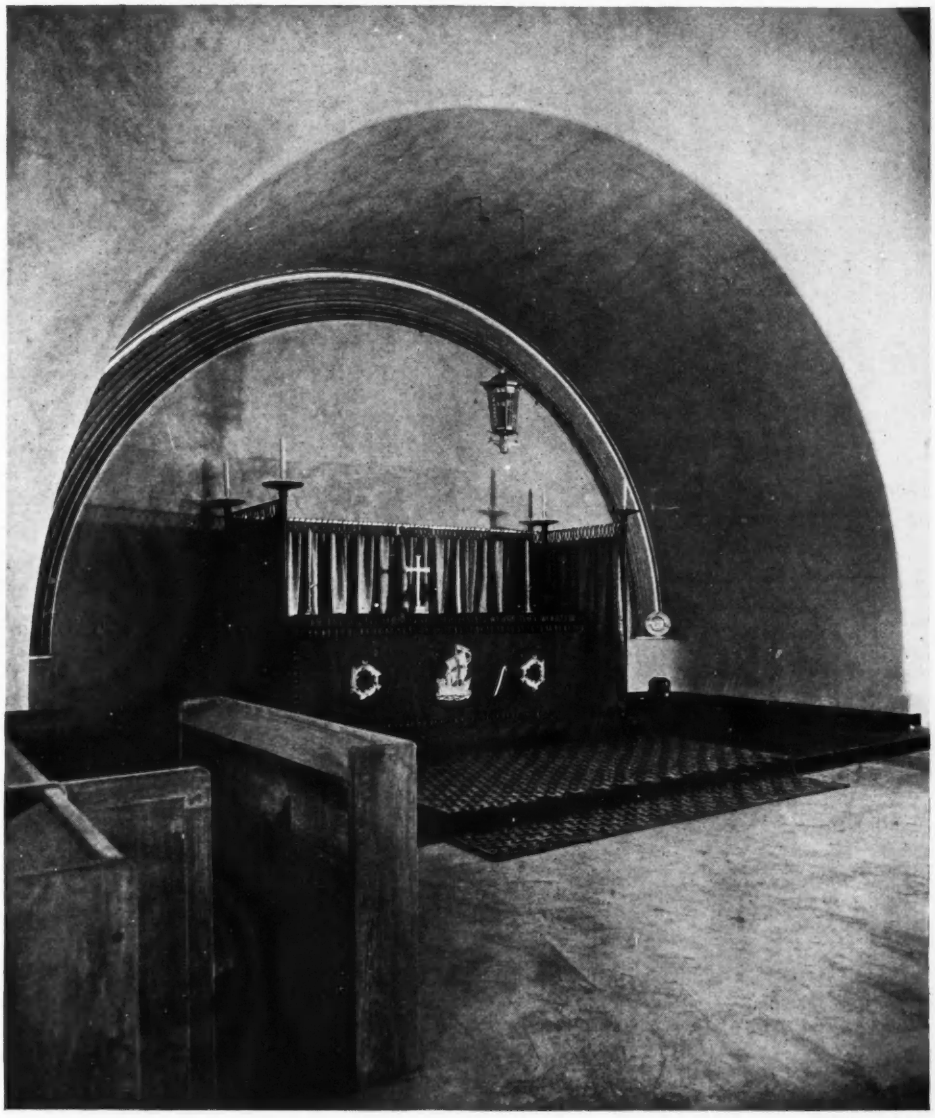
Mr. A. T. Miller, K.C., for the Corporation, submitted that the Corporation was within its rights in giving notice. Because it did not act at once, and treated the builder with leniency and consideration, he now sought to take a legal point. The right to take possession was not confined to any specified time. What was done was eminently reasonable and there was no provision preventing postponement. His contention was that the letter of May 5 was not a waiver.

The Official Referee declared a considered judgment. He said it was contended for the plaintiff that the Corporation were too late in obtaining the right to take possession and were not entitled to hold a sword over the plaintiff's head, also that the plaintiff was entitled to treat the contract as continuing. The question he had to decide was whether the right to take possession was exercised in a reasonable time, because if it was not a fresh notice would be required. In all the circumstances and having regard to the plaintiff's allegation that the delay in carrying out the work was due to the fault of the Corporation, he (the learned Official Referee) was of opinion that the Corporation did not exercise their right within a reasonable time. The Corporation had allowed the plaintiff to continue to spend money on the work and bring more material on the site on the faith of the continuation of the contract. He held that the Corporation had waived the forfeiture, and therefore were not entitled to take the work out of the plaintiff's hands.

On the application of counsel for the Corporation, the Official Referee granted a stay of the action, pending a possible appeal on the point of law.

WORKING DETAILS : 69

SANCTUARY LAMP • CHURCH OF ST. BARBARA, WHALE ISLAND • WELCH, CACHEMAILLE-DAY & LANDER

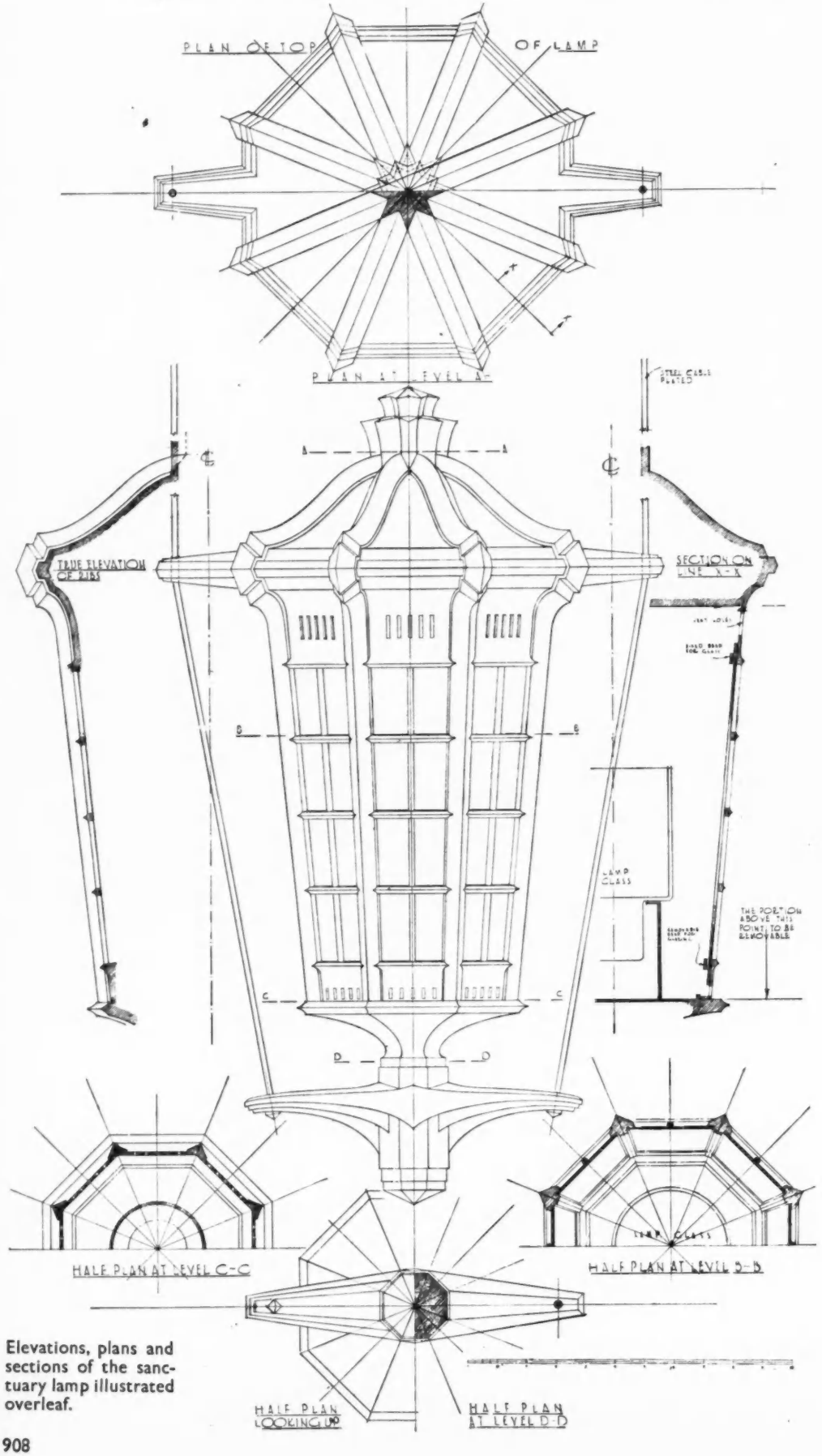


S. W. NEWBERY

The sanctuary lamp shown in the above photograph is constructed in brass and is silver-plated. All the fittings in this church have been designed to show clearly that it is a sailors' church, and the lamp is modelled on the lines of an old ship's lantern. Elevations, plans and sections are illustrated overleaf.

WORKING DETAILS : 70

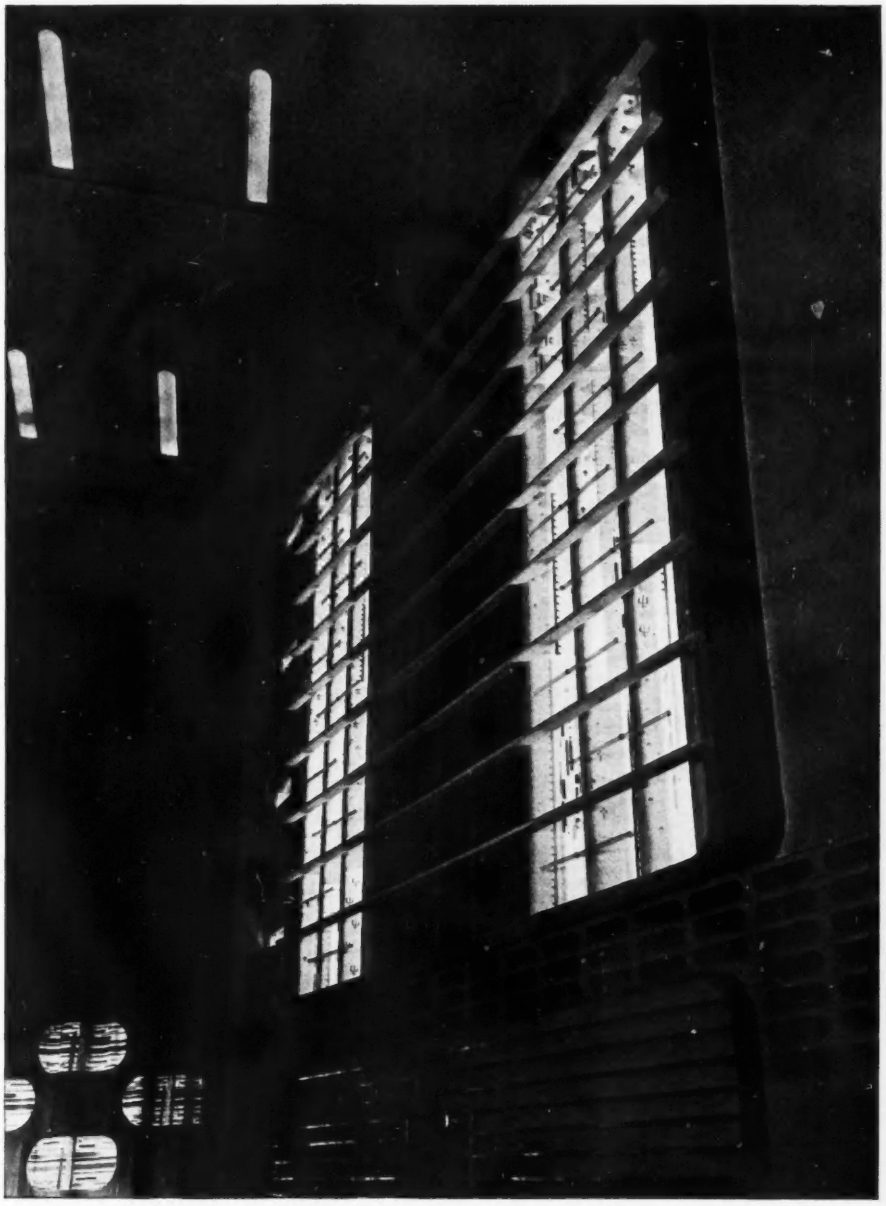
SANCTUARY LAMP • CHURCH OF ST. BARBARA, WHALE ISLAND • WELCH, CACHEMAILLE-DAY & LANDER



Elevations, plans and sections of the sanctuary lamp illustrated overleaf.

WORKING DETAILS : 71

ORGAN GRILLE • PLAZA CINEMA, WORTHING • H. WESTON

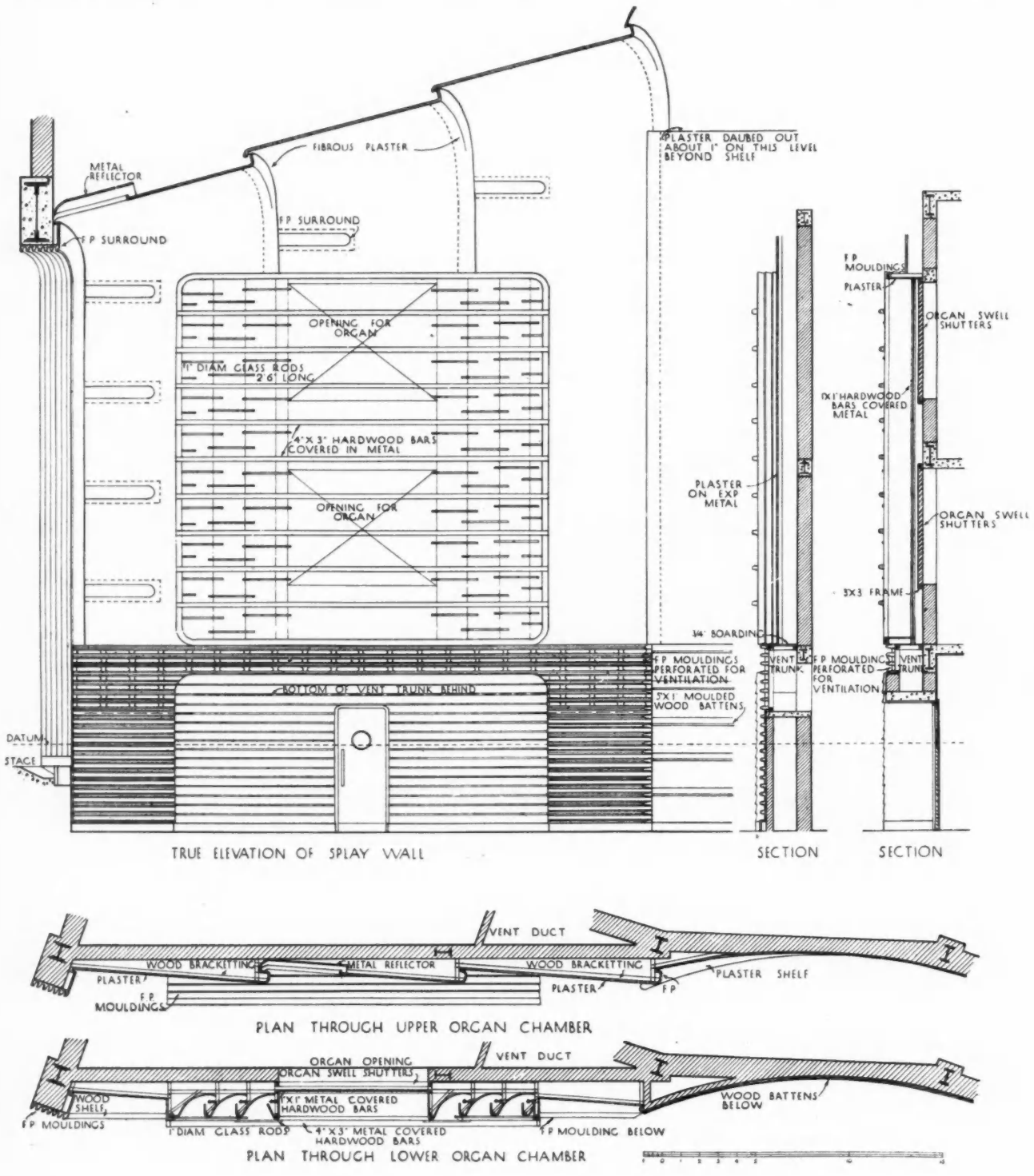


The organ grilles and illuminated panels illustrated above are placed on either side of the proscenium opening. In the centre are the organ grilles with the ventilation ducts below; on either side are the lighting troughs with a pattern of glass rods and metal covered hardwood bars.

FILING REFERENCE:

WORKING DETAILS : 72

ORGAN GRILLE • PLAZA CINEMA, WORTHING • H. WESTON



Details of the illuminated organ grilles and lighting troughs illustrated overleaf.

IN THAT CONTINGENCY

The following abstracts of inquiries represent a number of those recently submitted to the Building Research Station. The information given in the replies quoted is based on available knowledge. It has to be borne in mind that further scientific investigations may in the course of time indicate directions in which the replies might be supplemented or modified. Moreover, the replies relate to the specific subject of each inquiry, and are not necessarily suitable for application to all similar problems. [Crown Copyright Reserved.]

Testing materials at the Building Research Station

¶ *AN architect submitted three sample clay bricks, and asked for an immediate report from the Station on their suitability for facing a building in an exposed position at the seaside.*

A reply was sent stating that, although from a superficial examination the bricks appeared well burnt, it was not possible to give a considered opinion on the bricks from an examination of three samples. For a full report a comprehensive investigation involving tests on several dozen bricks was necessary. Such an investigation would naturally take some time, and it would be preferable to do the work on behalf of the manufacturer.

The architect was disappointed with the reply, and felt sure that some fairly simple tests could be carried out at the Building Research Station which he was not in a position to do in an office. He also suggested that if investigations were to be carried out only on behalf of a manufacturer the use of the Station by architects would be seriously affected.

The following reply was then sent :—

The position with regard to testing of materials at this Station should perhaps be explained more fully.

The first point to be kept in mind is that it is rarely possible to form definite conclusions as to the suitability of a material for any specific purpose as a result of a simple test which can be carried out at a moment's notice. That is to say, there is no "short cut" by which the information an architect requires can be obtained rapidly.

In view of the importance of control of quality of building materials we have set up an organization for testing, and hope that full advantage will be taken of this in due course. This, however, is only likely to happen if architects and professional consultants make it a regular practice to demand Building Research Station reports from manufacturers and suppliers. When a product has been submitted for a comprehensive investigation, which takes into account the process of manufacture as well as the resulting properties, the information so obtained should be available for any architect who wishes to use the material. Simple check tests are then all that is necessary to ensure that the product maintains its original standard of merit.

Owing to the wide variety of processes and materials used in the manufacture of bricks their properties vary over a wide range, and, in the present state of knowledge, a comprehensive investigation is the only way in which a definite opinion can safely be given. Since the method of manufacture, and, more particularly, the variability of the product are vitally important factors to take into account, and since information on these points can only be obtained with the co-operation of the manufacturer, is it usually more convenient to undertake the work on behalf of the manufacturer direct. We have no objection to carrying out an investigation on behalf of an architect, but, as in a case of this kind, the cost is often rather high and, since the manufacturer is at liberty to use a favourable report in his propaganda, he is usually better able to bear the expense of the investigation than the professional consultant. As already pointed out, this procedure has the added advantage that the information obtained is available afterwards to other architects who may wish to use the same material.

We have dealt with this question at some length since we depend upon the co-operation of architects to take advantage of the testing facilities available here, and the accumulation of data obtained in these investigations is an important phase of our work.

For a comprehensive investigation and report on a particular type of brick several dozen samples are required. It is particularly desirable that the bricks should be sampled at work by our investigators in order that due regard may be given to the all important question of variability.

Wall Construction for a "Semi-Permanent" Building

¶ *A "SEMI-PERMANENT" Parish Hall was to be built with a light steel frame, and the architect sought advice as to the relative merits of the following wall construction :—*

1 : A form of "ribbed" metal lathing spanning between the members of the steel frame, covered with (a) A waterproofed cement rendering or (b) an ordinary cement rendering painted externally with a waterproof paint.

2 : Ordinary expanded metal reinforcement fixed to wood battens spanning between stanchions and rendered as (a) or (b) above. The inner face of the wall to be lined with a wood fibre board.

It is not clear whether it is proposed to use an inner lining of fibre board with each of the constructions described, or only with (2) where timber battens would in any case be necessary. It is considered that with each construction an inner lining would be essential.

With any cement rendering there is always a danger of shrinkage cracks developing. A thin skin of rendering on lathing cannot therefore be considered as providing a waterproof wall, for, even if the body of the rendering itself is waterproofed either by the incorporation of an integral waterproofer or by painting externally, any cracks which develop will always allow penetration. A construction such as (1)(*a*) or (*b*) must therefore be considered as unsatisfactory without the provision of a separate inner lining. In addition it would afford very poor thermal insulation.

If, on the other hand, an inner lining is provided out of contact with the rendering, the penetration of a certain amount of damp through the outer skin becomes less objectionable, and, if a wood fibre board is used, reasonable good thermal insulation could be obtained. In such a case points requiring consideration would be :—

1 : Unsightliness of cracked rendering.

2 : Corrosion of the steel frame.

3 : Corrosion of the metal lathing.

4 : Fungoid attack of fibre board lining.

1 : The cracking of cement renderings is an all too common phenomenon, and though work is at present being carried out here on this subject, we are not at present in a position to make definite recommendations which would ensure freedom from cracking.

2 : The steel frame not being embedded in concrete should, of course, be well protected from corrosion by a suitable paint applied after erection.

3 : The part of the metal lathing covered with the rendering will no doubt be effectively protected, but the back is likely to be partially exposed. Any protective coating before the lathing is erected is likely to be damaged during handling, and a Portland cement wash or a coat of rendering over the back of the lathing is likely to be helpful.

4 : Wood fibre boards are subject to attack by dry rot fungi in the same way as timber. Ventilating the cavity would materially reduce the thermal insulation of the wall, but would be a protection against fungal growth, and is probably desirable.

To return to your specific questions : as pointed out above, the use of a waterproofed cement or a waterproof paint is not likely to be an advantage if cracks develop. If, as we suggest, an inner lining of fibre board or other heat insulating material is in any case provided t will probably be convenient to fix timber battens. In this case the use of a ribbed lathing becomes unnecessary and ordinary expanded metal could be used.

Re-use of Old Bricks

¶ *IN connection with the rebuilding of slum property a builder inquired whether it was advisable to re-use old bricks.*

Old bricks of good quality may often be re-used for new work, but some care is necessary in the choice of mortar. Most old brickwork was built in an open textured lime mortar which allowed ready evaporation of moisture through the joints. If the bricks are subsequently built in a dense mortar such as Portland cement and sand any movement of moisture is forced to take place through the bricks themselves. With this moisture may be carried soluble salts the crystallization of which may lead to decay of the bricks. Many instances are known where bricks, which have been perfectly sound for a long period in their original mortar, have rapidly decayed after repointing with a dense cement mortar.

Wherever old bricks are re-used, therefore, we should recommend the use of an essentially lime mortar, though some Portland cement may be added to give strength. A mortar composed of 1 part of Portland cement, 3 parts lime to about 12 parts sand by volume would be suitable.

Bricks which are obviously soft should, of course, not be re-used, but the final selection and rejection of the bricks must, of course, be

left to the judgment of the responsible person on the job.

Cement Wash applied to Parapet Wall

¶ *An architect stated that a white cement wash applied externally to 9 in. brickwork had proved satisfactory except at the parapet, which appeared to retain moisture. The parapet had a coping of artificial stone, weathered and twice throated, and a damp-proof course had been inserted at roof level. It was assumed that moisture was penetrating through the coping, but it was hoped, if possible, to avoid the expense of inserting a second damp-proof course immediately below this. Information was sought as to whether any solution could be applied to the artificial stone coping to render it impermeable.*

It is assumed that the trouble complained of is that, after a shower of rain, the walling above damp-course level appears darker than the walling below. This is often experienced, especially where a cement wash is used, and results from the very different conditions on the reverse side of the wall inside and outside the building. Above the level of the damp-course moisture has access both through the coping, if this is not impervious, and through the exposed back face of the brickwork.

Artificial stone, in common with all cement products, is subject to expansion and contraction with changes in moisture content, and this may lead to slight opening of the joints. It is not improbable in this case, that the stone itself is reasonably impervious, but that moisture is able to penetrate at the joints. We know of no liquid waterproofer that could be applied that would "take up" such opening and closing of the joints. The only satisfactory method of preventing penetration of moisture through the coping therefore would be to insert a damp-course, and, if you are satisfied that the greater part of the moisture is actually entering the wall in this way, the damp-course should materially improve the conditions.

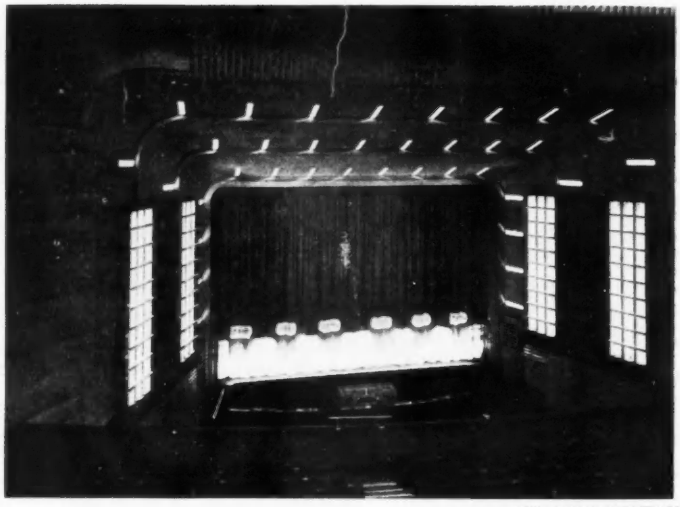
It is possible, however, that a good deal of the damp is driving in from the back of the parapet wall. Attempts are sometimes made to apply an impervious membrane over the back as well as the face of such parapet walls, but it is usually extremely difficult to ensure complete continuity and damp is often found to penetrate through small cracks in the membrane. The moisture is then unable to dry out, and, in our experience, attempts to waterproof the backs of parapets in this way frequently lead to worse troubles than those intended to be remedied by the treatment.

In general, it may be said that it is most difficult to apply successfully any decorative finish to the face of a solid parapet wall the back of which is exposed, and it is open to question whether a complete cure of the present trouble is possible.

Manchester Civic Centre

The Town-Planning and Buildings Committee of the Manchester Corporation has decided to recommend the City Council to approve of a scheme of development which is intended to form the first instalment of a larger scheme that may eventually be prepared for the provision of a civic centre on the St. Peter's Square side of the Town Hall, the proposed Town Hall extension, and the new Central Library. The cost of acquiring buildings affected by plans which are now being prepared is estimated at £45,000.

THE PLAZA CINEMA,

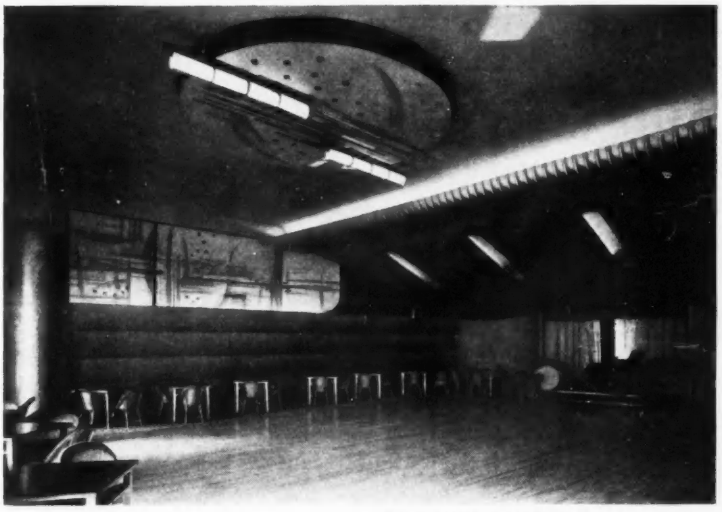


SALISBURY PHOTO PRESS

This cinema is steel-framed with brick walls cement rendered externally; the seating capacity is 2,012.

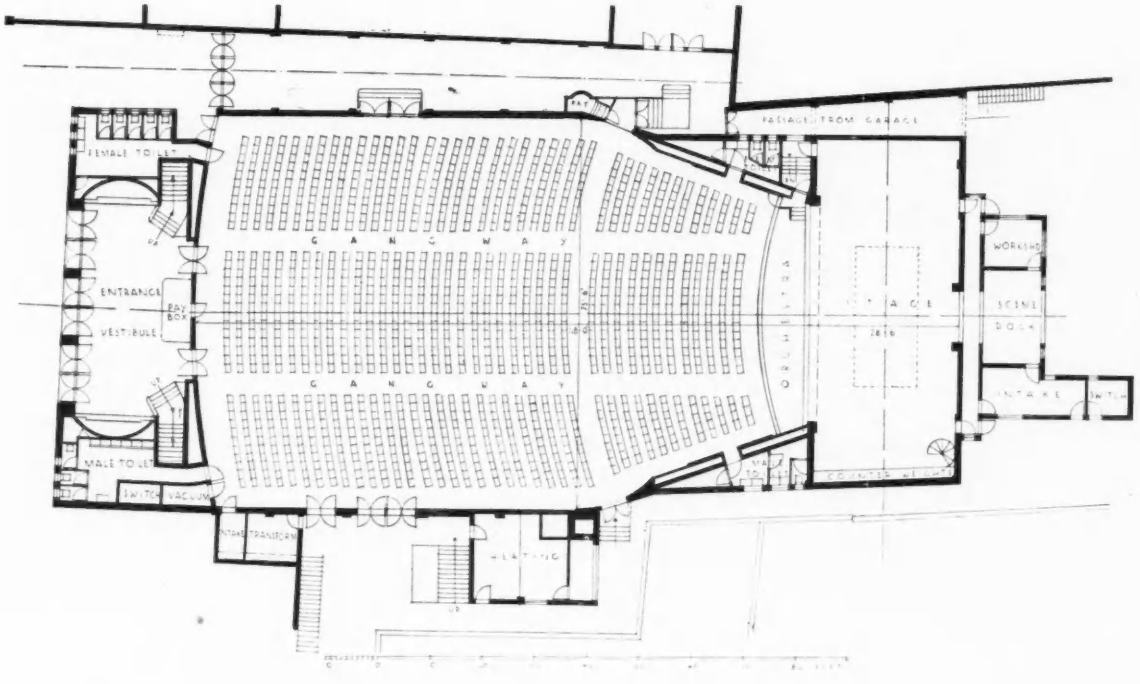
Internally the most noticeable feature of the auditorium is the extreme depth of the proscenium surround, which is subdivided into three stepped sections, each having "porthole" lighting slots. A coved and corrugated ceiling springs from the proscenium arch, but over the main area of the auditorium the ceiling has a plain silver finish and is arranged for indirect lighting. The general colour scheme is rose and pale gold with the seating in green, the carpets being mottled green, black and white.

WORTHING : DESIGNED BY H. WESTON



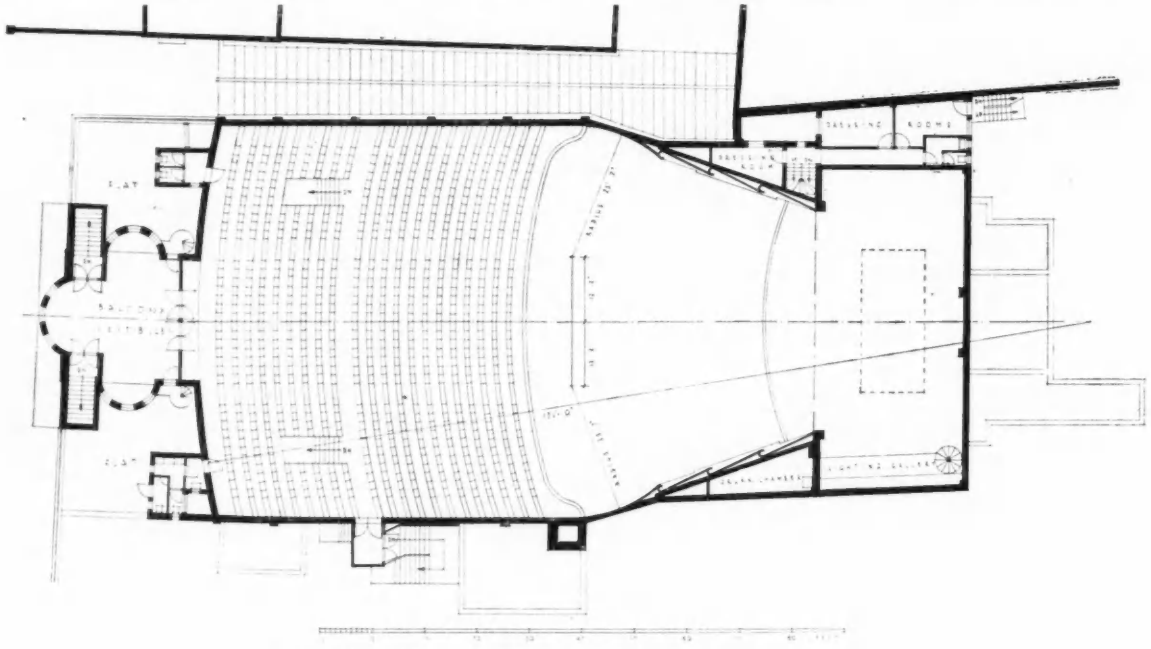
The colour scheme of the café lounge and dance hall is the same as the auditorium. The sloping ceiling to the right of the photograph is the soffit of the balcony and the auditorium lighting fittings are repeated here, while the central fitting conceals the ventilating ducts behind its circular slab.

The café lounge and dance hall at first floor level. Plans of the lower balcony and balcony floors are given overleaf; details of the organ grilles and wall panels are reproduced on pages 909-910.

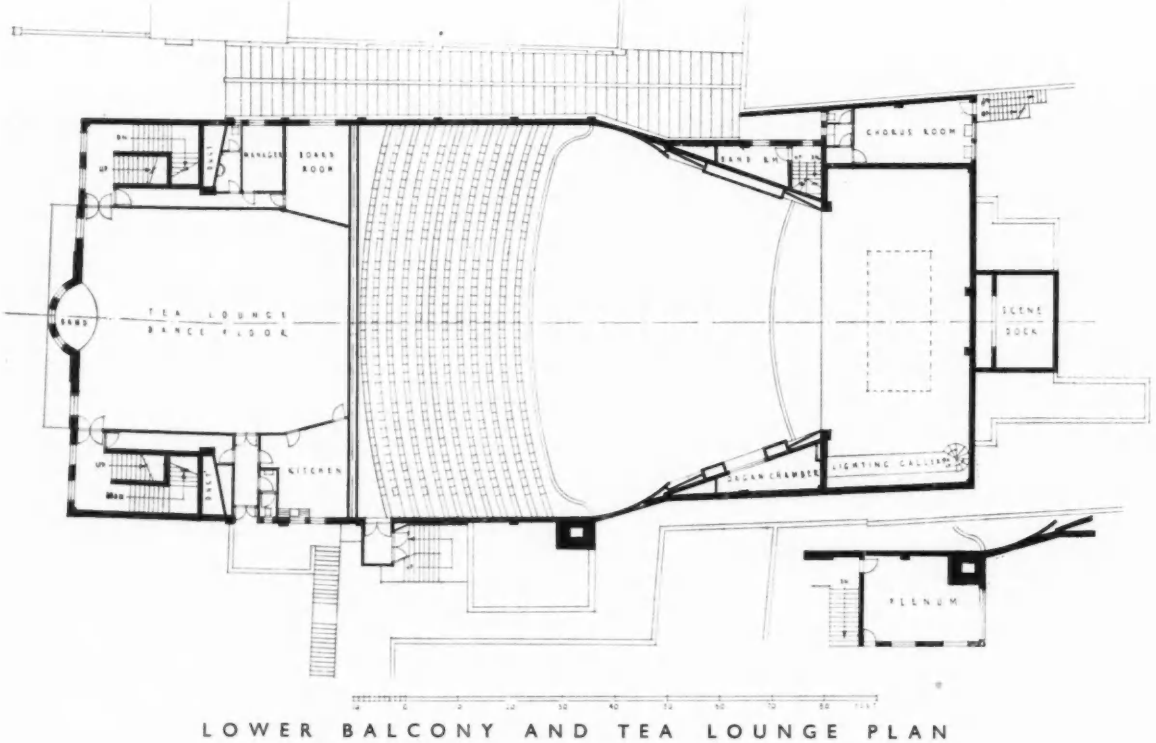


AUDITORIUM AND ENTRANCE VESTIBULE PLAN

THE PLAZA CINEMA, WORTHING

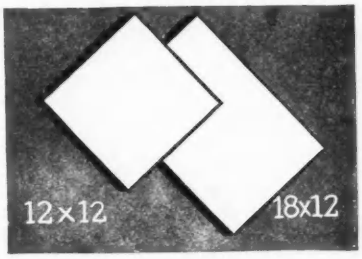


BALCONY AND VESTIBULE PLAN



LOWER BALCONY AND TEA LOUNGE PLAN

DESIGNED BY H. WESTON



TRADE NOTES

[BY F. R. S. YORKE, A.R.I.B.A.]

Glazed Wall Tiles

I WENT recently to Carter's Tile Works, at Poole, in Dorset, to see the processes incurred in the manufacture of white glazed tiles.

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In the making of a glazed tile there are two well-defined series of processes: the first involving the preparation of the body materials, shaping the tiles, and the first firing—the resultant slab being known as "biscuit"—and the second, coating the biscuit with glaze, decoration, if any, and the final firing.

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Most glazed tiles, white-glazed wall tiles in particular, are made from a clay (earthenware) body. The tiles are formed by pressure in steel dies.

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White biscuit is composed of ball-clay, china-clay, china-stone and flint. The clays and china-stone are decomposed granite—silica and alumina. The flint is used to produce intense whiteness, and, owing to its small contraction, to control shrinkage and shape. Each of the clays is mixed with water, separately, until it arrives at a creamy consistency.

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The flint is too hard in its natural state to be ground to dust, so it is packed in kilns, with coal in alternate layers, emerging, after firing, in the form of white, brittle, calcined stones. These stones are ground with water in iron cyclinders, lined with granite sets, which prevent the flint coming in contact with the metal. Hard, non-calcined flints roll in the cylinders and crush the calcined ones. The size of grain to which the flint is crushed must be gauged accurately, for if it is too big or too small, it will cause crazing on the surface of the tile. This grain size is governed by the number of revolutions of the cylinder, normally about 24,000.

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The clays and flint, now in slurry form, are mixed together and sieved, and then passed over electromagnets that extract fine particles of iron. The slurry, known as "slip," is run to a storage tank, from which it may be pumped as required. Water is extracted from the slip by pressure in filter presses, changing the liquid to a plastic clay.

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The packs of clay, leaving the presses, are dried in ovens, where the last of the moisture is driven off. The dry clay slabs are then crushed to dust, and moistened slightly so that the dust will bind under pressure, but remaining sufficiently dry to pass through wire-gauze sieves.

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The dust is then formed into tiles in heavy screw presses, having dies a little larger than the finished tile to allow for shrinkage in the baking process. Under-cut keys on the rear faces of the tiles are formed by rubber pads on the dies, that squeeze out into the tile when subjected to pressure.

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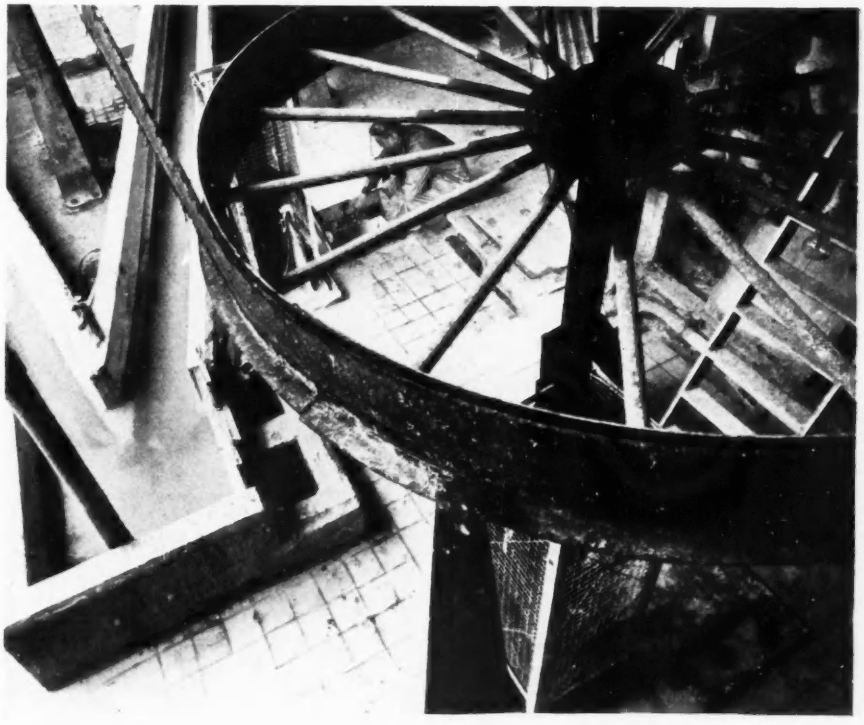
The tiles are next placed in fired clay boxes; these are piled up in kilns, and fired for ten days, until the heat of about 1,150 degrees is reached; then, after five days have been allowed for cooling, the biscuit tiles are taken out and stored until the time comes for them to be glazed. Although all the tiles may be of identical size when they are put into the kiln, there may be as much as $\frac{3}{16}$ in. difference between two nominally 6 in. tiles after burning, so that the manufacturers sort the tiles in six size-grades, and tiles of any one of these grades



At Carter's Tile Works, Poole, Dorset: a view of the Slip House showing the foreman measuring materials into the mixing tank below floor level.

may be supplied for one order, but the grades are never mixed.

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The tiles are not glazed immediately, because the range of colours is so wide that it would be impossible to hold stocks of all, but biscuit in every standard size of plain tile, angle, moulding, etc., is stored and glazed to order, so that although it takes three weeks to make a tile, from start to finish, delivery only takes about ten days from the date of placing the order if circumstances allow its being dealt with immediately.

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The glaze is applied as a liquid to the face of the tile, but the biscuit, being very absorbent, sucks out the moisture, leaving the glaze as a powdery crust on its face. When the glaze has been applied, each tile is laid on a separate shelf on a fireclay truck or trolley, and this is pushed on rails into a gas-heated tunnel oven, where the glaze is fused. The oven is about 75 yards long, and the "heat zone" occupies a space of 10 yards near its centre. The racks are automatically propelled through the oven at a speed of about one inch in one minutes the operation being continuous from day to day. Different glazes fuse at different heats, obtainable by carefully positioning on the racks, those tiles needing most heat being placed at the highest level. Movement through the kiln is so slow that cooling begins soon after the tiles have passed the seat of the fire, and continues until they are delivered at the far end of the tunnel, by which time they can be safely exposed to normal air temperatures. As each rack emerges it is pushed on rails to the warehouses, where it is unloaded, and the tiles sorted for "best," "commercial," and "seconds" qualities, and stacked to await despatch.

External Wall Tiles

Frost-proof tiles for external work are not made from a liquid "slip," but have a body of plastic clay with an admixture of grit or "grog," made from crushed waste biscuit. This grog makes the body of the tile more open, helping it to dry quickly. It is used in the same way that sand is used, with cement "weakening" the mixture and preventing expansion and contraction and consequent crazing. Some tiles can be made from a single clay, i.e., a ball-clay from one pit without admixture, but normally clays are mixed, because one alone is rarely composed of materials in correct proportions to provide the perfect biscuit, and others are added as correctives until the properties of a mix are perfect.

Floor Tiles

Floor tiles are normally made from compressed plastic clay, and various stains are added to produce a range of colours. Vitreous tiles are made to produce certain colours not obtainable by staining clay. They have a base of felspar and calcined flint, and stains are used to produce the colours. They are fused in the same manner as clay floor tiles but at a lower temperature —1,250 degrees. An oatmeal coloured floor tile of unusually attractive appearance is made in sizes up to 8 in. by 8 in. from a natural Purbeck ball-clay without any admixture of stain or corrective clay.

IN PARLIAMENT

[BY OUR SPECIAL REPRESENTATIVE]

Government Offices in Whitehall

Mr. G. D. Somerville asked the First Commissioner of Works if he could make any definite statement with regard to the date on which work on the new Government offices in Whitehall would begin; and whether it was proposed to clear away the existing buildings gradually or to remove them in their entirety before any start was made.

Mr. Ormsby-Gore said that the decision whether or not the building was to be proceeded with would be taken after sketch plans had been completed. It followed that no decision had yet been reached on the procedure adopted for the execution of the work.

Haig Memorial

Mr. D. G. Somerville asked the First Commissioner of Works whether he could state the present position of the work on the statue of the late Lord Haig; whether the design for the horse had been ultimately accepted, and wherein it differed from the first design; and when it was expected that the work would be complete.

Mr. Ormsby-Gore said that the special committee of assessors approved the design for the horse, subject to various modifications, but until the full-size clay model was finished he could not, at that stage, indicate the points of difference between it and the previous design.

Westminster Crypt

Mr. Burnett asked the First Commissioner of Works whether he would submit to the House a Report as to the condition of the Westminster crypt (St. Mary's Undercroft).

Mr. Ormsby-Gore said he would not. He was not aware that the present condition of the crypt called for his report.

Housing

Major Nathan asked the Minister of Health whether he could state the number of houses in respect of which guarantees had been given to rural district councils in England and Wales under Section 2 of the Housing (Financial Provisions) Act, 1933, and the approximate rentals of such houses.

Sir Hilton Young said that the number of houses in respect of which guarantees had been given by rural district councils in England and Wales under Section 2 of the Housing (Financial Provisions) Act, 1933, up to March 31, 1934, was 330. The average weekly rentals (exclusive of rates) of these houses was 9s. 7d. In addition, guarantees had either been promised or were the subject of active negotiations with the local authorities at March 31, 1934, in respect of 969 houses in rural districts.

Mr. Barton asked the Minister of Health whether his attention had been called to the injustice suffered by trustee mortgagees and private mortgagees whose investments had been covered by the Rent and Mortgage Interest Restriction Acts occasioned by the demolition of properties scheduled under the Housing Act, 1930; and whether he proposed to take steps to ensure adequate compensation being paid in such cases.

Sir Hilton Young said he fully appreciated the position of a mortgagee when the property on the security of which he had lent money was found to have no value beyond its site value, the houses being unfit for human habitation, but compensation did not appear to be more justified in these cases than in other cases in which money had been advanced on a security which subsequently proves inadequate. Section 7 of the Increase of Rent and Mortgage Interest (Restrictions) Act, 1920, gave some protection to the mortgagee whose mortgagor did not keep the property in a proper state of repair.

Architects' Registration Act

The Bill to amend the Architects' (Registration) Act has passed its third reading in the House of Lords, and will now come before the House of Commons.

THE BUILDINGS ILLUSTRATED

Sub-Contractors' List

Following are the names of the general contractors and some of the sub-contractors for the buildings illustrated in this issue :—

The Church of St. Barbara, Whale Island (pages 894-896). Sub-contractors : J. Wippell & Co., furnishings; Stuart's Granolithic Co., Ltd., flooring.

Council School, Northwood, Middlesex (pages 900-901). General contractor, W. S. Try. Sub-contractors : Indented Bar and Concrete Engineering Co., reinforced concrete; Crittall Manufacturing Co., Ltd., metal windows; Firmacrete, Ltd., artificial stone; Wm. F. Rees, tar paving; Granwood Flooring Co., Ltd., flooring; T. A. Harris, Ltd., sanitary fittings; Clark Hunt & Co., cloakroom fittings; Blackwells National Roofing, Ltd., asphalte roofing; Grant Engineering Co., heating; Henry J. Greenham, Ltd., bricks; Dulux-Nobel Chemical Finishes, Ltd., paint; Matsine, Mander Bros., stain; F. Thomas & Co., stainless steel lamps; Carter and Aynsley, door furniture and ironmongery; Central Joinery Co. (1927), Ltd., flush doors; F. and E. Eastman, stair treads.

Plaza Cinema, Worthing (pages 912-914). General contractor, Andrew Gibbs. Sub-contractors : Dorman Long & Co., Ltd., structural engineers; Diespeker & Co., Ltd., fireproof floors; Molle and Egan, decorators : Plaster Decoration Co., Ltd., fibrous plaster; Berkeley Electrical Engineering Co., Ltd., electrical engineering; F. H. Pride, electrical fittings; P. C. Henderson, Ltd., sliding doors : Burn Brothers, Ltd., cast iron sanitary goods : J. B. Robinson, glazing; Andrews and Adelizzi, Ltd., composition floorings; Hollis Bros., Ltd., wood flooring; James Stott & Co., Ltd., kitchen equipment; British Challenge Glazing Co., Ltd., glass; Compton Organ Co., Ltd., organ; London Radiator Heating Co., Ltd., heating; Lamson Pneumatic Tube Co., Ltd., vacuum plant; S. Dixon and Son, Ltd., fire appliances; Barton Bros., sanitary fittings, etc.; Safety Tread Syndicate, Ltd., staircases; Pixton's Ltd., theatre furnishers; Knight & Co., Ltd., safety curtain and console lift; Trussed Concrete Steel Co., Ltd., reinforced concrete engineers; Hy-Rib "Key-mesh" reinforcement for ceilings, walls, etc.; Crittall Mfg. Co., Ltd., metal casements; J. W. Gray and Son, Ltd., lightning conductor; N. F. Ramsay & Co., Ltd., door furniture; Steel Scaffolding Co., Ltd., scaffolding; Girlings Ferro-Concrete Co., Ltd., concrete; Turner's Asbestos Cement Co., Ltd., Asbestos-cement sheets, tiles and rain-water goods; Hibberd Bros. (1929) Ltd., joinery; Sussex Brick Co., Ltd., bricks; St. Helens Cable and Rubber Co., Ltd., cables; F. W. S. Worthington, plumbing.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILE RADIUS)

COULSDON. *Houses and Shops.* Plans passed by the U.D.C. : Six houses, Lyndhurst Road, for Messrs. C. F. Smith & Co. ; six houses, Caterham Drive, and 22 houses, Tudor Close, for Firmus Constructions, Ltd.; two houses, Chaldon Way, for Mr. W. H. Hoadley ; five houses, Reddown Road, for Mr. E. B. Clark ; three houses, Hartley Hill, for Mr. H. Powis ; two houses, Bradmore Way, for Mr. S. H. Burdwood ; four shops, Russell Hill Road, for Mr. E. Bates ; two houses, Coulsdon Road, for Mr. Wm. F. Blake ; shop and flats, The Parade, for Messrs. W. Matthews and Sons ; 36 houses, Woodlands Grove, for Mr. P. Richardson.

COULSDON AND PURLEY. *Houses.* The U.D.C. has approved development plans submitted by Messrs. Harold Williams, Holliday & Partners, for 37 houses at Limpsfield Road ; Messrs. S. P. Chapple & Co., for 143 houses at Kingswood ; and Messrs. R. Costain, Ltd., for 324 houses at Old Farleigh estates. Plans have been submitted by Messrs. Gunton and Gunton for the development of the Fairdean Heights estate, by the erection of 675 houses.

HACKNEY. *Housing.* The B.C. is seeking sanction to borrow £30,000, for housing advances.

HAMPTON. *Houses.* Plans passed by the U.D.C. : Seven houses, Hampton Road, for Messrs. Sloggetts, Ltd. ; 12 houses, Hanworth Road, for Mr. W. J. Shepherd.

HARROW. *Houses and Flats.* Plans passed by the U.D.C. : 20 flats, Moss Lane, Pinner, for Hubworth Trust Co., Ltd. ; development, White Gate estate, Elms Road, Harrow Weald, for Mr. N. W. Chappell ; shops and flats, Manor House estate, Church Road, Stanmore, for Messrs. Stanley Hicks and Son ; shops and business premises, Kenton Lane, Belmont, for Messrs. Ruddock and Meigham ; flats, Harrow View, Pinner, for Messrs. Lambert and Cooke ; shops and flats, Roxeth Green Avenue, for Messrs. A. S. Franklin.

HOLBORN. *Ward Improvements.* The L.C.C. is to improve the wards at the Holborn and Finsbury Institution, at a cost of £14,185.

LEWISHAM. *Houses, etc.* Plans passed by the B.C. : 24 houses, Bellingham Road, and houses, shops and flats, Bromley Road and Daneby Road, for Messrs. James Watt (Catford), Ltd. ; 26 houses, The Woodlands, for Mr. P. B. Dannatt ; 219 houses, Woodyates estate, Lee, for Mr. A. J. Butcher ; estate development, Worsley Bridge Road, for Mr. T. Spencer Bright ; shops and flats, West Hill and Kirkdale, Sydenham, for Messrs. Haynes and Haynes ; houses, site of 29, Mayow Road, Sydenham, for Mr. R. B. Rowell ; estate development, Butterfield Street, Lee, for New Ideal Homesteads, Ltd. ; houses, Comiston Road, for Messrs. Parnacott ; houses, off Sydenham Park Road, for Messrs. Brett and Son ; houses, 209-211, Burnt Ash Hill, for Mr. C. C. Eaglen ; block of buildings, vicinity Lewisham Bridge, for Mr. W. R. Davidge ; two shops and flats, Burnt Ash Hill, for Mr. C. Durbin ; houses, Ravensbourne Park, Catford, for Messrs. Hugh F. Thoburn, Ltd.

SANDERSTEAD. *Houses.* Plans passed : Two houses, Farm Fields, for Mr. S. Foreman ; two houses, Blacksmith's Avenue, for Messrs. Hooker and Rogers ; two houses, Arkwright Road, for Mr. L. H. Harrington ; two houses, West Hill, for Mr. George Smart ; 61 houses, Limpsfield Road, for Messrs. S. P. Chapple & Co. ; motor showroom and flats, Addington Road, for Mr. R. Bailey ; 12 houses, Limpsfield Road, for Messrs. E. A. Thorn and Son ; 46 houses, Old Farleigh estate, for Messrs. R. Costain, Ltd.

SOUTHALL-NORWOOD. *Swimming Bath.* The U.D.C. is to purchase land at North Side for the construction of a swimming bath.

SOUTHALL-NORWOOD. *Houses.* Plans passed by the U.D.C. : Three houses, Shaftesbury Avenue, for Messrs. Warren and Woods ; 40 houses, St. Crispin's Close, for Messrs. G. Wimpey & Co., Ltd.

WESTMINSTER. *Offices.* The L.C.C. recommends the sale of the old offices of the Metropolitan Asylums Board at Victoria Embankment, to Mr. William Graham, for £160,000.

SOUTHERN COUNTIES

BRIGHTON. *Houses.* The Corporation is to erect 35 houses for persons to be displaced from the Bunkers Hill clearance area.

OXFORD. *Houses.* Plans passed by the Corporation : Two houses, Five Mile Drive, for Messrs. Hinkins and Frewin, Ltd. ; isolation wards, Wingfield-Morris Hospital, Old Road, Headington, for Governors ; eight houses, off Godstow Road, for Mr. P. J. Frewin ; two new public houses, By-Pass Road, and Florence Park estate, for Morrell's Trustees ; two houses, off Pullens Lane, for Messrs. F. & R. Lewis, Ltd. ; two houses, Pitts Road, for Mr. C. T. Coppock ; two houses, Monmouth Road, for Messrs. T. H. Kingerlee and Sons, Ltd. ; two houses, Staunton Road, for Mr. A. W. Lee ; eight houses, Cricket Road, for Mr. W. Day ; 26 houses, off Cowley Road, for Messrs. E. Organ and Son ; 12 houses, Fern Hill Road, Cowley, for Fern Hill Building Co., Ltd. ; shops 148, London Road, for Mr. A. W. Lee ; estate development, off Pullens Lane, for Messrs. Rogers and Davies, Ltd. ; estate development, George Street, Cowlet, for Messrs. E. P. Messenger and Son.

WORTHING. *Houses, etc.*—Plans passed by the Corporation : Two houses, West Avenue, for Mr. F. Russell Seller ; 13 houses, Dominion Road, for Mr. D. C. Payne ; 18 houses, Leighton Avenue, and 20 in Offington Drive, for Mr. R. Hasler ; three houses, Angus Road, for Messrs. Middleton, Cathcart & Co. ; four houses, Upper Brighton Road, for Mr. T. R. Hyde ; 20 houses, Terringes Avenue, for Jeffrey Houses, Ltd. ; 10 houses, Bruce Avenue, for Mr. R. A. Gammans ; six houses, Goring Road, for Messrs. Maddison and Brookes; two houses, Hythe Road, for Mr. A. F. Coggins ; eight shops, five flats and offices, Goring Road, for Mr. M. R. Fletcher ; 12 houses, Findon Road, for Seaside Estates Building Co. ; 30 houses, Southfarm Road, for Messrs. L. A. Tarry, Ltd. ; eight houses, Hurst Avenue, for Mr. A. W. Clements ; 148 houses (amended), Meadow Road, for Mr. E. J. Woodward ; 26 houses, Drummond Road, for Mr. A. G. Keatch ; eight houses, Second Avenue, for Messrs. F. Sandell and Sons ; eight houses, Livesay Crescent, etc., for Mr. E. J. Love.

MIDLAND COUNTIES

BURSLEM. *Houses, Shops, etc.* Plans passed : Ten houses, off Eastwood Avenue, for Mr. J. W. Walton ; 12 houses, Murhall Street, for Mr. J. Dickinson ; two houses, Buxton Street, for Mr. B. S. Phillips ; 1 shop and 19 houses, Leek New Road, for Messrs. Leese and Peers ; shop and warehouse, Middleport Pottery, for Messrs. Burgess and Leigh.

CHESTERFIELD. *Houses.* The Housing Committee of the Corporation, has obtained sanction to borrow £41,992 for the erection of 138 houses on the Springfield Avenue site.

CHESTERFIELD. *Swimming Bath.* The Corporation is to prepare plans for the construction of an open-air swimming bath in Stand Road recreation ground.

CHESTERFIELD. *Houses.* Plans passed by the Corporation : 18 houses, Darwin estate, for Messrs. J. H. Naylor and Son ; 14 houses, off Newbold Back Lane, for Messrs. Hucknall and Longden ; four bungalows, Smithfield Avenue, for Mr. A. Smith ; two houses, Brimington Road, for Mr. F. Durham ; two houses, Old Road, for Mr. W. Harvey ; two houses, Lockoford Lane, for Messrs. Revill and Beresford ; two houses, Langar Lane, for Messrs. F. Irvine & Co. ; two houses, Upper Newbold, for Mr. F. Wale ; 28 houses, Ashgate Avenue, for Wasp Nest Brick Co. ; two houses, Newbold Avenue, for Mr. W. Bargh ; two houses, Old Road, for Mr. G. Cox.

HANLEY. *Houses.* Plans passed at : Two houses, Shelton New Road, for Mr. Jones ; two houses, Peel Street, for Mr. E. Lawton ; two houses, Shirley Road, for Mr. F. Pepper ; 10 houses, Cromer Road, for Mr. Rowley ; 16 houses, Birches Head Lane, for Mr. J. Plant ; four houses, Matlock Street, for Mr. A. Gurney ; four houses, Argyle Road, for Mr. A. E. Warren; 12 houses, Tintern Street, for Trinity Estates Ltd. ; 20 houses, Albany Road, for Mr. J Jackson ; eight houses, Ford Street, for Mr. J. Davies ; two houses, Leek New Road, for Messrs. Leake & Co. ; six houses, Derwent Street, for Mr. G. T. Smith.

STOKE-ON-TRENT. The Corporation is to consider an offer by Mr. A. S. Owen to erect 116 non-parlour three-bedroomed type houses at Leek Road, Milton, for sale to the Corporation at the price of £375 per house.

At the Corporation, Church Army Housing, Ltd., enquired whether it should appoint its own architect or instruct the city surveyor to prepare plans for the erection of 24 houses on the Meir estate, and the matter was referred to the city surveyor to settle.

STOKE-ON-TRENT. *Houses.* Plans passed by the Corporation : Two houses, Somerville Road, for Mr. J. H. Somerfield ; two houses, Highfield Avenue, for Messrs. W. Ball and Sons ; two bungalows, Goldenhill Road, for Mr. V. Kelly ; two houses, Weston Coymey Road, for Mr. W. Simcock ; two houses, Stone Road, for Mr. G. F. Norris ; two houses, Sandon Road, for Mr. C. Underhill ; two houses, off Brough Lane, for Messrs. Cooper and Jones ; two houses, James Street, for Mr. C. Onions ; 20 houses, Birks Street, for Mr. J. Hawthorne ; two houses, Levita Road, for Messrs. P. Bailey & Co., Ltd. ; eight houses, Lancaster Road, Harpfields, for Modern Architectural Estates, Ltd. ; four houses, off Hartshill Road, for Mr. E. Jones ; Sunday school, Park Road, Fenton, for Methodist trustees.

STOKE-ON-TRENT. *Houses and Flats.* Plans passed by the Corporation : Two houses, Highfield Avenue, for Messrs. W. Ball and Sons ; five houses, Ashlands Road, for Mr. W. Brammar ; two houses, Stone Road, for Mr. J. S. Robinson ; 18 flats, off Rookery Lane, for Messrs. Ball and Robinson ; 30 houses, Cavour Street, Etruria, for Mr. J. B. Shaw ; nine houses, off Ashlands Road, Harpfields, for Modern Architectural Estates ; two houses, Weston Coyney Road, for Mr. W. Simcock ; two houses, Stone Road, for Messrs. T. H. and A. Degg ; four houses, Cocknage Road, for Messrs. P. Bailey & Co.

NORTHERN COUNTIES

BARROW-IN-FURNESS. Plans passed by the Corporation : Two houses, West Avenue, for Mr. S. Hudson ; four houses, Hawocat Lane, for Mr. Wm. Hull ; alterations to eight houses, Fairfield Lane, for Mr. Wm. Hull ; 12 houses, Harrel Lane, for Mr. T. Chester. Plans submitted to Barrow-in-Furness Corporation : Flat, Holker Street, for Mr. J. Neal ; shop and house, Euryalus Street, for Messrs. R. F. Case & Co., Ltd. ; and eight houses, Beach Crescent, for Mr. A. Morton.

CARLISLE. *Houses.* The Corporation is to select three further sites in different parts of the city for the erection of an additional 72 houses for aged persons. The Corporation is to obtain tenders for the erection of 50 houses on the Currock House estate.

ECCLES. *Houses.* Plans passed by the Corporation : Two houses, Cleavely Road, for Mr. W. E. Lees ; six houses, Crawford Street, Monton, for Wilham Estates, Ltd. ; 16 houses, Napier Road, Monton, for Messrs. W. H. Fletcher and Son.

RIPON. *Houses.* The Corporation has purchased a site at Priest Lane for the erection of 50 houses.

D

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I s. d.	II s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A_1	Abergavenny ..	S Wales & M.	1 5	1 0½
A_2	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1½
A_2	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1½
A	Airdrie ..	Scotland	•1 5½	1 1½
C	Aldeburgh ..	E. Counties	1 1½	10½
A	Altrincham ..	N.W. Counties	1 5½	1 1½
B_2	Appleby ..	N.W. Counties	1 2	10½
A	Ashton-under-Lyne	N.W. Counties	1 5½	1 1½
A_2	Atherstone ..	Mid. Counties	1 4	1 0
b_2	Aylesbury ..	S. Counties	1 2½	11
B_1	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_2	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1½
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow ..	N.W. Counties	1 5½	1 1½
A	Barry ..	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke ..	S.W. Counties	1 3	11½
A_2	Bath	S.W. Counties	1 4½	1 0½
A	Batley ..	Yorkshire	1 5½	1 1½
A_2	Bedford ..	E. Counties	1 4½	1 0½
A_1	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_2	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	•1 7	1 2½
A	Birmingham	Mid. Counties	1 5½	1 1½
A_1	Bishop Auckland	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1½
A	Blackpool ..	N.W. Counties	1 5½	1 1½
A	Blyth ..	N.E. Coast	1 5½	1 1½
B_1	Bognor ..	S. Counties	1 3	11½
A	Bolton ..	N.W. Counties	1 5½	1 1½
A_2	Boston ..	Mid. Counties	1 4	1 0
A_2	Bournemouth ..	S. Counties	1 4	1 0
B_2	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1½
	Brentwood ..	E. Counties	1 5	1 0½
A_1	Bridgend ..	S. Wales & M.	1 5½	1 1½
A	Bridgwater ..	S.W. Counties	1 3	11½
B_1	Bridlington ..	Yorkshire	1 5	1 0½
A_1	Brighouse ..	Yorkshire	1 5½	1 1½
A	Brighton ..	S. Counties	1 4	1 0
A_2	Bristol ..	S.W. Counties	1 5½	1 1½
A	Brixham ..	S.W. Counties	1 2½	11
B_2	Bromsgrove ..	Mid. Counties	1 4½	1 0½
A_2	Bromyard ..	Mid. Counties	1 2	10½
B_2	Burnley ..	N.W. Counties	1 5½	1 1½
A	Burslem ..	Mid. Counties	1 5½	1 1½
A	Burton-on-Trent	Mid. Counties	1 5½	1 1½
A	Bury ..	N.W. Counties	1 5½	1 1½
A_1	Buxton ..	N.W. Counties	1 5	1 0½
A_1	CAMBRIDGE	E. Counties	1 5	1 0½
B_1	Canterbury ..	S. Counties	1 3	11½
A	Cardiff ..	S. Wales & M.	1 5½	1 1½
A	Carlisle ..	N.W. Counties	1 5½	1 1½
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Carnforth ..	N.W. Counties	1 5½	1 1½
A	Castleford ..	Yorkshire	1 5½	1 1½
B	Chatham ..	S. Counties	1 3½	11½
A_2	Chelmsford ..	E. Counties	1 4	1 0
A_2	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester ..	N.W. Counties	1 5½	1 1½
A	Chesterfield ..	Mid. Counties	1 5½	1 1½
B_1	Chichester ..	S. Counties	1 3	11½
A	Chorley ..	N.W. Counties	1 5½	1 1½
B_1	Cirencester ..	S. Counties	1 3	11½
A	Clitheroe ..	N.W. Counties	1 5½	1 1½
A	Clydebank ..	Scotland	1 5½	1 1½
A	Coalville ..	Mid. Counties	1 5½	1 1½
A_2	Colchester ..	E. Counties	1 4	1 0
A_2	Colne ..	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_1	Consett ..	N.E. Coast	1 5	1 0½
A_2	Conway ..	N.W. Counties	1 4½	1 0½
A_2	Coventry ..	Mid. Counties	1 5½	1 1½
A_2	Crewe ..	N.W. Counties	1 4½	1 0½
A	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1½
A	Darwen ..	N.W. Counties	1 5½	1 1½
B_1	Deal ..	S. Counties	1 3	11½
A_2	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby ..	Mid. Counties	1 5½	1 1½
A	Dewsbury ..	Yorkshire	1 5½	1 1½
B	Didcot ..	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1½
B_2	Dorchester ..	S.W. Counties	1 2½	11
A	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley ..	Mid. Counties	1 5½	1 1½
A	Dundee ..	Scotland	1 5½	1 1½
A	Durham ..	N.E. Coast	1 5½	1 1½
A_2	EASTBOURNE	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1½
A_1	E. Glamorganshire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter ..	S.W. Counties	•1 4½	1 0½
B	Exmouth ..	S.W. Counties	1 3½	11½
A_2	FELIXSTOWE	E. Counties	1 4	1 0
A_2	Filey	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1½
B_1	Folkestone ..	S. Counties	1 3	11½
A	Frodsham ..	N.W. Counties	1 5½	1 1½
B_2	Frome	S.W. Counties	1 2½	11
A	GATESHEAD	N.E. Coast	1 5½	1 1½
B	Gillingham ..	S. Counties	1 3½	11½
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole ..	Yorkshire	1 4½	1 0½
A_2	Gosport ..	S. Counties	1 4½	1 0½
A_2	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0½
A	Greenock ..	Scotland	•1 5½	1 1½
A	Grimsby ..	Yorkshire	1 5½	1 1½
B	Guildford ..	S. Counties	1 3½	11½
A	HALIFAX ..	Yorkshire	1 5½	1 1½
A	Hanley ..	Mid. Counties	1 5½	1 1½
A	Harrogate ..	Yorkshire	1 5½	1 1½
A	Hartlepools ..	N.E. Coast	1 5½	1 1½
B	Harwich ..	E. Counties	1 3½	11½
B_1	Hastings ..	S. Counties	1 3	11½
A_2	Hatfield ..	S. Counties	1 4½	1 0½
B	Hereford ..	S.W. Counties	1 3½	11½
A_2	Hertford ..	E. Counties	1 4½	1 0½
A	Heysham ..	N.W. Counties	1 5½	1 1½
A	Howden ..	N.E. Coast	1 5½	1 1½
A	Huddersfield ..	Yorkshire	1 5½	1 1½
A	Hull ..	Yorkshire	1 5½	1 1½
A	ILKLEY ..	Yorkshire	1 5½	1 1½
A	Immingham ..	Mid. Counties	1 5½	1 1½
A_2	Ipswich ..	E. Counties	1 4½	1 0½
B_2	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1½
A	KEIGHLEY ..	Yorkshire	1 5½	1 1½
B	Kendal ..	N.W. Counties	1 3½	11½
B	Keswick ..	N.W. Counties	1 3½	11½
A_2	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster	Mid. Counties	1 4½	1 0½
B_1	King's Lynn ..	E. Counties	1 3	11½
A	LANCASTER ..	N.W. Counties	1 5½	1 1½
A_1	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester ..	Mid. Counties	1 5½	1 1½
A	Leigh ..	N.W. Counties	1 5½	1 1½
B_2	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln ..	Mid. Counties	1 5½	1 1½
	Liverpool ..	N.W. Counties	•1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly ..	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12-15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1½
A	Loughborough ..	Mid. Counties	1 5½	1 1½
A_2	Luton	E. Counties	1 4	1 0
A	Lytham ..	N.W. Counties	1 5½	1 1½
A_1	MACCLESFIELD	N.W. Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11½
A_2	Malvern ..	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1½
A	Mansfield ..	Mid. Counties	1 5½	1 1½
B_1	Margate ..	S. Counties	1 3	11½
A	Matlock ..	Mid. Counties	1 4	1 0
A_1	Merthyr ..	S. Wales & M.	1 5	1 0½
A	Middesbrough	N.E. Coast	1 5½	1 1½
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth ..	S. Wales & M.	1 2½	11
	& S. and E. Glamorganshire			
A	Morecambe ..	N.W. Counties	1 5½	1 1½
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson ..	N.W. Counties	1 5½	1 1½
A	Newcastle ..	N.E. Coast	1 5½	1 1½
A	Newport ..	S. Wales & M.	1 5½	1 1½
A	Normanton ..	Yorkshire	1 5½	1 1½
A	Northampton ..	Mid. Counties	1 5½	1 1½
A	North Staffs ..	Mid. Counties	1 5½	1 1½
A	North Shields ..	N.E. Coast	1 5½	1 1½
A_1	Norwich ..	E. Counties	1 5	1 0½
A	Nottingham ..	Mid. Counties	1 5½	1 1½
A	Nuneaton ..	Mid. Counties	1 5½	1 1½
A_2	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham ..	N.W. Counties	1 5½	1 1½
A_2	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford ..	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	•1 5½	1 1½
B_2	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth ..	Scotland	•1 5½	1 1½
A_2	Peterborough ..	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	•1 5½	1 1½
A	Pontefract ..	Yorkshire	1 5½	1 1½
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_2	Portsmouth ..	S. Counties	1 4½	1 0½
A	Preston ..	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate ..	S. Counties	1 3½	11½
A_2	Retford ..	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A_2	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1½
B	Rochester ..	S. Counties	1 3½	11½
A_1	Ruabon ..	N.W. Counties	1 5	1 0½
A	Rugby ..	Mid. Counties	1 5½	1 1½
A_2	Rugeley ..	Mid. Counties	1 4½	1 0½
A	Runcorn ..	N.W. Counties	1 5½	1 1½
A_1	ST. ALBANS ..	E. Counties	1 5	1 0½
A	St. Helens ..	N.W. Counties	1 5½	1 1½
B_2	Salisbury ..	S.W. Counties	1 2½	11
A_1	Scarborough ..	Yorkshire	1 5	1 0½
A	Scunthorpe ..	Mid. Counties	1 5½	1 1½
A	Sheffield ..	Yorkshire	1 5½	1 1½
A	Shipley ..	Yorkshire	1 5½	1 1½
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton ..	Yorkshire	1 4½	1 0½
A_2	Slough ..	S. Counties	1 4½	1 0½
A_1	Solihull ..	Mid. Counties	1 5	1 0½
A_2	Southampton ..	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport ..	N.W. Counties	1 5½	1 1½
A	S. Shields ..	N.E. Coast	1 5½	1 1½
A_1	Stafford ..	Mid. Counties	1 5	1 0½
A	Stockport ..	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud ..	S.W. Counties	1 3½	11½
A	Sunderland ..	N.E. Coast	1 5½	1 1½
A	Swadlincote ..	Mid. Counties	1 5½	1 1½
A	Swansea ..	S. Wales & M.	1 5½	1 1½
A_2	Swindon ..	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton ..	S.W. Counties	1 3½	11½
A	Teesside Dist. ..	N.E. Counties	1 5½	1 1½
A_2	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1½
A_1	Torquay ..	S.W. Counties	1 5	1 0½
B_2	Truro	S.W. Counties	1 2½	11
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall ..	Mid. Counties	1 5½	1 1½
A	Tyne District ..	N.E. Coast	1 5½	1 1½
A	WAKEFIELD	Yorkshire	1 5½	1 1½
A	Walsall ..	Mid. Counties	1 5½	1 1½
A	Warrington ..	N.W. Counties	1 5½	1 1½
A_1	Warwick ..	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid. Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby ..	Yorkshire	1 4½	1 0½
A	Widnes ..	N.W. Counties	1 5½	1 1½
A	Wigan	N.W. Counties	1 5½	1 1½
B	Winchester ..	S. Counties	1 3½	11½
A_2	Windsor ..	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_2	Worksop ..	Yorkshire	1 4	1 0
A_1	Wrexham ..	N.W. Counties	1 5	1 0½
A_2	Wycombe ..	S. Counties	1 4	1 0
B_1	YARMOUTH ..	E. Counties	1 3	11½
B_1	Yeovil	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	11½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	£ s. d.
Bricklayer . . . . . per hour	1 7
Carpenter . . . . . ,,	1 7
Joiner . . . . . ,,	1 7
Machinist . . . . . ,,	1 8
Mason (Banker) . . . . . ,,	1 7
,, (Fixer) . . . . . ,,	1 8
Plumber . . . . . ,,	1 7
Painter . . . . . ,,	1 6
Paperhanger . . . . . ,,	1 6
Glazier . . . . . ,,	1 7
Slater . . . . . ,,	1 7
Scaffolder . . . . . ,,	1 7
Timberman . . . . . ,,	1 3
Navvy . . . . . ,,	1 2½
General Labourer . . . . . ,,	1 2½
Lorryman . . . . . ,,	1 5
Crane Driver . . . . . ,,	1 6
Watchman . . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£ s. d.
Grey Stone Lime . . . . per ton	2 2 0
Blue Lias Lime . . . . ,,	1 16 6
Hydrated Lime . . . . ,,	3 0 9
Portland Cement, in 4 ton lots (d/d site, including Paper Bags) . ,,	1 18 0
Rapid Hardening Cement, in 4 ton lots (d/d site, including Paper Bags) ,,	2 5 6
White Portland Cement, in 1 ton lots ,,	8 15 0
Thames Ballast . . . . per Y.C.	6 3
¾" Crushed Ballast . . . ,,	6 9
Building Sand . . . . ,,	7 3
Washed Sand . . . . ,,	8 3
2" Broken Brick . . . . ,,	8 0
¾" ,, ,, ... ,,	10 3
Pan Breeze . . . . ,,	6 6
Coke Breeze . . . . ,,	8 9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

	4" s. d.	6" s. d.
Straight Pipes . .per F.R	0 9	1 1
Bends . . . . each	1 9	2 6
Taper Bends . . . ,,	3 6	5 3
Rest Bends . . . ,,	4 3	6 3
Single junctions . . ,,	3 6	5 3
Double . . . . ,,	4 9	6 6
Straight channels . .per F.R.	1 6	2 6
¾" Channel bends . . each	2 9	4 0
Channel junctions . . ,,	4 6	6 6
Channel tapers . . ,,	2 9	4 0
Yard gullies . . ,,	6 9	8 9
Interceptors . . ,,	16 0	19 6
IRON DRAINS:		
Iron drain pipe . . per F.R.	1 6	2 6
Bends . . . . each	5 0	10 6
Inspection bends . . ,,	9 0	15 0
Single junctions . . ,,	8 9	18 0
Double junctions . . ,,	13 6	30 0
Lead wool . . . lb.	6	—
Gaskin . . . ,,	5	—

BRICKLAYER

	£ s. d.
Flettons . . . . per M.	2 18 0
Grooved do. . . . . ,,	3 0 0
Phorpres bricks . . . ,,	2 17 3
Phorpres Cellular bricks . . ,,	2 17 3
Stocks, 1st quality . . ,,	4 11 0
,, 2nd ,, . . ,,	4 2 6
Blue Bricks, Pressed . . ,,	8 17 6
,, Wirecuts . . ,,	7 17 6
,, Brindles . . ,,	7 0 0
,, Bullnose . . ,,	9 0 0
Red Sand-faced Facings . . ,,	6 18 6
Red Rubbers for Arches . . ,,	12 0 0
Multicoloured Facings . . .	7 10 0
Luton Facings . . . . ,,	7 10 0
Phorpres White Facings . . ,,	3 17 3
Phorpres Rustic Facings . . ,,	3 12 3
Midhurst White Facings . . ,,	5 0 0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:	
Stretchers . . . . ,,	21 0 0
Headers . . . . ,,	20 10 0
Bullnose . . . . ,,	27 10 0
Double Stretchers . . ,,	29 10 0
Double Headers . . ,,	26 10 0
Glazed Second Quality, *Less* . .	1 0 0
,, Buffs and Creams, *Add* . .	2 0 0
,, Other Colours . . .	5 10 0
2" Breeze Partition Blocks . . per Y.S.	1 7
2½" ,, ,, ,, . . ,,	1 10
3" ,, ,, ,, . . ,,	2 1
4" ,, ,, ,, . . ,,	2 6

MASON

The following d/d F.O.R. at Nine Elms:

	s. d.
Portland stone, Whitbed . . F.C.	4 4½
,, ,, Basebed . . ,,	4 9
Bath stone . . . . . ,,	2 11
York stone . . . . . ,,	6 6
,, ,, Sawn templates . . ,,	7 6
,, ,, Paving, 2" . . . F.S.	1 8
,, ,, 3" . . . . ,,	2 6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£ s. d.
24" × 12" Duchesses . . . per M.	28 17 6
22" × 12" Marchionesses . . ,,	24 10 0
20" × 10" Countesses . . ,,	19 5 0
18" × 10" Viscountesses . . ,,	15 10 0
18" × 9" Ladies . . . ,,	13 17 6
Westmorland green (random sizes) . per ton	8 10 0
Old Delabole slates d/d in full truck loads to Nine Elms Station:	
20" × 10" medium grey per 1,000 (actual)	21 11 6
,, green ,, ,,	24 7 4
Best machine roofing tiles . . ,,	4 10 0
Best hand-made do. . . . ,,	5 0 0
Hips and valleys . . . . each	9½
,, hand-made . . . . ,,	10
Nails, compo . . . . lb.	1 4
,, copper . . . . ,,	1 6

CARPENTER AND JOINER

	s. d.
Good carcassing timber . . F.C.	2 2
Birch . . . . as 1" F.S.	9
Deal, Joiner's . . . ,, ,,	5
,, ,, 2nds . . ,, ,,	4
Mahogany, Honduras . . ,, ,,	1 3
,, African . . ,, ,,	1 1
,, Cuban . . ,, ,,	2 6
Oak, plain American . . ,, ,,	1 0
,, Figured ,, . . ,, ,,	1 3
,, Plain Japanese . . ,, ,,	1 2
,, Figured ,, . . ,, ,,	1 5
,, Austrian wainscot . ,, ,,	1 6
,, English . . . ,, ,,	1 11
Pine, Yellow . . . ,, ,,	1 0
,, Oregon . . . ,, ,,	4
,, British Columbian . ,, ,,	4
Teak, Moulmein . . . ,, ,,	1 3
,, Burma . . . ,, ,,	1 2
Walnut, American . . ,, ,,	2 3
,, French . . . ,, ,,	2 3
Whitewood, American . . ,, ,,	1 1
Deal floorings, ¾" . . . Sq.	18 6
,, 1" . . . ,,	1 1 6
,, 1¼" . . . ,,	1 2 0
,, 1½" . . . ,,	1 5 0
,, 1¾" . . . ,,	1 10 0
Deal matchings ¾" . . . ,,	14 0
,, 1" . . . ,,	15 6
Rough boarding ¾" . . . ,,	1 4 0
,, 1" . . . ,,	16 0
,, 1¼" . . . ,,	18 0
Plywood, per ft. sup.	1 6 0

Thickness	¼"	½"	¾"	1"
Qualities	AA. A. B.	AA. A. B.	AA. A. B.	AA. A. B.
	d. d. d.	d. d. d.	d. d. d.	d. d. d.
Birch	4 3 2	5 4 3	7½ 6 4½	8½ 7 6
Alder	3½ 3 2	5 4 3	6½ 5½ 4½	8 7 6
Gaboon Mahogany	4 3 3	6½ 5½ 4½	9½ 7½ -	1/0½ 10 -
Figured Oak 1 side	8½ 7 -	10 8 -	11½ - -	1/6 - -
Plain Oak 1 side	6½ 6 -	7½ 7 -	9½ - -	1/- - -
Oregon Pine	5 4 -	5½ 5 -	6 - -	- - -

Scotch glue . . . . . lb. 8d.

SMITH AND FOUNDER

Tubes and Fittings:

(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	½"	¾"	1"	1½"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9
,, 3"-11½" long ,,	7	9	1/3	1/8	3/-
Long screws, 12"-23½" long ,,	11	1/3	2/2	2/10	5/3
,, ,, 3"M-½" long ,,	8	10	1/5	1/11	3/6
Bends . . . . ,,	8	11	1/7½	2/7½	5/2
Springs not socketed . ,,	5	7	1/1½	1/11½	3/11
Socket unions . . ,,	2/-	3/-	5/6	6/9	10/-
Elbows, square . . ,,	10	1/1	1/6	2/2	4/3
Tees . . . . ,,	1/-	1/3	1/10	2/6	5/1
Crosses . . . ,,	2/2	2/9	4/1	5/6	10/6
Plain Sockets and nipples ,,	3	4	6	8	1/3
Diminished sockets . ,,	4	6	9	1/-	2/-
Flanges . . . ,,	9	1/-	1/4	1/9	2/9
Caps . . . . ,,	3½	5	8	1/-	2/-
Backnuts . . . ,,	2	3	5	6	1/1
Iron main cocks . . ,,	1/6	2/3	4/2	5/4	11/6
,, ,, with brass plugs ,,	—	4/-	7/6	10/-	21/-

Discounts:

TUBES.

	Per cent.		Per cent.
Gas . . .	65	Galvanized gas .	52½
Water . . .	61½	,, water	47½
Steam . . .	57½	,, steam	42½

FITTINGS.

Gas . . .	57½	Galvanized gas .	47½
Water . . .	52½	,, water	42½
Steam . . .	47½	,, steam	37½

SMITH AND FOUNDER—*continued*

	s. d.
Rolled steel joists cut to length . . cwt.	10 9
Mild steel reinforcing rods, ¼" . . . ,,	8 6
,, ,, ⅜" . . . ,,	8 3
,, ,, ½" . . . ,,	8 0
,, ,, ⅝" . . . ,,	7 6
,, ,, ¾" . . . ,,	7 6
,, ,, 1" . . . ,,	7 6
,, ,, 1¼" . . . ,,	7 6
,, ,, 1½" . . . ,,	7 6
,, ,, 3" . . . ,,	4"

	s. d.	s. d.
Cast-iron rain-water pipes of ordinary thickness metal . . F.R	8	10
Shoes . . . . each	2 0	3 0
Anti-splash shoes . . ,,	4 6	8 0
Boots . . . . ,,	3 0	4 6
Bends . . . . ,,	2 7	3 9
,, with access door . . ,,	—	6 3
Heads . . . . ,,	4 0	5 0
Swan-necks up to 9" offsets . ,,	3 9	6 0
Plinth bends, 4½" to 6" . ,,	3 9	5 3
Half-round rain-water gutters of ordinary thickness metal . . F.R.	5	6
Stop ends . . . . each	6	6
Angles . . . . ,,	1 7	1 11
Obtuse angles . . . ,,	2 0	2 6
Outlets . . . . ,,	1 9	2 3

PLUMBER

	£ s. d
Lead, milled sheets . . . cwt.	18 6
,, drawn pipes . . . ,,	17 0
,, soil pipe . . . ,,	18 6
,, scrap . . . ,,	10 6
Solder, plumbers' . . . lb.	9½
,, fine do. . . . ,,	1 0
Copper, sheet . . . ,,	8½
,, tubes . . . ,,	11

L.C.C soil and waste pipes:	3"	4"	6"
Plain cast . . F.R.	1 0	1 2	2 6
Coated . . ,,	1 1	1 3	2 8
Galvanized . ,,	2 0	2 6	4 6
Holderbats . . each	3 10	4 0	4 9
Bends . . ,,	3 9	5 3	10 3
Shoes . . ,,	2 10	4 4	9 6
Heads . . ,,	4 8	8 5	12 9

PLASTERER

	£ s. d.
Lime, chalk . . . per ton	2 5 0
Plaster, coarse . . ,,	2 10 0
,, fine . . ,,	4 15 0
Hydrated lime . . ,,	3 0 9
Sirapite . . . ,,	3 6 0
Keene's cement . . ,,	5 0 0
Sand, washed . . Y.C.	11 6
Hair . . . lb.	6
Laths, sawn . . bundle	2 4
,, rent . . ,,	3 9
Lath nails . . . lb.	3½

GLAZIER

	s. d.	s. d.
Sheet glass, 21 oz., squares n/e 2 ft. s. F.S.		2½
,, ,, 26 oz. ,, ,, ,,		3½
Flemish, Arctic, Figured (white)* ,,		7
Blazoned glasses . . ,,	2	6
Reeded; Cross Reeded ,,		11
Cathedrals: eleven varieties (white)* ,,		6½
Crown sheet glass (n/e 12 in. x 10 in) ,,	1 0 and 2	2 0
Flashed opals (white and coloured) ,,		7
¼" rough cast; rolled plate . ,,		10
¼" wired cast; wired rolled . ,,		11
¼" Georgian wired cast . ,,	†10 to ‡1	1
¼" Polished plate, n/e 1 ft. . ,,	†1 2 ,, ‡1	4
,, ,, 2 . ,,	†2 3 ,, ‡2	6
,, ,, 4 . ,,	†2 9 ,, ‡3	2
,, ,, 8 . ,,	†3 7 ,, ‡4	2
,, ,, 20 . ,,	†3 11 ,, ‡4	7
,, ,, 45 . ,,	†5 0 ,, ‡5	7
,, ,, 100 . ,,		
Vita glass, sheet, n/e 2 ft. . ,,		1 3
,, ,, over 2 . ,,		1 9
,, ,, plate, n/e 2 ft. . ,,		3 0
,, ,, ,, 7 . ,,		5 0
,, ,, ,, 15 . ,,		6 0
,, ,, over 15 . ,,		7 6
"Calorex" sheet 21 oz., and 32 oz. ,,	2 6 and 3	6
rough cast ¼" and ½" ,,	8½ ,, 1	0
Putty, linseed oil . . lb.		3

*Colours 1d. F.S. extra.
†Ordinary glazing quality. ‡Selected glazing quality.

PAINTER

	£ s. d.
White lead in 1 cwt. casks . . cwt.	2 6 0
Linseed oil . . . . gall.	2 2½
Boiled oil . . . . ,,	2 4½
Turpentine . . . . ,,	4 1½
Patent knotting . . . ,,	14 0
Distemper, washable . . cwt.	2 6 0
,, ordinary . . ,,	2 0 0
Whitening . . . ,,	4 0 0
Size, double . . . firkin	3 0 0
Copal varnish . . . gall.	13 0 0
Flat varnish . . . ,,	14 0 0
Outside varnish . . ,,	16 0 0
White enamel . . . ,,	1 15 0
Ready-mixed paint . . ,,	13 6
Brunswick black . . ,,	7 6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR		£ s. d.
Digging over surface n/e 12" deep and cart away	Y.S.	2 9
" to reduce levels n/e 5' 0" deep and cart away	Y.C.	8 6
" to form basement n/e 5' 0" deep and cart away	"	9 6
" " 10' 0" deep and cart away	"	9 6
" " 15' 0" deep and cart away	"	10 0
If in stiff clay	add "	2 6
If in underpinning	" "	4 0
Planking and strutting to sides of excavation	F.S.	1 6
" " to pier holes	"	5
" " to trenches	"	5
" " extra, only if left in	"	3
Hardcore, filled in and rammed	Y.C.	10 0
Portland cement concrete in foundations (6-1)	"	1 6 0
" " (4-2-1)	"	1 12 6
" " underpinning	"	1 16 0
Finishing surface of concrete, spade face	Y.S.	7

DRAINLAYER		4" s. d.	6" s. d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1 6	2 3
Extra, only for bends	Each	2 8	3 9
" junctions		3 9	4 6
Gullies and gratings	"	16 6	18 0
Cast iron drains, and laying and jointing	F.R.	4 9	6 9
Extra, only for bends	Each	10 6	15 6

BRICKLAYER	£ s. d.
Brickwork, Flettons in lime mortar	Per Rod 27 10 0
" " in cement	" 28 15 0
" Stocks in cement	" 35 0 0
" Blues in cement	" 52 0 0
Extra only for circular on plan	" 2 0 0
" backing to masonry	" 1 10 0
" raising on old walls	" 2 0 0
" underpinning	" 5 10 0
Fair Face and pointing internally	F.S. 1½
Extra over fletton brickwork for picked stock facings and pointing	" 8½
" " " red brick facings and pointing	" 11
" " " blue brick facings and pointing	" 1 4
" " " glazed brick facings and pointing	" 3 6
Tuck pointing	" 7
Weather pointing in cement	" 3½
Slate dampcourse	" 10
Vertical dampcourse	" 1 1

ASPHALTER	s. d.
½" Horizontal dampcourse	Y.S. 4 6
½" Vertical dampcourse	" 6 9
½" paving or flat	" 4 0
1" paving or flat	" 5 6
1" × 6" skirting	F.R. 1 0
Angle fillet	" 2
Rounded angle	" 2
Cesspools	Each 0

MASON	s. d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C. 17 9
Bath stone and do., all as last	" 13 6
Artificial stone and do.	" 13 0
York stone templates, fixed complete	" 10 6
" thresholds	" 13 6
" sills	" 1 0 6

SLATER AND TILER	£ s. d.
Slating, Bangor or equal, laid to a 3" lap, and fixing with compo nails, 20" × 10"	Sqr. 3 10 0
Do., 18" × 9"	" 3 7 0
Do., 24" × 12"	" 3 17 0
Westmorland slating, laid with diminished courses	" 6 0 0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course	" 3 0 0
Do., all as last, but of machine-made tiles	" 2 16 0
20" × 10" medium Old Delabole slating, laid to a 3" lap (grey)	" 4 6 0
" " " " " (green)	" 4 15 0

CARPENTER AND JOINER	£ s. d.
Flat boarded centering to concrete floors, including all strutting	Sqr. 2 5 0
Shuttering to sides and soffits of beams	F.S. 8
" to stanchions	" 8
" to staircases	" 1 8
Fir and fixing in wall plates, lintols, etc.	F.C. 3 9
Fir framed in floors	" 4 6
" " roofs	" 6 6
" " trusses	" 7 6
" " partitions	" 8 6
⅝" deal sawn boarding and fixing to joists	Sqr. 1 14 6
1" " " " "	" 1 17 6
1½" " " " "	" 2 3 0
3" × 2" fir battening for Countess slating	" 9 6
Do. for 4" gauge tiling	" 12 0
Stout feather-edged tilting fillet	F.R. 4½
Patent inodorous felt, 1 ply	Y.S. 2 3
" " " 2 "	" 2 9
" " " 3 "	" 3 3
Stout herringbone strutting to 9" joists	F.R. 10½
1" deal gutter boards and bearers	F.S. 1 2
1½" " " "	" 1 6
3" deal wrought rounded roll	F.R. 8
1" deal grooved and tongued flooring, laid complete, including cleaning off	Sqr. 2 1 0
1½" do.	" 2 10 0
1¾" do.	" 2 17 0
1" deal moulded skirting, fixed on, and including grounds plugged to wall	F.S. 1 6
1½" do	" 1 9

CARPENTER AND JOINER—*continued*	s. d.
1½" deal moulded sashes of average size	F.S. 1 9½
2" " " "	" 1 11½
1½" deal cased frames double hung, of 6" × 3" oak sills, 1¼" pulley stiles, 1¼" heads, 1" inside and outside linings, ⅝" parting beads, and with brass faced axle pulleys, etc., fixed complete	" 3 7
2" " " "	" 3 10
Extra only for moulded horns	Each 6
1½" deal four-panel square, both sides, door	F.S. 2 0
2" " " "	" 2 8
1½" " but moulded both sides	" 2 4
2" " " "	" 3 0
4" × 3" deal, rebated and moulded frames	F.R. 1 0
4½" × 3½" " " "	" 1 4
1½" deal tongued and moulded window board, on and including deal bearers	F.S. 1 9
1½" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	" 2 6
1½" deal moulded wall strings	" 3 1
1½" " outer strings	" 2 4
Ends of treads and risers housed to string	Each 1 9
3" × 2" deal moulded handrail	F.R. 1 3
2" × 1" deal balusters and housing each end	Each 2 0
1½" × 1½" " " "	" 2 9
3" × 3" deal wrought framed newels	F.R. 1 7
Extra only for newel caps	Each 6 0
Do., pendants	" 6 0

SMITH AND FOUNDER	£ s. d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt. 15 8
Riveted plate or compound girders, and hoisting and fixing in position	" 19 6
Do. stanchions with riveted caps and bases and do.	" 19 0
Mild steel bar reinforcement, ½" and up, bent and fixed complete	" 17 6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S. 11
Wrot-iron caulked and cambered chimney bars	Per cwt. 1 10 0

PLUMBER	£ s. d.
Milled lead and labour in flats	cwt. 1 12 0
Do. in flashings	" 1 15 6
Do. in covering to turrets	" 2 3 0
Do. in soakers	" 1 7 6
Labour to welted edge	F.R. 3½
Open copper nailing	" 3
Close " "	" 4

	½" s. d.	¾" s. d.	1" s. d.	1½" s. d.	2" s. d.	4" s. d.
Lead service pipe and fixing with pipe hooks	F.R. 10	1 0	1 3	2 0	2 10	—
Do. soil pipe and fixing with cast lead tacks	—	—	—	—	—	5 6
Extra, only to bends	Each —	—	—	—	2 0	6 9
Do. to stop ends	" 6½	8	9	11	1 0	—
Boiler screws and unions	" 3 3	3 9	5 0	8 0	—	—
Lead traps	" —	—	—	6 3	8 9	—
Screw down bib valves	" 6 9	9 6	11 0	—	—	—
Do. stop cocks	" 7 0	9 6	12 6	—	—	—

4" cast-iron ½-rd. gutter and fixing	F.R. 1 0
Extra, only stop ends	Each 1 0
Do. angles	" 1 6
Do. outlets	" 2 9
4" dia. cast-iron rain-water pipe and fixing with ears cast on	F.R. 1 2
Extra, only for shoes	Each 1 3
Do. for plain heads	" 5 6

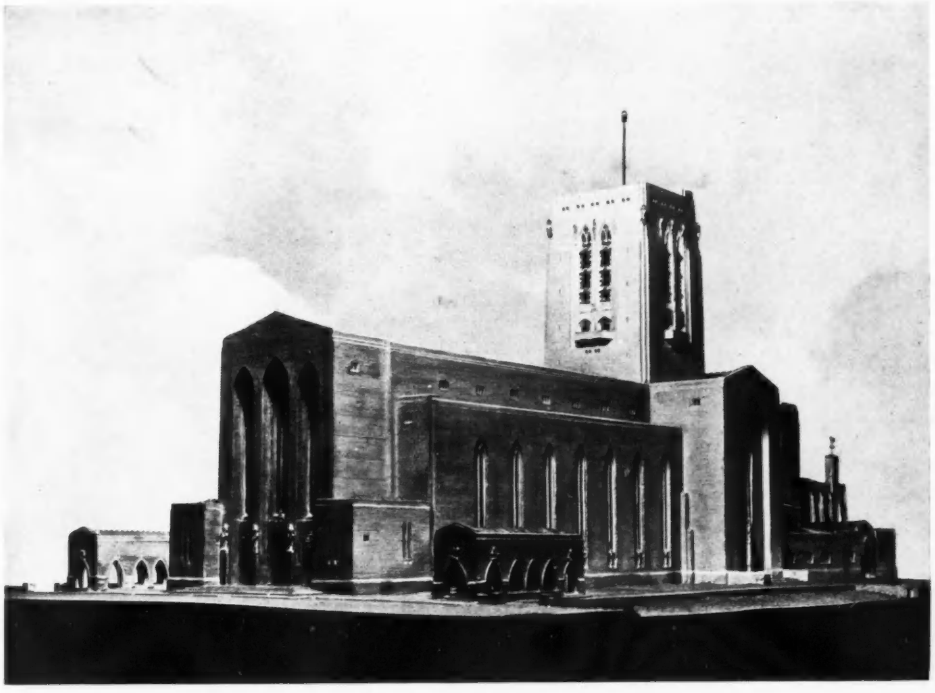
PLASTERER AND TILING	s. d.
Expanded metal lathing, small mesh	Y.S. 2 0
Do. in n/w to beams, stanchions, etc.	" 2 9
Lathing with sawn laths to ceilings	" 1 3
½" screeding in Portland cement and sand for tiling, wood block floor, etc.	" 1 5
Do. vertical	" 1 7
Rough render on walls	" 1 2½
Render, float and set in lime and hair	" 1 9
Render and set in Sirapite	" 1 11
Render, backing in cement and sand, and set in Keene's cement	" 2 9
Extra, only if on lathing	" 4
Keene's cement, angle and arris	F.R. 6
Arris	" 1½
Rounded angle, small	" 3
Plain cornices in plaster, including dubbing out, per 1" girth	" 1½
1" granolithic pavings	Y.S. 3 6
1½" "	" 4 6
6" × 6" white glazed wall tiling and fixing on prepared screed	" 17 6
9" × 3" " " " " "	" 1 2 6
Extra, only for small quadrant angle	F.R. 8

GLAZIER	s. d
21 oz. sheet glass and glazing with putty	F.S. 7½
26 oz. do. and do.	" 8½
Flemish, Arctic, Figured (white) and glazing with putty	" 1 1
Cathedral glass and do.	" 1 2
Glazing only, British polished plate	" 7
Extra, only if in beads	" 2
Washleather	F.R. 4

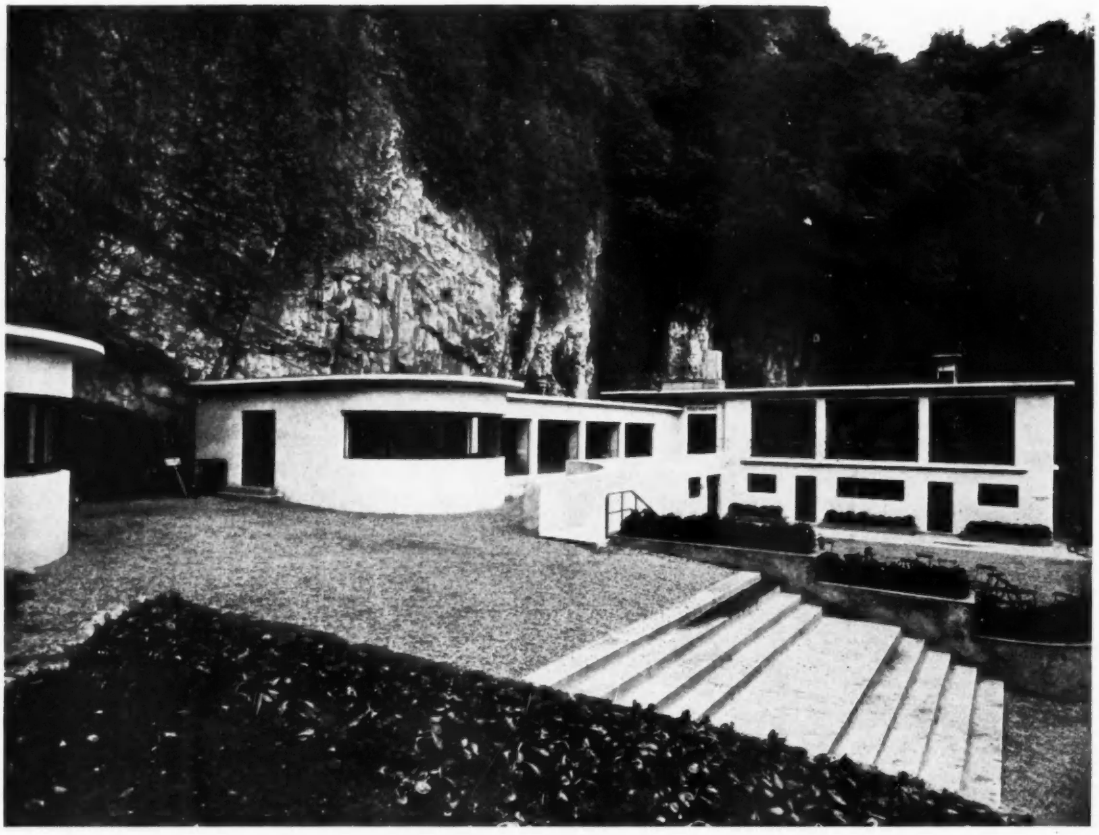
PAINTER	s. d.
Clearcolle and whiten ceilings	Y.S. 6
Do. and distemper walls	" 9
Do. with washable distemper	" 1 1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	" 3 3
Do. on woodwork	" 3 6
Do. on steelwork	" 3 0
Do. and brush grain and twice varnish	" 5 6
Stain and twice varnish woodwork	" 1 11
Stain and wax-polish woodwork	" 4 6
French polishing	F.S. 1 2
Stripping off old paper	Piece 2 0
Hanging ordinary paper	from " 2 9

THE NEW GUILDFORD CATHEDRAL

DESIGNED BY EDWARD MAUFE

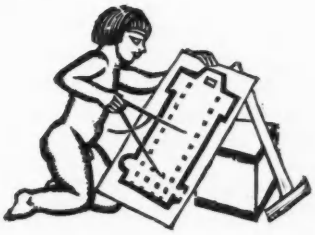


A PHOTOGRAPH of the model of the proposed new cathedral at Guildford which is shortly to be exhibited outside the present cathedral. The architect is Mr. Edward Maufe, whose design was placed first in a limited competition held some two years ago.



CHEDDAR GORGE

The tens of thousands who have annually visited Gough's Caves at Cheddar have presumably done so in spite of the "take it or leave it" atmosphere of the previous arrangements. Thanks to the enterprise of Lord Weymouth, to whom the greater part of the Gorge belongs, the caves themselves have been properly floodlit and the degrading rabbit-wire replaced with plate glass. At the entrance, this simple and efficient restaurant has been built to the designs of Messrs. Russell Page and G. A. Jellicoe. The building, which was officially opened on Saturday last, is illustrated and described on pages 929-931 of this issue. The architects are Messrs. Russell Page and G. A. Jellicoe (Assistant, R. Wilson).



. . . . . OR OTHER APPROVED

EVER since Jacob agreed to serve seven years for Rachel, only to find that his prospective father-in-law Laban had substituted the unspecified Leah, the strict execution of a contract has been dependent on the most careful supervision. Egyptian excavations have shown that even four thousand years ago contractors were not above using limewash for plaster, or plaster for carved stone, and there can be few architects with practices of any size who have not occasionally found defects which are due to the presence of a material used without their knowledge or consent.

The ethics of substitution, however, involve more than the dishonest use of an inferior product behind the architect's back. The phrase " . . . or other approved make " may frequently be read as an encouragement to the contractor to make suggestions. It is not always easy for the architect to keep abreast of the most recent practice in every type of building, and the advice of an experienced contractor who takes a professional pride in the job may be of great value. There is, too, the builder who prefers the materials to which his workmen are accustomed and who may justifiably be a little shy of other products of which he knows nothing, however admirable may have been the results obtained by other hands. To substitution such as this, made with the full knowledge and approval of the architect, no reasonable objection can be raised ; the builder is, after all, responsible for the proper execution of the work, and is unlikely, for his own sake, to recommend a subcontractor or a rival product which may prove unreliable. Less excusable is the contractor who proposes an equivalent or inferior product for purely financial reasons. Costs must be cut to the bone nowadays if the contract is to be secured ; most contractors buy large quantities of the more usual materials at low rates, and it is only natural that they should favour a product of which they hold large stocks, or which they can obtain at an abnormal discount. Here the architect may be over-persuaded into allowing the use of a material of which he has no experience. The smooth running of most jobs depends upon a proper spirit of co-operation between builder and architect, and the builder is generally in a position to retaliate against what he considers to be unreasonable by being " difficult " over any of the variations or extras that are so frequently required after the contract is signed. Nor, as was pointed out in our correspondence column last week, is the architect always guiltless ; new materials multiply with such alarming frequency that a name coined by the manufacturer frequently becomes a generic term and is loosely applied to any similar and possibly inferior production from a rival factory.

Substitution, it must be admitted, is far more prevalent today than it has been in the past, and it is high time that its possible results should be clearly stated. For some years it has been the practice of progressive firms to spend considerable sums of money on research and to have a rigid system of inspection during manufacture. The architectural profession is provided with elaborate information on the behaviour of materials under various circumstances, and this information is generally backed by a guarantee. If the substitution of cheap materials continues unchecked it may ultimately lead to a standard of price rather than of quality, and architects will have to learn the merits and demerits of different materials by personal (and probably unfortunate) experience. It will be worth no manufacturer's while to produce a branded material, and the exhaustive tests and reliability trials to which they are now put without cost to the architect, but to his eternal advantage, will be discontinued.

The remedy for the present state of affairs is in the hands of the profession itself, and in any steps which they may take they will have the support of all reputable manufacturers. Most architects have regular dealings with contractors on whose advice they can rely, but the familiar " or other approved make " clause is not suitable for modern conditions, and, particularly when dealing with an unknown builder, it should be clearly stated before the contract is signed, that the specification is to be rigidly adhered to, and that the substitution of one product for another will not be approved. For the clandestine and dishonest substitution there are two remedies, lengthy supervision of the job while it is under construction, or an appeal to the manufacturers. The first alternative is almost impossible save on a job large enough to justify the employment of a resident clerk of works ; the second is simpler. It should not be overwhelmingly troublesome to notify manufacturers that they are to expect an order, and at the same time to specify that the manufacturer shall himself deliver the goods direct to the site and not to the contractor. In the meantime it is essential that the attention of the whole of the profession should be drawn to the prevalence of substitution and its dangers. We contend that this should be done by an authoritative lead from the R.I.B.A., after the Practice Standing Committee, in consultation with the Institute of Builders, have decided upon the most suitable measures for dealing with the whole question.

The Architects' Journal
Westminster, S.W.1
Telephones: Victoria
9212-7
Telegrams:
Buildable
Parl
London

NOTES & TOPICS

STEEL VISIONS

THE dinner of the International Congress on Steel Development last week must have stimulated the imagination of anybody who has any sense of responsibility about the future. The Earl of Dudley, in proposing the toast of the guests, made a speech that sounded like a collaboration between H. G. Wells and Sir Owen Williams.

*

Lord Dudley referred to a projected exhibition hall in Paris which was to have an unsupported roof with a span as large as the Place de la Concorde, and that inspired him to visualize a time when, with the aid of steel and with freedom to take full advantage of modern constructional technique, the East End of London would become as attractive as the West End.

*

Without discussing whether the West End *is* attractive, I can't help wondering whether Lord Dudley's solution to unplanning and squalor in east London means bridging over our troubles, and letting the slums sink out of mind beneath the shadow of new developments that will stride over them, upheld by gigantic girders.

*

As Mr. A. E. Willson, the president of the Congress, pointed out, in London builders are prevented by an Act of 1894 from taking advantage of all the gifts steel could make to modern architecture; but even when constructional possibilities are unhampered by archaic legislation, unless we have a plan for putting London right, our technical abilities may only be used to disguise what we ought to reform.

HOUSES WITHOUT GARAGES

Corporation houses at Wythenshawe are, I see, all without garages. The reason is, apparently, that the "tenants enjoy a subsidy both from the rates and taxes and it is felt that such subsidies should not be given to people who can afford motor cars."

*

I can quite see the point; but I am not clear how the fact that a house has no garage prevents the owner from keeping a motor-car at the local public garage—and still drawing the subsidy.

*

To build houses today without provision for motor-cars is short-sighted. At the present moment, admittedly, most council tenants have not got one, but more and more of them soon will have.

*

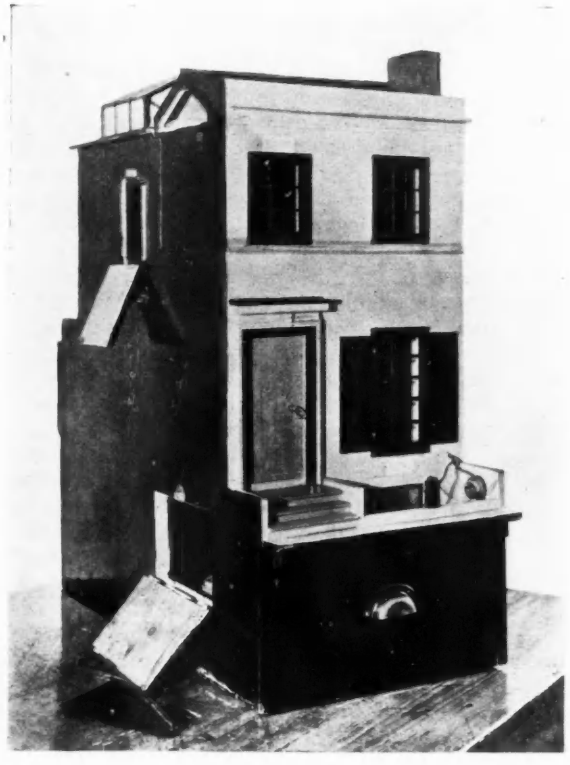
Motor cycles are even now permitted, and "cycle and tool sheds, which must not exceed 8 feet by 6 in size" can be built. That, in itself, is an indication of the Corporation's awareness of the trend of things.

*

Now, the gates to the gardens are not very wide—so, although you can get a motor-cycle combination into the *garage* you can't get it through the *gate*. So you have to take off the side-car.

MARY POTTER

The word "decorative" is sometimes used about paintings in a slightly derogatory sense, implying, I suppose, a preoccupation with the more superficial aspects of it; that paintings *can* have the qualities that this term implies—the qualities that make them applicable as spots of



A model designed to demonstrate house construction to firemen. From the exhibition of the work carried out under the auspices of the Architects' Unemployment Relief Scheme, now being held at 7 Bedford Square, W.C.

Chicago World Fair: second edition. Above are sketches of three of the model villages added to the attractions of the Chicago World Fair for its second summer. Top: The Black Forest Village (in winter), designed by Paul M. Fuller. Centre: The Tunisian Village, by Daniel H. Burnham. Bottom: The English Village, by Holabird and Root.

enrichment in the domestic interior—and be at the same time interesting *as painting* is well shown at Mary Potter's exhibition at the Redfern Galleries.

*

Her colour is captivating : kept consistently low in tone though seldom insipid ; and in several pictures, such as, for instance, *Circus* and *Blue Shed*, a pleasantly loose design is successfully pulled together by patches of bold, confident colour.

*

The picture I liked best was called *Countryside*. The design was well organized, and someone was toiling up-hill on a bicycle : the perfect expression of a warm spring day.

FREDERICK CHATTERTON

Frederick Chatterton's sudden and untimely death came as a great shock to me personally. I had been talking to him only a day or two before, and he was his usual genial and very likeable self.

*

For a good many years I had come into close contact with him in his capacity as editor of *Specification*. Time and again I have been to him for information about matters of building or materials, and he was never " too busy " to help me. Other people found him the same. Manufacturers of all sorts of products went to him for advice, and it was always freely and candidly given.

*

In his spare time Chatterton was a keen fisherman, and was one of those rare anglers who can talk about the subject without either boring his listeners or boasting too much of his own prowess.

THE FUNCTIONEER

I hear that at some august technical meeting of a high professional nature, the term " functioneer " was applied to the sort of architect who can best be described as a " house-machine maker."

*

Functioneer is a good term. I mentioned it to somebody who happened to be an expert in domestic equipment ; and she exploded (as women often do) about architects and their ideas on functionalism in the kitchen.

*

" They put everything in the wrong place," she said, " and then call it ' operative sequence,' or some fancy name to excuse their ignorance." She also told me that one or two architects whose brightness is beyond dispute ignored the dimensions of all the utensils, containers, bottles, packages and so forth, it is necessary to accommodate upon shelves in a kitchen.

*

This sort of criticism, and its accusation of practical ignorance, is more damaging than anything else to the architectural profession. But most architects, when this is mentioned to them, only laugh and say : " Oh, women are always like that about architects."

*

Perhaps the most maddening thing in the world is imitation functionalism ; but while it may deceive some architects, and many architectural critics, it will never deceive any woman who knows that the kitchen is a machine for working in, and that, like all machines, it must run smoothly.

FLAT ROOF TUDOR

The latest example of the English genius for compromise is a concrete box with a flat roof (representing the *moderne* spirit) with the elevations inlaid with imitation beams (representing ye olde merrie England). Result : something like an exaggerated cabin trunk.

*

Place of origin : the south coast. One of those sore little settlements for stockbrokers with all the right attractions : golf course, super-luxury hotel with film stars staying in it, and lots of well-appointed rooms (overdone Georgian) where loud discussions about body-line bridge (or similar topics) can be conducted.

*

In one of those super-luxury hotels, somebody had achieved another compromise. Tottenham Court Road Jacobean furniture had been left in the white, and scrubbed until it looked, oh ! so bleached and healthy and farm-housey ! " We wanted the place to look modern, but we didn't want to overdo it ! " I learned.

*

Safety first ; sense last. ASTRAGAL

NEWS

POINTS FROM THIS ISSUE

If the substitution of cheap materials continues unchecked it may ultimately lead to a standard of price rather than of quality, and architects will have to learn the merits and demerits of different materials by personal experience 923

A projected exhibition hall in Paris will have an unsupported roof with a span as large as the Place de la Concorde 924

The power to accept or reject the recommendations of a Panel upon any particular scheme rests in the first place entirely with the local authority concerned 936

Summary of the findings of the Council for Research on Housing Construction 942

THE ARCHITECTS' DIARY

Thursday, June 28

VICTORIA AND ALBERT MUSEUM, *South Kensington, S.W.7. In the Central Hall. Exhibition of English Silversmiths' Work, old and modern, showing the development of various domestic types. Open during June and July.*

ARCHITECTS' UNEMPLOYED RELIEF FUND. *At 7 Bedford Square, W.C.1. Exhibition of the drawings and models of London and the Provinces made during the past two years under the direction of the Architects' Unemployment Committee and the London Society. Open from 10 a.m. to 8 p.m.*

R.I.B.A. *At 9 Conduit Street, W.1. Exhibition of Designs submitted in the Final Competition for the Rome Scholarship in Architecture. Until June 30.*

Friday, June 29

TOWN PLANNING INSTITUTE, *At Caxton Hall, Caxton Street, S.W.1. General Meeting. "The Relation of Educational Buildings to the Town Plan, their Frequence, Areas Required, etc." By W. Dougill, M.A., A.R.I.B.A. 6 p.m.*

TEN-STOREY FLATS FOR STEPNEY

Proposals by the Stepney Borough Council to build ten-storey working-class flats, from the designs of Messrs. Adshead and Ramsey, were referred to in a report of the Housing Committee of the L.C.C. at a meeting of the L.C.C. on Tuesday last. Extracts from the report are printed below :

We have had under consideration plans submitted on behalf of the Stepney Metropolitan Borough Council of two blocks of dwellings, mainly ten storeys in height, with a portion six storeys and another portion two storeys, for erection on a site in Branch Road and Rose Lane, Stepney.

Hitherto it has not been the practice in London to erect working-class tenement buildings of more than five or six storeys but the former Housing Committee, prior to March, 1934, were considering the possibility of arranging for the erection of high buildings with a view to providing the maximum accommodation for persons to be displaced from clearance or other areas. After giving the matter our careful consideration we are not disposed under present conditions to endorse the general principle of working class dwellings of nine or ten storeys requiring the provision of passenger lifts for access to the upper floors.

As regards the proposals of the Stepney Metropolitan Borough Council, the site selected is a comparatively open one. The plans submitted show the buildings arranged in the form of an arc around a central courtyard, and it is considered desirable that the height of certain portions of the building should be reduced to prevent overshadowing of Bekesbourne Buildings and to allow of the admission of more sunlight and of better circulation of air into the courtyard of the proposed buildings. Lifts will be provided in addition to staircases.

We do not think that we should be justified in opposing any reasonable housing scheme of a metropolitan borough council, even though it may not accord entirely with our views, and we have approved the proposal of the Stepney Metropolitan Borough Council from a housing point of view, subject to the height of a small portion of the buildings being reduced from ten storeys to five storeys. The present proposal is regarded by the Council in the nature of an experiment, and that our approval must not be taken as committing the Council to the principle of the erection of high tenement buildings.

SUNLIGHT LEAGUE AND RUISLIP

The following resolution was passed at the annual general meeting of the Sunlight League, held on Thursday, June 21 :

"That this annual general meeting of the Sunlight League, having heard Mr. Basil Ward and examined the model of the houses designed by him for Ruislip, heartily approves his architectural illustration of the new possibilities of Sunlight Housing at moderate cost, and regrets the retrograde official decision which threatens to prevent its realization."

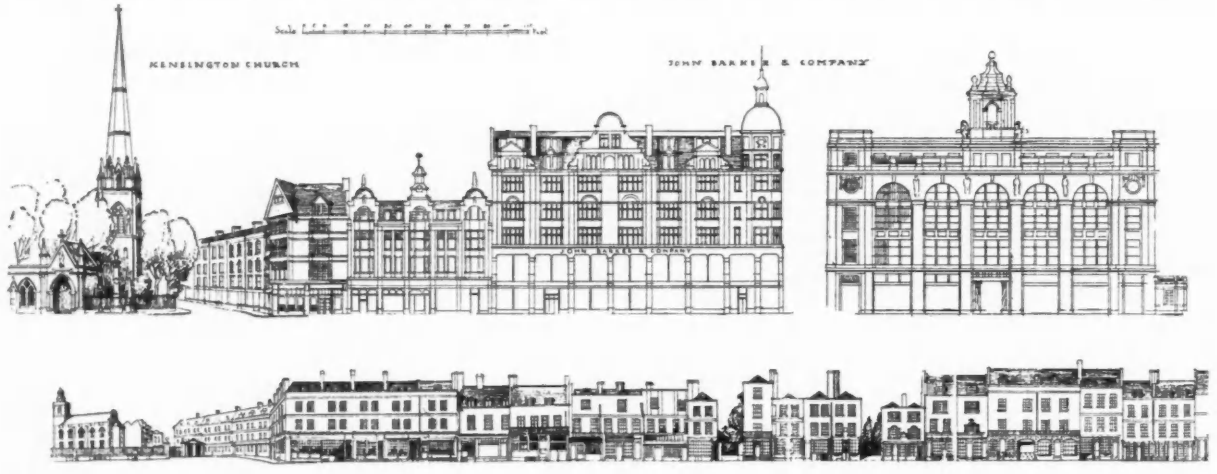
MEMORIAL TO SIR MERVYN MACARTNEY

Today, June 28, at 5.30 p.m., the memorial to Sir Mervyn Macartney, in the crypt of St. Paul's, will be unveiled by Sir Giles Gilbert Scott, P.R.I.B.A.

ESSEX, CAMBRIDGE AND HERTS SOCIETY OF ARCHITECTS

The annual dinner of the above Society was held at St. Albans on June 16. Mr. Percival C. Blow, F.R.I.B.A., presided, and among those present were : Sir Ian MacAlister, Mr. H. C. Hughes, F.R.I.B.A., Mr. Goodhart-Rendel, F.R.I.B.A., Mr. H. O. Cockrill, A.R.I.B.A., Mr. F. G. Warwick (Mayor of St. Albans), Mr. Duncan Clark, A.R.I.B.A., Major Harry Barnes, F.R.I.B.A., Mr. T. O. Haway, Major H. P. G. Maule, F.R.I.B.A., Mr. Stanley Hamp, F.R.I.B.A., and Mr. A. J. Arnold.

Mr. Percival C. Blow said a Panel of Architects had been formed and was prepared to give honorary assistance to any Council that sought its advice. He urged local authorities to consider seriously the adoption of the model clause for the control



Change of Scale, 1811 to 1933 : the North side of Kensington High Street from Church Street to Kensington Gardens. The lower drawing is the survey made by Joseph Salway in 1811 for the Kensington Turnpike Trust, the upper has been made under the direction of the Architects' Unemployment Committee and the London Society during the past year. St. Mary Abbott's at the

of elevations. There had also been formed a Consultative Board of Architects and Builders, which he believed would be a useful means of settling disputes between them and enable them to get into closer touch. Already the builders on the Board were appreciating that the architect knew a little more than how to make a pretty picture, and the architects were learning that the builder knew something more than how to prepare a bill of " extras " !

ARCHITECTS' UNEMPLOYMENT COMMITTEE: EXHIBITION OF WORK

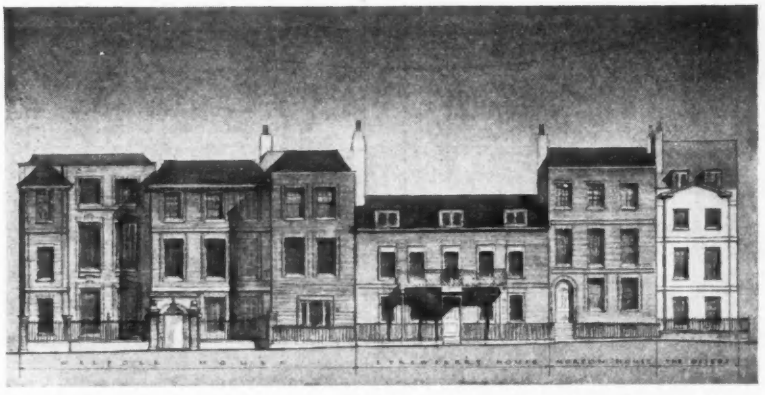
An exhibition of the work that has been done during the last two and a half years under the auspices of the Architects' Unemployment Committee was opened by Lord Snell, Chairman of the L.C.C., at 7 Bedford Square, W.C.1, on Friday June 22.

The work is in four main groups :—

1. *The Surface Utilization Survey.* Large areas of London have been surveyed in order to find out the uses to which land is at present put, e.g., public, commercial, industrial, open space, residential, etc. This is an essential preliminary to the making of any plan to control the growth of London or for its replanning. If and when a planning authority is set up it will find a great deal of its preliminary work already done.

2. *The Measurement of Old Buildings.* Part of the work undertaken by the unemployed architects was the surveying and measurement of lesser-known buildings of the seventeenth and eighteenth centuries, hitherto unrecorded. The records of old London which have been made will be available for use in the London County Council Survey of London.

3. *The Survey of Street Elevations.* A hundred years ago Tallis made drawings of some of the principal London streets as they were in his day. The Street Survey now undertaken has carried on his work and at the Exhibition can be seen, side by side, the appearance of the principal London streets as they were a hundred years ago and as they are now.



Chiswick Mall, from left to right, Walpole House, Strawberry House, Morton House and the Osiers. A measured drawing from the exhibition of work by unemployed architects.

4. *The Height of Buildings Survey.* Parts of London have been surveyed and the ordnance maps coloured to show the heights of buildings.

Other work was also undertaken, of which an interesting item was the making of a model house for the training of firemen. This model house shows the construction, the ways in which fire spreads and the danger spots for firemen when the building is burning. The Home Office sent the model on tour to the principal fire brigades in the country. It has now been lent for the exhibition.

The total amount collected in donations and subscriptions was £11,722 5s. 1d. and 117 men were employed for varying periods, the maximum at one time being about 100. The total amount paid in salaries was £10,985 2s. 3d.

Although this exhibition marks the close of the emergency period a scheme has been drafted by which the work will continue, arrangements being made to expand it should this again become necessary.

The exhibition will remain open at least until the end of July. Evening visits from large offices, such as the Architects' Department of the L.C.C. and the Office of Works are to be arranged.

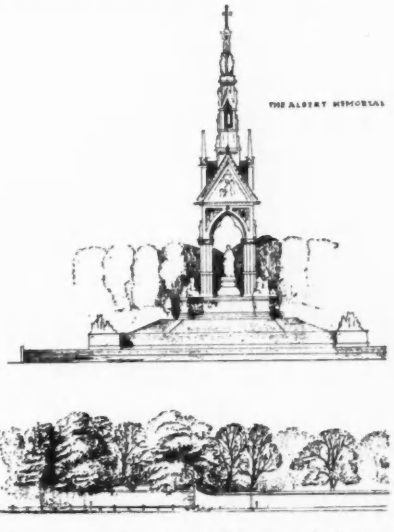
R. I. B. A.

ELECTION OF MEMBERS

At a recent meeting of the Institute the following members were elected :—

AS FELLOWS (6) : Messrs. R. Hotz ; H. B. Leighton ; L. O. Ross ; G. E. Tonge ; N. H. Waller ; and A. Harrison.

AS ASSOCIATES (13) : Messrs. J. P. Alcock ; J. C. Ballinger ; J. H. Brown ; G. R. Bruce ; W. J. Davies ; D. S. Doyle ;



corner of Church Street was built in 1696, the present church by the late Sir Gilbert Scott, in 1869. Eastwards from Church Street are two large department stores, and the Kensington Palace Hotel. The drawing is from the exhibition of the work carried out under the auspices of the Architects' Unemployment Committee, now open at 7 Bedford Square.

N. F. Gossage ; J. S. Hall ; H. C. Inglis ; F. A. C. Maunder ; W. V. Reakes ; (Miss) E. M. Richmond ; and A. Roberts.

AS LICENTIATES (13) : (Miss) W. B. Acworth ; and Messrs. D. W. Cooper ; G. Cowburn ; P. Fanstone ; W. R. Glen ; S. C. Killender ; S. Lee ; H. E. Meredith ; C. J. Mitchell ; H. F. Newsome ; G. W. North ; T. L. Smithson ; and E. A. Streatfield.

ROME SCHOLARSHIP IN ARCHITECTURE, 1934

The Faculty of Architecture of the British School at Rome have awarded the Rome Scholarship in Architecture for 1934 to Mr. Fred Allard Charles Maunder (aged 25), of Armstrong College School of Architecture (University of Durham), Newcastle-upon-Tyne. The winning design is illustrated on pages 949-950. The subject of the competition was a design for "A Building for a Permanent Exhibition of Art in Industry."

The Scholarship is now provided for by an annual grant made to the British School at Rome by the Council of the R.I.B.A. The Scholarship is ordinarily tenable for two years at the British School at Rome.

An exhibition of the competition designs is now being held at the R.I.B.A.

DECORATIONS AT LIVERPOOL

In connection with the visit of H.M. the King to Liverpool on July 18 to open the new Mersey Tunnel, the Lord Mayor's Street Decoration Committee decided that the streets leading to and surrounding the Tunnel Entrance shall be decorated for the occasion.

A competition was therefore held, limited to selected students of the City School of Art and of the University School of Architecture. The Assessors (Mr. Herbert J. Rowse, the Architect to the Tunnel Committee ; Mr. H. P. Huggill, Principal of the City School of Art ; and Professors P. Abercrombie and L. B. Budden, of the University of Liverpool) have awarded the first place to the design submitted by Mr. H. I. Gordon, 4th year student, Liverpool School of Architecture, University of Liverpool.

The selected design, illustrated on this page, consists primarily of a series of mast units, approximately 45 feet high, each unit comprising a group of three masts, crowned by a conventionalized liver bird and finished with short yardarms from which rigid panels in the form of banners, brilliantly painted, are hung. These mast units or clusters are connected at the base by traffic barriers which are brought into the decorative scheme by being painted in bright colours. The barriers give a valuable base line tie between the mast units. The latter are arranged in a double series down either side of William Brown Street and St. John's Lane, but are extended in a single line round the periphery of the Tunnel Entrance area. Here they are reinforced by single intermediate standards of lesser height. Across the west front of St. George's Hall the mast unit scheme is repeated with additional elements giving greater variety both of form and colour.

In addition, Mr. Gordon is applying a decorative scheme of banners to the porticoes of the classic buildings along William Brown Street and to the Wellington Column.

The winning design, by H. I. Gordon, in the competition for Liverpool street decorations. The illustration shows a portion of the scheme along Kingsway, framing the Mersey Tunnel entrance area. See note on this page.

COMPETITION NEWS

BELFAST : METHODIST COLLEGE

We regret that in our issue for June 14 we stated in error that the competition for a proposed memorial assembly hall at Methodist College, Belfast, was limited to architects practising in Northern Ireland. We are informed by the assessor that the competition is also open to architects practising in the Irish Free State.

Competitions Open

July 16.—Sending-in Day. Proposed Council School, Dudley. The competition is limited to architects having an office within 15 miles radius of Dudley. Assessor, H. T. Buckland, F.R.I.B.A. Premiums : £150, £100 and £50. The last day for application for questions was May 7. Designs should be submitted to the Director of Education, Education Offices, St. James' Road, Dudley.

July 31.—Sending-in Day. Proposed Municipal Sanatorium and Children's Hospital, Belfast. Competition limited to architects who have resided in Northern Ireland since March 1, 1933. Assessor : R. S. Wilshere, F.R.I.B.A, Premiums : 500, 200 and 100 guineas. The last day for questions was April 28. Designs should be submitted to the Town Clerk, City Hall, Belfast.

August 17.—Sending-in Day. Proposed new Municipal Offices for the Swinton and Pendlebury Urban District Council. Assessor—J. R. Adamson, F.R.I.B.A. Premiums : £150, £100, £75. Last day for questions was June 11. Conditions (deposit one guinea) from the Clerk to the Council, Council Offices, Swinton, Manchester.

August 31.—Sending-in Day. Proposed Memorial Assembly Hall at Methodist College, Belfast. Assessor : Mr. R. S. Wilshere, F.R.I.B.A. Competition is open to architects resident in Ireland. Premiums : £100 and £50. Designs must be submitted to Mr. Wilshere at the Education Offices, Belfast, not later than 10 a.m. on Friday, August 31. The last date for questions is July 2.

September 22.—Sending-in Day. Civic Centre, Tunbridge Wells, for the Corporation of Tunbridge Wells. Assessor : E. Berry Webber, F.R.I.B.A. Premiums of £300, £200, £100 and £75. Conditions are now obtainable (deposit £1 1s.) from Mr. J. Whitehead, Town Clerk, Tunbridge Wells. The last day for submission of designs is September 22.

October 1.—Sending-in Day. Proposed Municipal Assembly Halls, Wolverhampton, for the Wolverhampton Corporation. Assessor : C. Cowles Voysey, F.R.I.B.A. Premiums : £350, £250 ond £150. Conditions from the Town Clerk, Town Hall, Wolverhampton. Last day for questions was May 21. (Deposit £1 1s.

THIS ARSHETECTURE

A protest was made at Salisbury City Council meeting, on Monday, against the policy of erecting imitation ancient structures in order to harmonize shops with their ancient surroundings.

The Ancient Buildings Committee recommended that the Council should ask Messrs. Marks and Spencer, who are reconstructing 43 to 49 Silver Street, as a store, to adopt a half-timbered elevation. Messrs. Marks and Spencer's representatives suggested that a Georgian elevation in brickwork should be adopted, as this was the style of many houses in the centre of the city.

Mr. S. Clarke moved an amendment that a Georgian elevation in brickwork should be adopted. A half-timbered elevation would only be a sham, he said.

Mr. R. G. Gordon seconded. He said the decision to adopt this "spoof half-timbered elevation" was carried in Committee by only five votes to four. "We don't want to turn Salisbury into an imitation fifteenth-century town," he said. "It is mere pretty-pretty which is meant to attract American visitors who will stand in the centre of Silver Street and say, 'Say, honey, ain't that just too cute?'" (Laughter.) Mr. Gordon further suggested that if the Committee proposed this spoof work its name should be changed to the "Imitation Ancient Buildings Committee."

Alderman J. C. Hudson, chairman of the Committee, supported the recommendation of the Committee.

Major Rawlence said Lipton's premises were Georgian, and where Messrs. Moore's shop used to be was Victorian. They were going on wrong lines if they had streets of Georgian architecture and streets of Victorian. The whole attraction consisted in variety. The human eye got tired of sameness, whether in colour or in type. There was nothing so beautiful in old towns as the mixture of architecture which they got. Mediæval architecture was rapidly decreasing in quantity. They could not help it because these old buildings were getting into such a state that they could not be kept up. Overhung buildings tended to break up the hard lines of Georgian and Victorian architecture.

Alderman F. H. Wort supported Major Rawlence's arguments for a half-timbered elevation. He paid tribute to Messrs. Marks and Spencer's readiness to meet the wishes of the Committee.

The amendment was defeated by a large majority and the Committee's recommendation was carried.

From THE WESTERN GAZETTE, Yeovil.

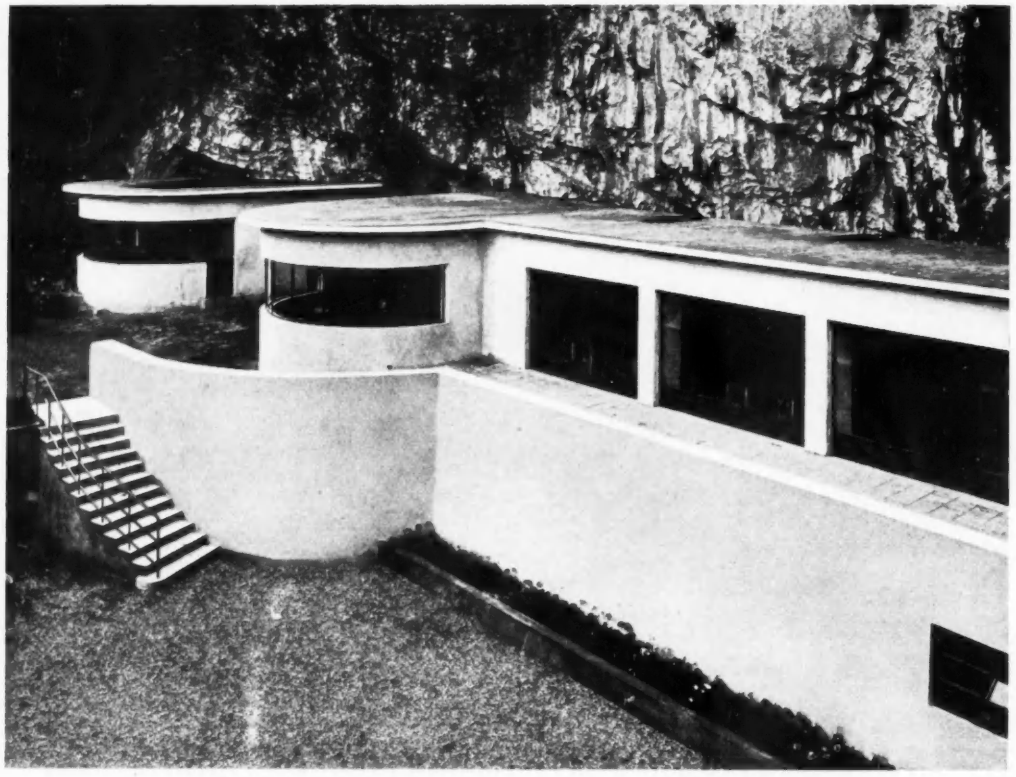
THE CAVE MAN, CHEDDAR GORGE

S. W. NEWBERY

The design of this road-house and restaurant was complicated somewhat by a narrow and steeply-sloping site and the fact that provision had to be made, in the same building, for ticket offices and turnstiles at the entrance to the caves. The main approach leads directly to the entrance, passing the Museum, which contains many examples of prehistoric and Roman vases found on the site, including the famous Cheddar Skull: these relics were found during the preliminary excavation work, which, owing to the narrowness of the available space, involved the excavation of about 3,000 tons of earth. The building has its long axis at right angles to the Gorge in order to take advantage of the view.

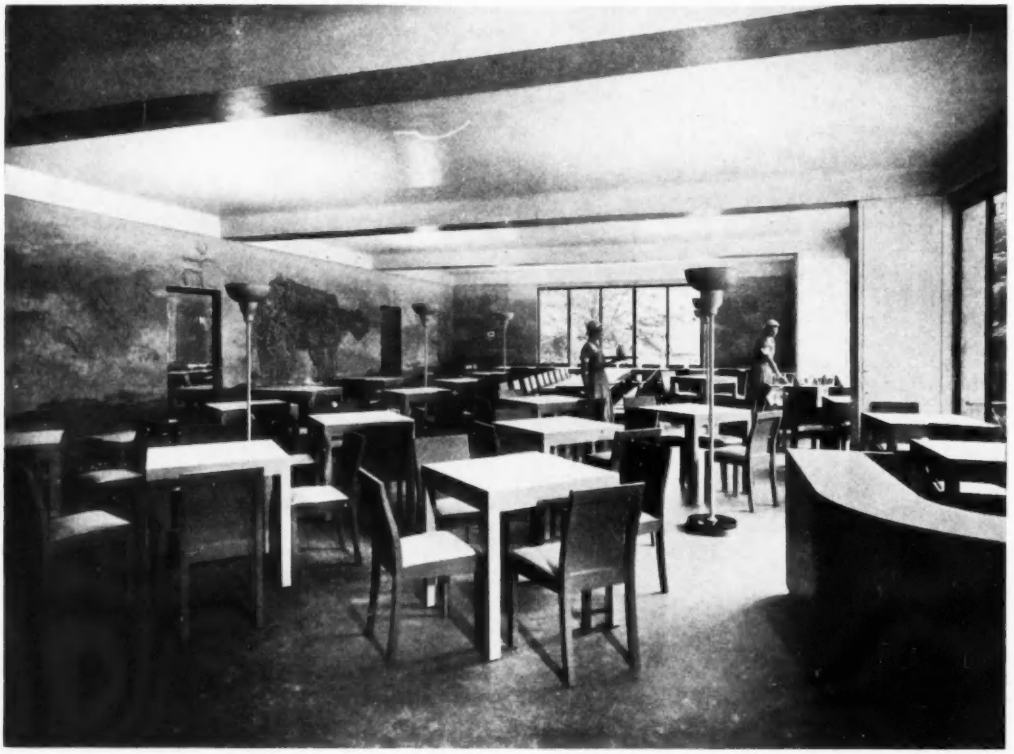
DESIGNED BY RUSSELL PAGE AND G. A. JELLICOE

THE CAVE MAN, CHEDDAR GORGE:



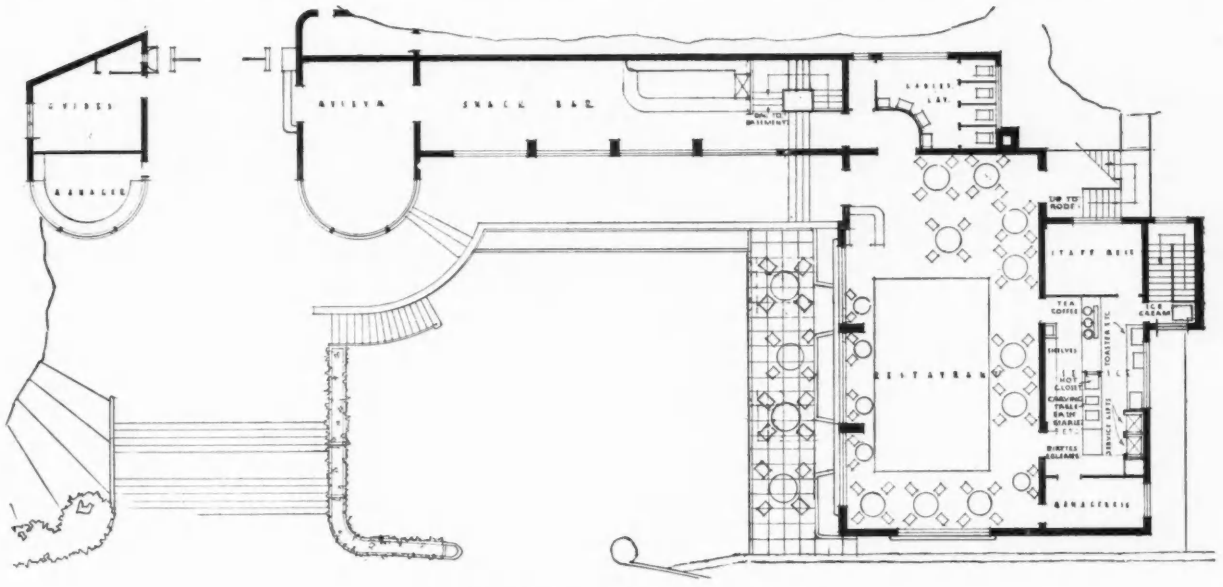
S. W. NEWBERY

A view taken from the roof of the restaurant, looking towards the snack bar, museum and manager's office.

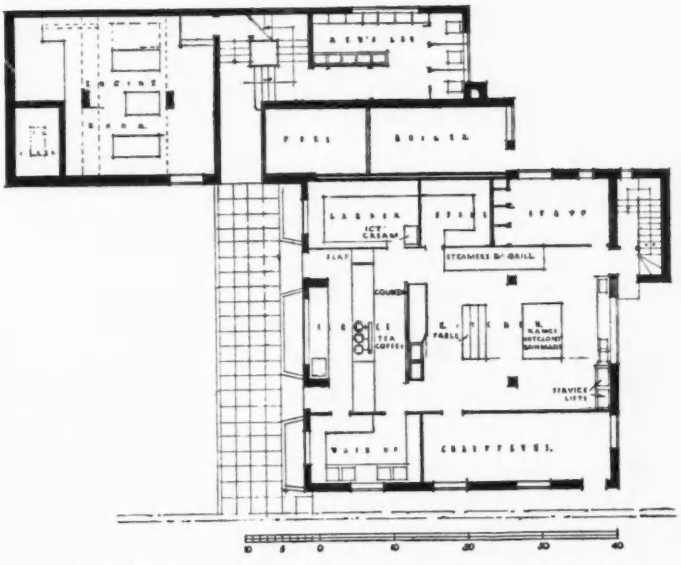


The restaurant. The decorations, showing scenes from the life of the primitive cave man, are the work of Mr. Eliot Hodgkin.

BY RUSSELL PAGE AND G. A. JELLICOE



GROUND FLOOR PLAN



LOWER GROUND FLOOR PLAN

The main restaurant holds 120 people, with space for a further 120 in the tea garden at a lower level: the flat roof is also arranged for dancing. The decoration of the building has been considered in relation to its surroundings: the exterior is a light pink, in the local tradition. On the restaurant walls Mr. Eliot Hodgkin has carried out mural decorations showing scenes from the life of the primitive cave man. For the furniture bright colours have been used and there is no elaborate detail. All the restaurant and snack bar windows fold back concertina-fashion against their piers, leaving the opening completely unobstructed. Heating is by hot water from an oil-fired boiler in the basement, and there is a small engine room and power house which supplies current for lighting the caves as well as the restaurant.

The illustrations on this page show: above, the snack bar, looking towards the entrance to the restaurant. Left: the clock in the snack bar.

OFFICIAL ARCHITECTURE

The following interim report of the Special Committee on Official Architecture, sitting under the Chairmanship of Sir Raymond Unwin, was approved by the R.I.B.A. Council on June 18 :—

The Special Committee on Official Architecture are giving careful consideration to the important questions which were referred to them by the Council and will submit a reasoned report as early as possible.

In the meantime they desire to remove any misunderstanding by again making clear both to the profession and to the public generally that members of the Royal Institute who occupy official positions are held in the same consideration and regard as those members who are in private practice. It is the desire of the Committee and, they believe, equally of the Council, to do all in their power to improve the status and conditions of employment of all properly qualified architects whether remunerated by salary or by commission, whether holding senior or junior posts. It is a matter of concern to them that the services of many members of the Institute are not sufficiently recognized by employing bodies. The Committee strongly endorse what they understand to be the Council's policy, namely, to ensure that proper recognition is given to the official or salaried architect and that he should occupy that position to which his training, qualifications and work entitle him.

During its 100 years of existence the Institute has conscientiously tried to carry out the duty entrusted to it in its original Charter, viz., the advancement of the Art of Architecture, and in doing so not to discriminate between the various sections of its members.

Architects holding official posts have been admitted to the highest positions within the Institute and have received the highest honours which it is within the power of the Institute to bestow. The policy outlined above has been repeated by successive Presidents in their inaugural addresses and on numerous other occasions.

Bearing in mind these facts, and having regard to the growth of the employment of official architects in recent years, it will be the aim of the Committee to suggest in what way any unfair competition between official architects and private practitioners may be prevented, how the legitimate interests of both classes may be protected and how, if considered feasible and desirable, collaboration and co-operation between them may be promoted with a view to the greatest advancement of good architecture.

But, as stated at the outset of this report, the Committee are impressed with the desirability of dispelling any erroneous impression that the Institute is not mindful of the welfare of the considerable section of its members which is not in private practice.

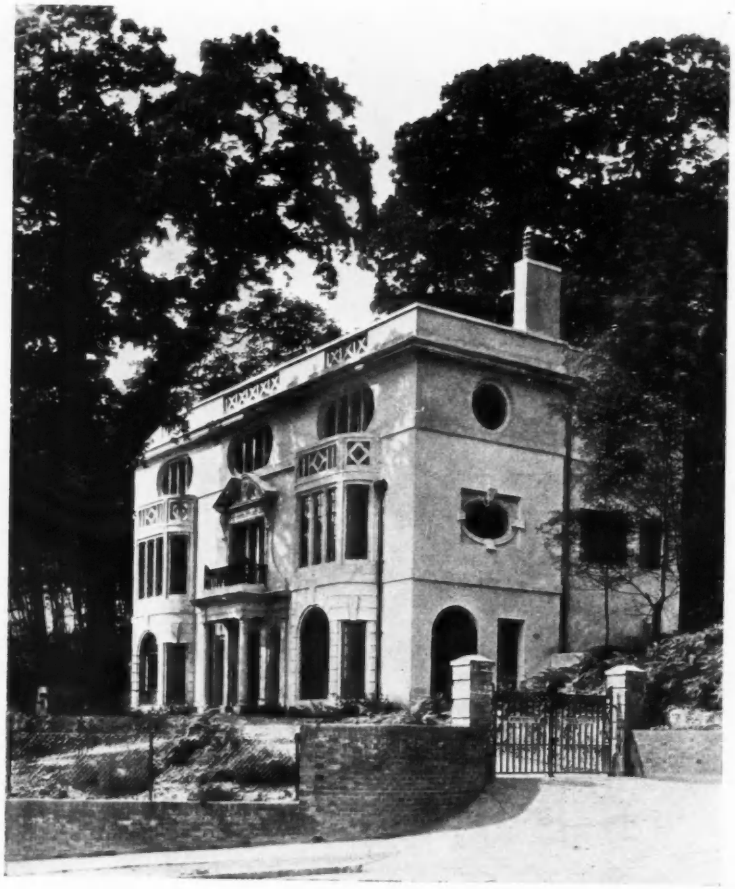
AN ARCHITECT'S WILL

Mr. Charles T. Taylor, A.R.I.B.A., of 13 Queen's Road, Oldham, partner in the firm of C. T. Taylor, Roberts and Bowman, architects and surveyors, who died on January 2 last, aged 71 years, left estate of the gross value of £12,431 (net personalty £11,624). He left £400 and his interest in the firm to his partner, Harold Bowman.

I.A.A.S. NEW HEADQUARTERS

The new headquarters of the Incorporated Association of Architects and Surveyors at 43 Grosvenor Place, Westminster, S.W., are to be officially opened on Saturday next, June 30.

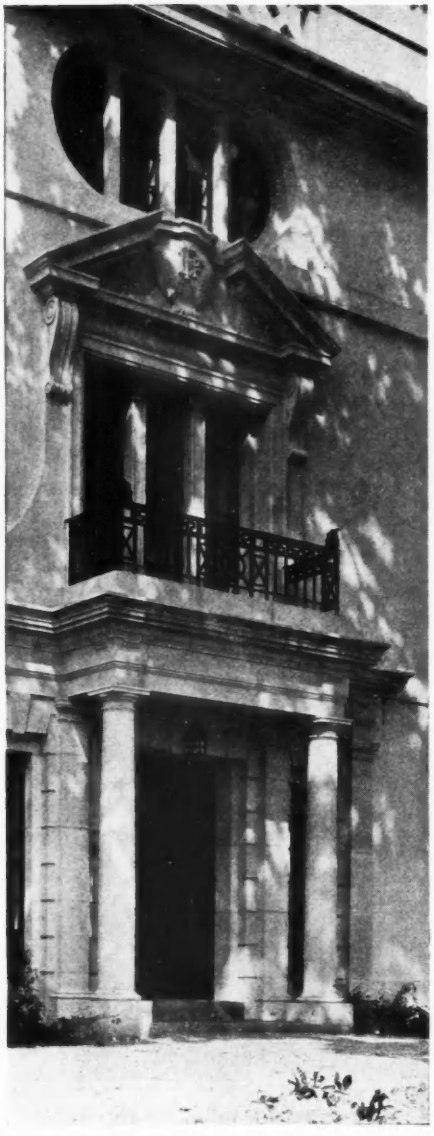
HOUSE AT COOMBE



The house from the west.

The staircase hall.

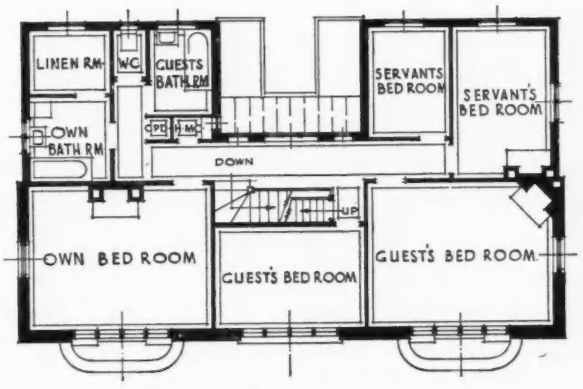
PARK, SURREY: BY SIR BANISTER FLETCHER



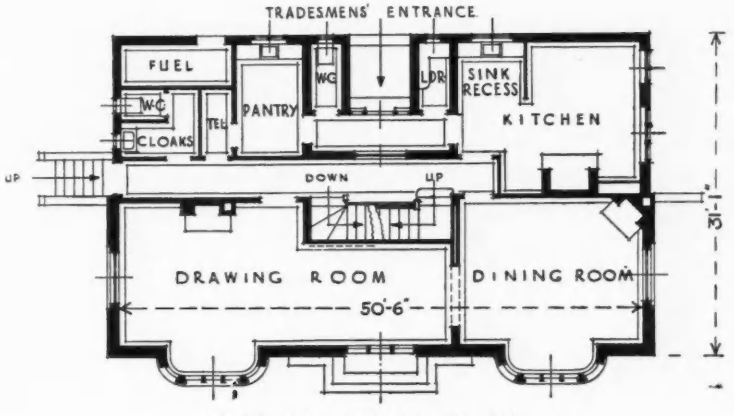
A detail of the entrance portion.

This house is built on sloping ground, which allows for a lower ground floor over part of the site, containing the entrance hall and store rooms, etc. The main floor over it is arranged to give a suite of entertaining rooms 50 feet long, overlooking the garden.

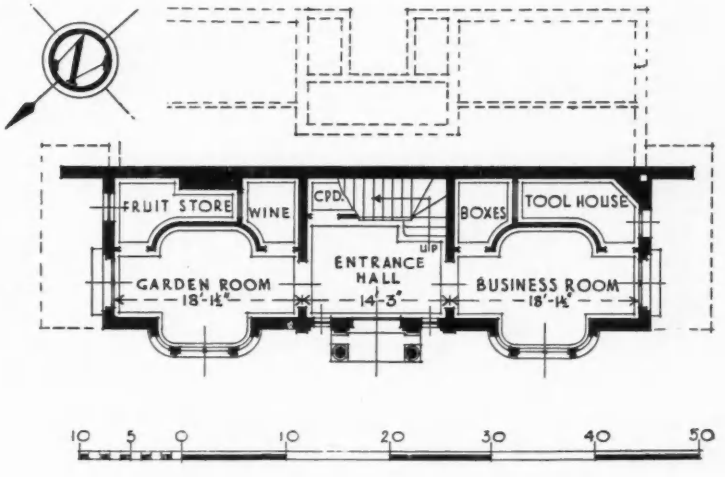
The house is in brick, faced on the lower storey with artificial stone, while the upper part is rendered in cream coloured stucco.



FIRST FLOOR PLAN



GROUND FLOOR PLAN



LOWER GROUND FLOOR PLAN

LETTERS FROM READERS

PERCY MORRIS, L.R.I.B.A.
(City Architect, Wakefield)

MESSRS. ATKINSON AND MARLER

G. J. HANCOCK
(Secretary, Natural Asphalte Mine-Owners and Manufacturers Council)

FRANK H. HEAVEN, A.R.I.B.A., P.A.S.I.

Engineers and the Amenities

SIR,—It might perhaps have been wise, for "Yorkshire Architect" to have appended his name to his letter in your issue for June 14, but I resist a strong temptation to make reply in other than conciliatory terms.

This correspondence seems to be falling into the usual danger—the curse of discussion and conversation—namely, loose denunciation and failure to understand the real position.

For good or evil all that can be done at the present time is to administer and interpret the powers given to local authorities by the Town and Country Planning Act, which are quite simple. They have, however, unfortunately, been interpreted rashly by various people who laudably desire civilization to run more quickly in some directions than others. With all respect I suggest that the power given regarding the control of elevations at the present time only extends to "prevent what may reasonably be regarded as outrages—buildings out of keeping with their surroundings and an offence to the neighbourhood."

The question of taste is not a matter for dogmatism, says the Ministry of Health, and all the Institution of Municipal and County Engineers says is that it sees "no difficulty in an official directing the attention of his Authority to proposed elevations that seem to him undesirable."

With regard to the personal portion of the letter, other Yorkshire architects may not be quite as confident as your correspondent. I think that an unbiased opinion would be that, generally speaking, the housing estates in Yorkshire, as elsewhere, are unobtrusive in their compulsory poverty, but that even this is better than the vain, vulgar, ostentatious and ill-mannered efforts of the speculative builder aided and abetted by so-called architects.

The answer to the last paragraph is—they don't, if they have a competent official in their employ.

PERCY MORRIS
City Architect, Wakefield

Suburban Development

SIR,—With reference to your issue for June 7, giving photographs of the Stoneleigh Estate, Ewell, as the surveyors to this estate who were responsible for the lay-out, we wish to point out some errors in your statement printed beneath them.

The lower photograph was not taken last week, but in February of this year, when the leaves are not out on the trees and they are therefore invisible from the air.

It may interest you to know that every possible tree has been saved. The builders operating are under covenant not to cut down trees. The positions of roads have been altered in order to preserve trees, and only such trees as were considered unsafe by the local authorities have been pulled down, and wherever possible trees have been planted along the streets.

As it is evident that you are writing without knowledge of the estate we enclose herewith several photographs taken within the last seven days, which show that every effort has been made to preserve the amenities.

ATKINSON AND MARLER
Ewell

*We are very glad to learn that trouble has been taken in this Estate to preserve trees and to plant the roads with new ones, and publish with pleasure the photographs our correspondents send. The critical remarks beneath the photograph we published were not, of course, intended to apply to the Stoneleigh estate in particular—the estate was not named in our caption. The criticisms we made were of the "open" type of development generally, wherein it is inevitable that, however much trouble is taken, a large area of country must lose its value as real rural open space. In contrast to this, concentration of population in blocks of flats covering a comparatively small area leaves the rest of the site free for permanent recreation space, in which such amenities as existing trees can be most easily preserved. We had been given to understand that the aerial photograph we published was taken early in June. The fact that it was actually taken in February explains the apparent absence of trees, and we offer our apologies to Messrs. Atkinson and Marler for any misapprehensions the error may have caused.—*ED. *A.J.*]

Substitution

SIR,—The question of the use of substitutes raised by your contributor Astragal is particularly relevant to the building asphalte industry.

It is commonly admitted that in recent years the disparity between prices submitted for asphalte work have been very marked indeed—there is reason to believe more so than in the case of any other building materials—and the reason is not far to seek. The goodwill which asphalte has acquired over nearly a century was built up on the use of naturally impregnated bituminous limestone (natural asphalte rock) imported from mines in Europe. During the last decade or so products have been introduced and offered as "natural rock asphalte" which contained little or no impregnated rock and often no naturally occurring bitumen. Unfortunately, owing to the technical difficulties associated with the analysis of bituminous materials, it has been a very difficult matter for an architect to determine the origin of such materials, even if he has tried to find out.

The Natural Asphalte Mine-Owners and Manufacturers Council was set up with the particular object of protecting users under these circumstances, and its members are granted licence to lay standardized materials bearing the Council's trade mark and cast in a particular shape to facilitate identification, which can be specified with the absolute assurance that it is the best quality asphalte for any

Four snapshots taken on the Stoneleigh Estate, Ewell. See letter on this page.

particular purpose which can be obtained in the present state of knowledge. The Building Research Board are actively interested in the enunciation of tests which can be applied to asphalte after manufacture as an index of quality, and the Council's technologists are at the present time co-operating with them in a programme of research which embraces this question. Until such tests are available it is highly desirable that users should be on their guard against substitute materials.

If architects will only consider that genuine asphalte has to be mined, sorted, carried to the place of embarkation, shipped, unloaded, transported to the manufacturing depot, crushed, blended, manufactured and tested at various stages, and finally laid by skilled craftsmen, it must be obvious that genuine asphalte *cannot* be offered at a cheap price, and certainly not that of a good quality. In order to avoid misunderstanding it should be added that the members of the Council have not a monopoly in the use of naturally impregnated asphalte rock or of naturally occurring asphalte.

Contractors who are not yet in a position to lay the standardized materials have access to extensive supplies from certain sources, *but any asphalte composed entirely of such raw materials, irrespective of quality, cannot be manufactured and laid at the level of prices still being quoted in certain quarters today.*

G. J. HANCOCK
London

SIR,—The use of the words "or other approved" in connection with the specification of any particular article or material is not intended to be read as an opportunity to a contractor to offer substitutes, but to provide the architect or employer with a safeguard against undue extortion, or the incurrence of a considerable "extra," should the particular article or material be difficult to obtain at the time when required for use, as in the case of materials which may be affected by strikes or lockouts, either at the place of manufacture or at an extraneous source of supplying necessary components or manufacturing media, when available stocks immediately fall. Or when a specified material falls below a standard acceptable to the architect. Its use also assists in preserving a free market, and acts as a deterrent of irregular practices which might arise from a continued use of a closed specification clause governing the use of any particular article or material.

None of these eventualities can very well be guarded against under an ordinary specification clause, except, perhaps, by inserting P.C. rates or amounts for such articles or materials and deleting the trade term or name under which it is marketed.

FRANK H. HEAVEN
Durham

THE PANEL SYSTEM

HOW IT WORKS

The Advisory Panel System has been much under discussion recently, and numerous questions have been asked, quite apart from opinions as to its merits or sufficiency, on how the Panel System actually works, to whom it is responsible and on details of its constitution.

The following article sets out to answer some of these questions. The author, Mr. A. L. Roberts, F.R.I.B.A., is the County Architect for Hampshire and a member of the Panels Committee of the R.I.B.A. and C.P.R.E.

[*By A. L. ROBERTS, F.R.I.B.A.*]

THERE has been a great deal of misunderstanding about what, for want of a better name, has been called "The Panel System" of voluntary architectural advice. To quote words used by Mr. C. Lovett Gill on a recent occasion in Hampshire, "The Panel System of Architects should not be confused with The Panel System of Heating, although it has generated a good deal of heat lately." The Architect's Panel system ought not to generate heat; but, if it does, experience goes to show that it is more often the local administration of the Panel which is at fault than the System itself.

To understand the true position it is very necessary to know why and how Panels of Architects came into existence, also something of the methods adopted in certain areas to overcome practical difficulties. In 1928 the C.P.R.E., in conjunction with the R.I.B.A., were instrumental in establishing the first group of Advisory Panels of Architects as the result of an interview arranged by Mr. Neville Chamberlain between representatives of the C.P.R.E. and the Ministry of Health.

These Panels were established in the areas of 20 allied societies of the R.I.B.A. for the purpose of giving voluntary technical advice to local authorities—and to certain owners of property—on the reconditioning of old cottages to be assisted by means of a grant of money from public funds to be made under The Housing (Rural Workers) Act, 1926, and also in connection with Town Planning Schemes.

The personnel of these panels was recommended by the R.I.B.A. and the C.P.R.E. and submitted to the Minister of Health, and consists of three architects, one landowner, two builders and one representative of the local authority responsible for administering the Acts; that is, seven members in all on each Panel. One of the architects on the Panel, usually the Hon. Secretary of the Allied Society, acts as the Convener of the Panel. On November 29, 1928, in Circular No. 940, the Ministry of Health brought to the notice of local authorities the arrangements which had been made with the Minister's approval as stated above, and then the Circular went on to say: "No charge will be made for such service, but applicants will be expected to defray any travelling expenses which may be incurred."

It will now be clear that, while the Panels have no statutory powers, their services are recommended to local authorities by the Minister of Health, and therefore the power to accept or reject the recommendations of a Panel upon any particular scheme rests in the first place entirely with the authority concerned.

Comparatively little assistance has been called for from the Panels in connection with the reconditioning of cottages, and it is probable that this is due to the arrangement being launched rather late in the day so far as the Act of 1926 is concerned. However, in connection with Town Planning and the "Control of Elevations," there has been a demand for Panel Service in certain areas, and the demand is certainly on the increase. But it is a practical impossibility for the Panel as originally constituted to function in such cases, because, for the advice to be of any service to a local authority, it is usually essential that it should be received by the Authority within three days, and this does not give time for the Main Panel to be called together. To meet this difficulty, some Panels have set up a Sub-Panel, consisting of the three architects on the Main Panel, and have given them executive powers in the matter of the criticism of elevations, and it is these Technical Sub-Panels which are really getting into touch with the work and creating a demand for Panel Services.

At the present time there is no authority for the creation of these Sub-Panels, but the need for them is well known and we may anticipate that they will be duly authorized before long. Already, as stated above, they are functioning in certain areas.

Although it is found from experience that the opinion of a purely "Technical Sub-Panel" carries much weight, one area has received great advantage from setting up an "Appeal

Panel" of its own on a voluntary basis, this Panel being composed of three eminent architects who are not resident within its area. The existence of such an Appeal Panel, from which the Local Panel itself, or the local authority concerned, may get a further opinion, gives considerable confidence and has resulted in several cases which would have led to an appeal to the Minister being settled amicably and without giving further trouble. Later in this article it will be seen that the Royal Fine Art Commission can act in the same way in certain cases.

Until a Town Planning Authority receives the approval of the Minister of Health to its complete scheme the only appeal against a Town Planning Authority's decision to reject the elevation of a proposed building is to the Minister himself, unless provision has been made in the preliminary statement for an Appeal Tribunal to be established, consisting of a Fellow of The Royal Institute of British Architects, a Fellow of The Chartered Surveyors' Institute and a Justice of the Peace, or to a Court of Summary Jurisdiction, a course which is rarely followed at this stage.

If the elevation rejected by a Town Planning Authority has been prepared by a member of the R.I.B.A. and is the subject of an appeal, it is conceivable that the Minister might communicate with the President of the R.I.B.A. about it, but the decision still rests with him. When an Authority receives its full powers, then an appeal lies definitely to a Court of Summary Jurisdiction or to a Tribunal to be set up under the scheme. Even when the statutory means of appeal come into existence it would appear that Voluntary Appeal Panels will serve a useful purpose in providing a speedier, cheaper, more economical and a better informed way of arriving at a settlement of the case in dispute.

How does a Panel set about getting work to do? This is a question which many may ask. Well, much will depend upon the attitude of the technical officers responsible to the various authorities. Fortunately, from an artistic point of view, the technical officers are not by any means all in agreement with the views recently expressed in a letter issued over the signature of the Secretary of the Institution of Municipal and County Engineers on the subject of elevation control, and such officers will find work for Panels to do.

But one must seek "co-operation" with all technical officers, and exercise all the powers at one's command, especially with those who are unwilling. In this work the County Planning Officers should be the greatest help and strength. If they are not, their interest and desire for co-operation must be won. There are many complications which Town Planning Authorities have to meet in the conduct of their work, especially in Regional Schemes. Further, the management of their respective areas will vary greatly, and, therefore, it is essential for Panels to show their sympathy by making their arrangements as elastic as possible to meet the differing requirements. Throughout the conduct of Panel work business-like methods must be adopted, which will not hinder an Authority in considering plans which are before it. These are the essential points to bear in mind to get Panels working.

In the case of County Boroughs and Boroughs the usual practice is for the Town Planning Authority to set up a "Plans Sub-Committee" under its scheme, and to appoint two or three architects, nominated by the Local Allied Society of the R.I.B.A., to serve upon it. If this privilege is not offered it must be sought.

In connection with Regional Schemes there is much to be said in favour of the practice, followed by at least one Panel, of arranging for the architects on the Panel to hold meetings with the builders of the district for a friendly talk on the "Control of Elevations." This can be done easily by co-operation with the Town Planning Officers, many of whom have shown great keenness for this line of approach. If the talk can be illustrated by lantern slides, it adds considerably to the interest. In any case a discussion after the talk is an essential feature as it usually leads to a better understanding.

In conclusion, the scope of a Panel's criticism upon a projected design is referred to in the Ministry of Health Circular No. 1305, dated March 4, 1933, in the following words :—

> Schemes may include provisions for regulating the design and external appearance of buildings, subject to a right of appeal. The powers cover control of materials, but only as part of control of design or external appearance. Taste is not a matter for dogmatism. The powers should be used for preventing what may reasonably be regarded as "outrages," buildings out of keeping with their surroundings and an offence to the neighbourhood. Much can be achieved by education and friendly guidance.
>
> As indicated in a previous circular, the Royal Institute of British Architects and the Council for the Preservation of Rural England have appointed voluntary panels of architects up and down the country, and these panels are prepared to advise Local Authorities and private developers. There are still many places where use has not been made of these panels. In some places simple leaflets have been issued for the help and guidance of builders, and, in some, arrangements have been made with the local representative group of architects for the preparation of a number of designs of buildings suitable for the locality, the designs being obtainable at a moderate price.
>
> It should be well known by this time that well-designed buildings should not usually cost more than those ill-designed; on the contrary, they are likely to be cheaper. There are instances where builders at first resented criticisms of their plans, but have since become convinced from practical experience of the value of help and guidance, and have become among the most vigorous in maintaining standards. An ugly building, out of keeping with its surroundings, may be not only an eyesore and injurious to local amenities, but may reduce the value of neighbouring property.
>
> Local Authorities should bear in mind that for new public buildings of importance the advice of the Royal Fine Art Commission is available. The Commission are also prepared, if invited, and if they think their intervention likely to be in the public interest, to offer advice on questions of principle which may arise in the case of new private buildings of special importance for the locality.

The above are the final words of official guidance to Voluntary Panels of Architects and others upon the subject under review.

The whole question of a review of the machinery for making these Panels work has for many months been considered in detail by a Joint Committee of the R.I.B.A., the C.P.R.E. and the Institute of Builders, and its Report has recently been submitted to the Council of the R.I.B.A. for its consideration. At a time when there is urgent need for putting the arrangements proved by practice to work best upon a proper official footing, it is to be hoped that the Institute will hasten its decision upon this important Report and its recommendations.

●

ANNOUNCEMENTS

The partnership existing between Messrs. Riley and Fidgen, Chartered Quantity Surveyors, of 82 Victoria Street, Westminster, S.W.1, terminated as from June 24. Mr. Henry Riley, F.S.I., and Mr. Charles H. Riley, F.S.I., will continue in practice, as Messrs. Henry Riley and Son, at the same address and with the same telephone number. Mr. Walter F. Fidgen, F.S.I., and Mr. Eric F. Fidgen, P.A.S.I., will practice as Messrs. W. F. Fidgen and Son, at 60 Warwick Square, S.W.1. Telephone: Victoria 2809. (Trade catalogues may be sent to this address.)

Mr. Frank Roscoe, A.R.I.B.A., has removed his offices to 40 Bramerton Street, Chelsea, S.W.3.

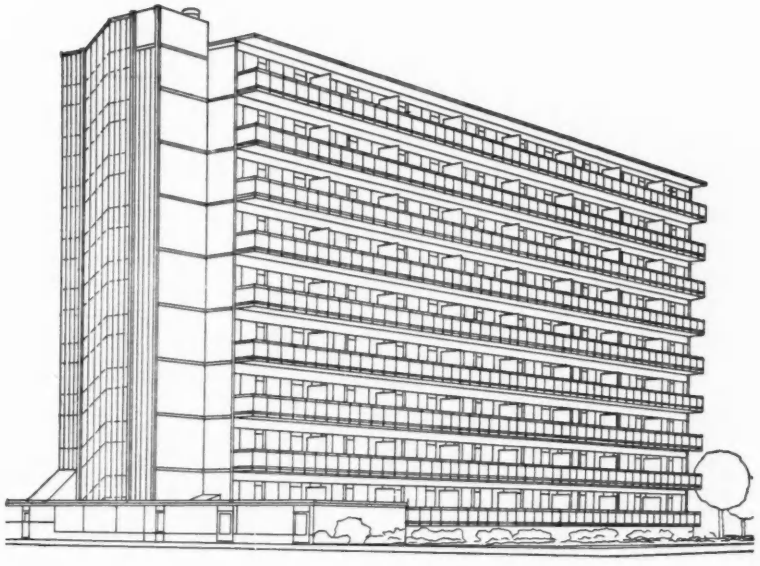
Mr. George W. Martin, M.I.MECH.E., Consulting Engineer, has removed his offices to Town Hall Chambers, Catford, S.E.6.

The National Smoke Abatement Society have removed their offices from 23 to 36 King Street, Manchester, 2.

Owing to a rebuilding scheme in Camomile Street, Mr. Horace Cubitt, District Surveyor for City of London (East), has been compelled to move his office. His new address is 26 Martin Lane, Cannon Street, E.C.3. (Telephone No.: Mansion House 9976.)

HOUSING SUPPLEMENT : 4

This, the fourth of our series of HOUSING SUPPLEMENTS, *deals with the recently issued Report of the Council for Research on Housing Construction, which was constituted a year ago under the chairmanship of Lord Dudley. This is the Council's first report and covers the subject of* SLUM CLEARANCE AND RE-HOUSING, *under which title it is published. The illustrations and tables accompanying the following article are reproduced from the report. A summary of the Council's conclusions, taken also from the report, is reprinted at the end of this* SUPPLEMENT, *on pages 942-943.*



FIRST REPORT OF THE COUNCIL FOR RESEARCH ON HOUSING CONSTRUCTION

[*By ELIZABETH DENBY*]

"THE determination that 'the slums must be abolished, no matter what the cost' is bold but foolish. . . . It is essential that the cost should be counted and that as much as possible should be achieved with whatever sums are made available. . . . Town planning should precede rehousing." A gust of air, invigorating, authoritative, has at last penetrated the jungle of talk, sentimentality and muddled thinking which has hitherto obscured the main issues of the national housing problem. The Council for Research on Housing Construction, formed in June, 1933, to consider how costs of housing could be reduced through the fuller use of modern structural methods and materials, has presented its first report. Slum Clearance and Rehousing was the subject of inquiry during the past year and the result is embodied in this "conscientious and co-ordinated study by a body of individuals, severally experienced in some part or other of the housing field and united by a common desire to assist in fulfilling the nation's housing needs."

The greater part of the Report is, quite properly, concerned with questions of construction, equipment and costs. But these are only one part of the problem and, in a brilliant survey of the housing position, reference is made to every other aspect of housing from rent-paying capacity to finance, from town planning and site values to management and the furnishing of the individual home, with due weight given to the relative importance of each.

The Report falls into three main sections. The first contains a masterly analysis of the housing position in which poverty, overcrowding and bad management are cited as the main factors which, in intensification of the bad lay-out and planning which dates from nineteenth-century industrialism can, it is claimed, only be satisfactorily dealt with by remoulding whole residential districts and whole towns to suit modern needs.

When it is realized that over 2,230,000 new dwellings have been built in Great Britain since 1919 it seems difficult to believe in a housing shortage, and yet the data on which estimates are based show conclusively that a programme of 250,000 dwellings a year for at least five and probably ten years are required in Great Britain before the position can be considered satisfactory. This rate of building would, it is said, involve the annual investment of from £70 to £100 million of new capital and would give steady employment to at least 350,000 men.

Activity on such a scale makes it vital to determine beforehand *national* standards of fitness by a *national* survey of slums and overcrowding. Their insistence on the vital necessity of improved statistical knowledge, of research, of intelligent handling of all the complicated and inter-related problems, is a measure of the intelligence and public sense of the members of the Council.

An Economic Analysis in the second section has been made with special reference to the rehousing of slum-dwellers on the sites of cleared slums, and from the angle of capacity for rent payment, on which all housing programmes should be based. The maximum all-in capital costs economically permissible for various sizes and kinds of dwellings is determined, including minimum housing standards, rent-paying capacity (estimated at a maximum of 10s. per week inclusive), rates, running costs (repairs, water rate, insurance, empties, landlord's services and management), subsidies, net income out of rent, rates of interest and capital costs—each section is supported by statistics and reliable tables based on the experience of actual estates, and of great value to those engaged on housing work. (See tables reprinted on next page.)

An enumeration of the points covered in this section is a sufficient commentary on the exhaustive approach to the problem. The unsatisfactory variation in rates between district and district, the importance of the social side of management in all slum clearance work, the disproportionate incidence of rates of interest and redemption rate in rent charges, and the extraordinary lavishness of subsidy under the 1930 Act, emerge with great clearness. "The net annual income *per habitable room in tenements*, where the average dwelling size is three rooms, is about £4 1s. unsubsidized, £8 7s. 6d. with the normal subsidy, and £10 6s. with the special subsidy for high

priced land," so that "at fixed rents averaging 10s. the normal subsidy approximately doubles the total amount that can be spent on building, land, etc., whatever the rate of interest."

It is therefore of urgent public interest that steps should be taken to prevent the money, taken by taxation from the nation for slum clearance work, enriching the speculator in or owner of slum land.

The third section of the report is concerned with technical matters, with showing "how by the application of modern technique in design, materials and methods of construction, the total capital cost of tenement dwellings may be reduced while maintaining or raising standards." In view of the comparative lack of attention given hitherto to block dwellings and the—on the whole—unattractive but expensive specimens we possess in Great Britain, this section of the report, frankly based on Continental experience, is the most fascinating and instructive part of, as indeed it is the reason for, this Report.

The arguments in favour of tenement building in central urban areas are put with vigour and persuasion. "While 60 two-storey cottages on a single acre inevitably produce an intolerable congestion, 60 dwellings in five-storey tenements on the same space can readily be planned without any congestion at all, and a corresponding development in ten-storey tenements gives a still more generous provision of public open space."

This is beyond dispute, and we are liable to forget that the main middle-class building in every English city has been in vertical development of four or five-storey houses—much more difficult to manage than a horizontal house on the fourth or fifth floor! But there is a danger and one that cannot be too strongly guarded against, that development in five or ten storeys will *not* be used as a means to "bigger plots, fewer and wider streets, more open spaces and the zoned separation of different uses." Indeed, the Report itself contradicts its own beliefs by instancing, and basing estimates of costs on, the development of a four-acre plot in two different arrangements in five-storey blocks and one in ten-storey blocks. These schemes show respectively minimum densities of 300, 370 and 570 persons per acre in 60 flats (on 19 per cent. of the site), 80 dwellings (on 28 per cent. of the site) and 120 dwellings (on 23 per cent. of the site) *per acre*—or in other words a population of 2,280 persons would share three acres of open space in the ten-storey development!

But there is no doubt that the Council is on safe ground when it claims, in reply to criticisms of the cost of flats, that "in extra urban cottage development, the dislocation wastage of existing development in public buildings and services which may easily cost ten times the price of the land to be developed, rarely if ever are brought into the balance sheet, and though capital costs are (though they need not remain) undoubtedly much higher for flats than for cottages, it is shown conclusively that the all-in costs for 60 tenements at £420 each are lower than 12 cottages at £295 each, built on the same area, when land costs over £1,350 per acre."

This being so, there is little doubt that costly central sites can only be developed in buildings of five storeys and over, if open space for gardens and allotments is to be attained. The problem of urban congestion is one of bad site planning and not of lack of space. In fact, Sir Raymond Unwin goes so far as to say that the whole of the population of England and Wales could be housed in the Greater London area at a density of 10 houses to the acre, leaving 120 square miles for open spaces, if properly planned!

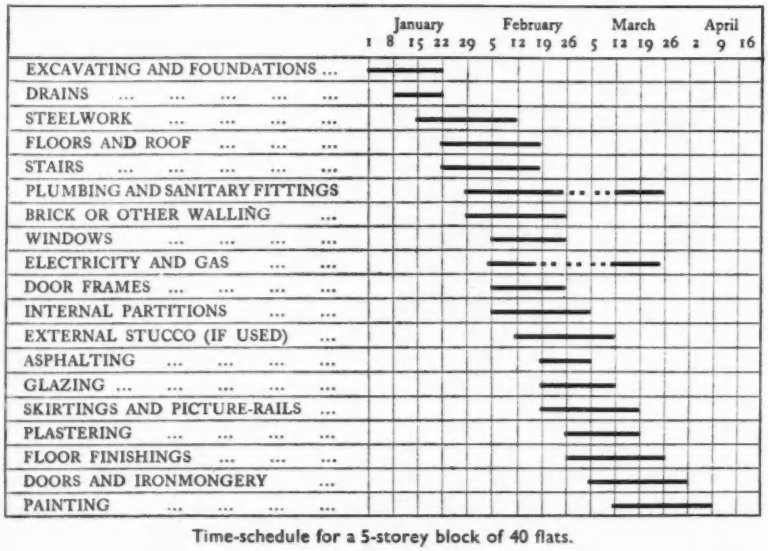
With regard to building materials, full recognition is given to the importance of alternative materials being available to counteract shortage of any particular material and to prevent undue price rises. Panels of experts have explored the possibility of the one-pipe and one-stack drainage systems from which standardization of plumbing and sanitary fittings logically follow; into rubbish shoots and their alternatives; into (rationed) hot water, heating and cooking services; into lifts for

Table 6 Estimated Average Running Costs

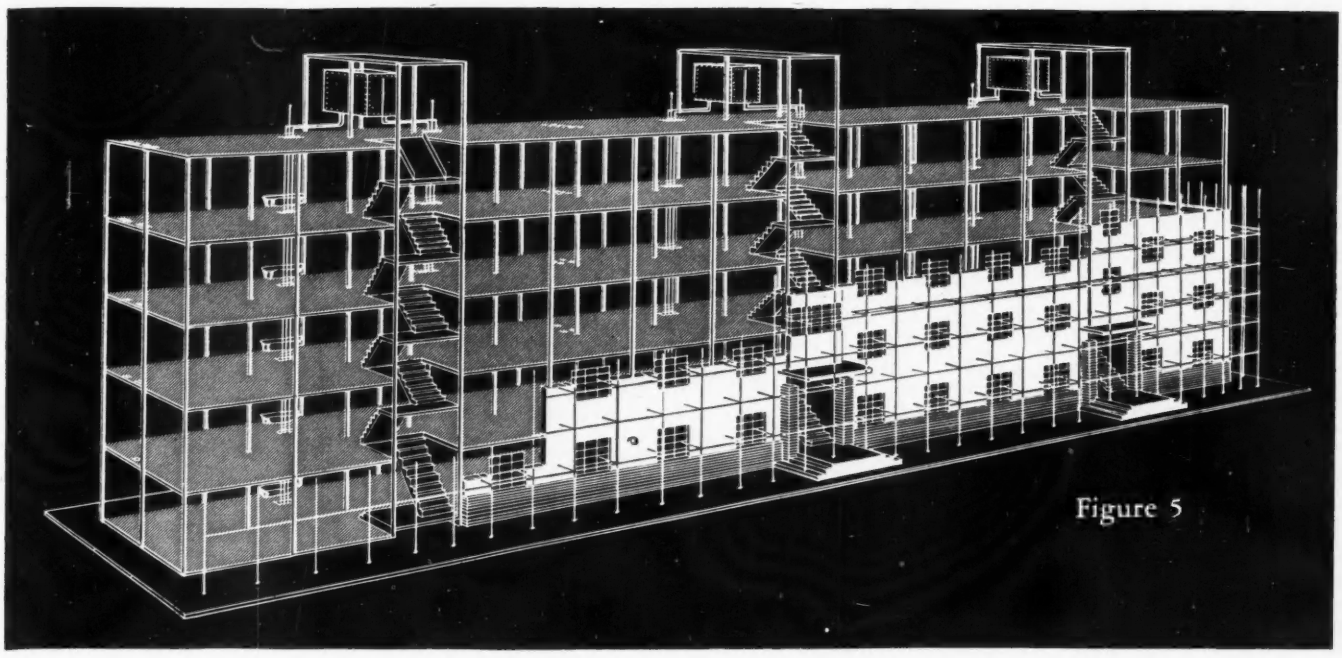
		3-Room Tenement Flat	4-Room Cottage
		£ s. d.	£ s. d.
Repairs	*per year*	4 0 0	3 15 0
Water	"	13 0	13 0
Insurances	"	4 0	4 0
Defaults and Empties	"	13 0	13 0
Landlord's Services	"	10 0	2 6
Management	"	1 7 6	1 2 6
Total	*per year*	7 7 6	6 10 0
	per week	2 10	2 6

Table 8 Calculation of Net Incomes out of Rents
(A) Tenement Flats

Number of Rooms		2	3	4
Assumed No. of Persons accommodated		3	5	7
		£ s. d.	£ s. d.	£ s. d.
Rent	*per week*	8 0	10 0	12 0
Rates	"	2 0	2 6	3 0
Running Costs	"	2 7	2 10	3 1
Subsidy (*land* under £3,000 *per acre*)	"	3 6	5 0	6 6
Subsidy (*land* over £3,000 *per acre and in Clearance Areas*)	"	4 9	7 1	9 5
Net Income *unsubsidized*	*per week*	3 5	4 8	5 11
	per year	8 17 8	12 2 8	15 7 8
Net Income *subsidized* (*land* under £3,000 *per acre*)	*per week*	6 11	9 8	12 5
	per year	17 19 8	25 2 8	32 5 8
Net Income *subsidized* (*land* over £3,000 *per acre and in Clearance Areas*)	*per week*	8 2	11 9	15 4
	per year	21 4 8	30 11 0	39 17 4



Time-schedule for a 5-storey block of 40 flats.



A block of tenements under construction, drawn to show how, in a frame structure, the skeleton is erected by crane without scaffolding, and other parts such as stairs, floor and roof slabs and panel wall-filling follow it as it rises; the frame providing a crane-base for subsequent operations. The time schedule reproduced on page 938 applies to the same block.

blocks over five storeys high, and into all sides of planning and equipment of individual dwellings.

Exhaustive inquiry and tests, based on a principle of standardization, of framed construction, of mass production in factory or workshop and organized assembly on the site offer in the experience of these panels, in conjunction with large-scale operations, prospects of great reductions in cost. And these conclusions have been submitted to the test of actual costing based on a specially prepared range of plans for 5- and 10-storey development. (See table on p. 942.)

Cogent criticisms of existing building regulations and practice emphasize the need for *national* and *progressive* standards in building regulations, and of the value and importance of increased speed, without loss of quality, by "an orderly and even flow of materials to a maximum number of points of simultaneous erection."

The Report closes constructively. In addition to more efficient local action, it urges the creation of a central advisory council for England and Wales and for Scotland to advise not only on technical matters, but on all matters of general policy, administrative improvement and the whole range of housing activity. A demand is made for adequate statistical information and clearly defined and nationally accepted minimum standards for housing, both structural and density—such as Government alone can make and enforce, in addition to the need for a programme of research on the widest possible scale into every aspect of housing.

It is, of course, beyond dispute that the present housing policy of slum clearance and rehousing on the site is creating problems which, to put it mildly, will trouble future generations and cripple the prospect of civic zoning and replanning for very many years. The cart is before the horse. No programme of clearance and rehousing on the scale contemplated by the Government should be undertaken without previous thought and consideration of future as well as present requirements. "Slum clearance" (that is to say, of slum conditions in the heart of our cities) is a component part of the replanning of industrial areas, one that *cannot* be dealt with efficiently, constructively or economically as a separate problem. "Rehousing" is a problem of standards of accommodation, quality as opposed to quantity, value for money, the environment in which the future generation will be able to forget the legacy of the slums.

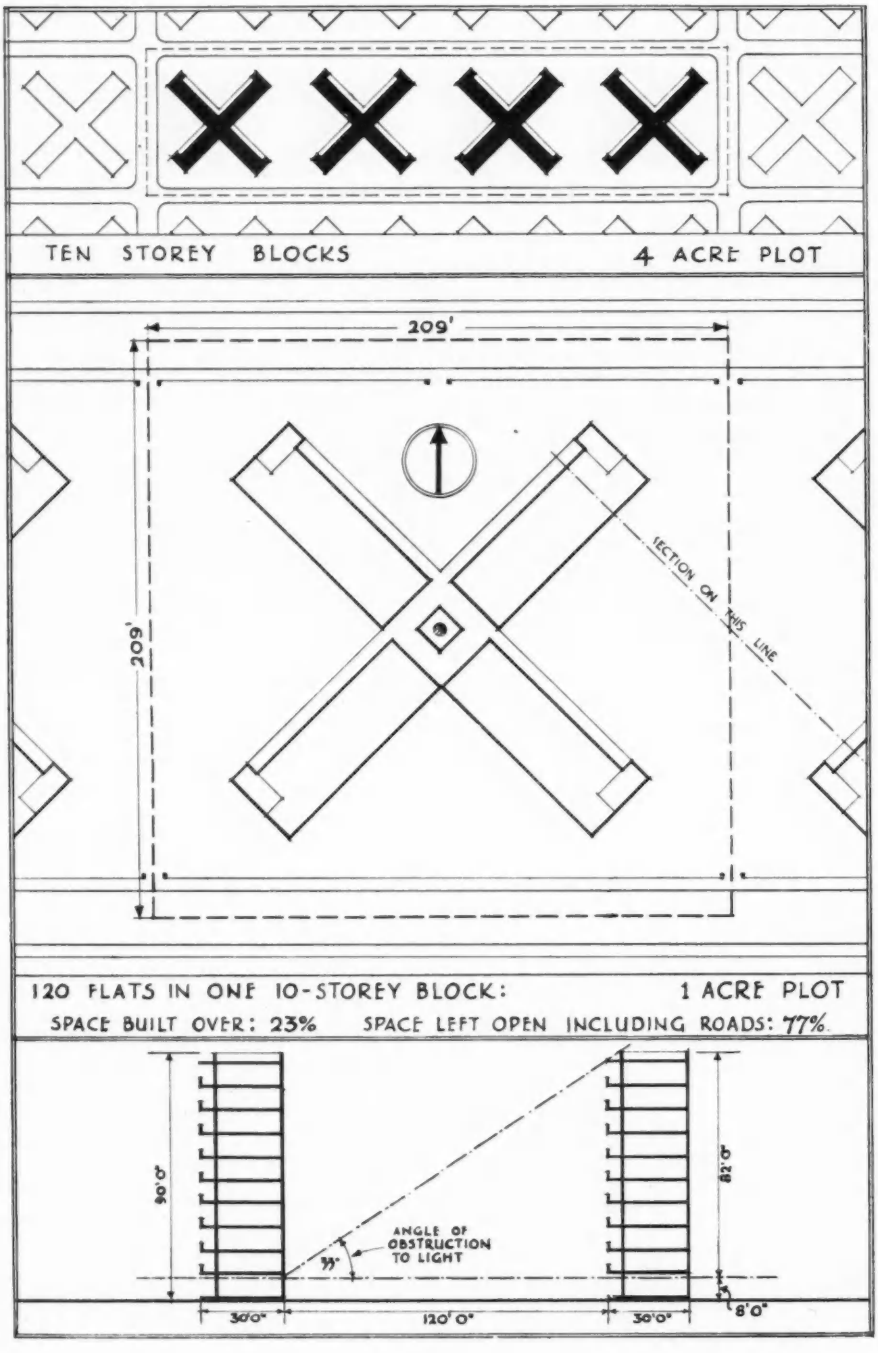
This report, in fact, by its very brilliance, raises a number of extremely important questions, forces comparison with existing rehousing schemes, into results to date, and makes a national stocktaking inevitable. Let us hope it will make intelligent national action inevitable also.

The Council reiterates many times the necessity for research, research, research. Into what? What is the kernel of our housing problem? What is the secret of successful community living on which the success or failure of all rehousing schemes will depend?

It is evident that technical questions can be solved, questions affecting construction, the cost and efficiency of its component parts. There remain the cost of money and of land—each of them capable of upsetting the most intelligent, most public-spirited scheme—but again amenable to an intelligent and bold treatment. It is by no means proved, for instance, that a direct subsidy is good. Better results on a much more self-respecting basis for the recipients would, it is said, be attained by the issue of a housing loan at a low rate of interest (say 2 or 3 per cent.), which would be available for slum clearance and decrowding work, and with which houses could be built for letting at different rents—the simplest houses earn very little return on capital (say ½ per cent.), while the rents of the houses intended for better-off tenants would be calculated to bring in as much as 5 or 6 per cent., the *average* return on all properties being calculated to cover interest and sinking fund on the total amount of capital borrowed. This postulates, of course, the construction by a housing authority of houses above as well as of the slum-clearance standard, and it is this mixture of the population in housing estates—either central or on the periphery—which I consider of vital importance.

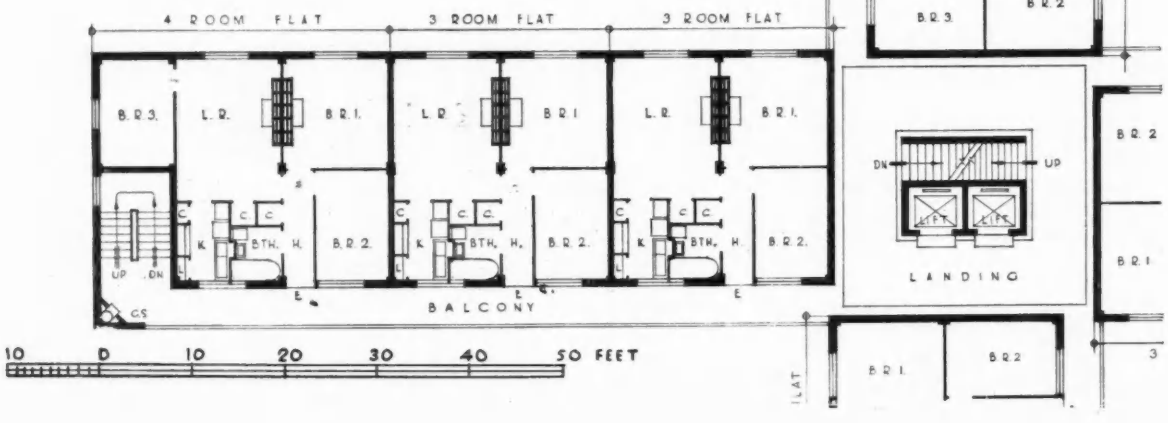
The example of new towns, composed entirely of one section of society, built on the edge of London, Birmingham, Manchester or other great cities, is recent enough for illustration. In these instances slum populations, amounting in some cases to populations of towns the size of Rugby, have been moved from the heart of the parent city into brand-new estates five or six miles out, with new houses, new gardens, sites reserved for churches and schools and a few shops—and this for persons used to the noise and glitter of the streets, cinemas, public houses, the convenience of street market and pawnshop, the possibility of picking up a few hours' charing or handy-work at any of the big houses round the corner. Is it a wonder that the air, light and space of the estates were considered by the tenants unequal to the increased rents, the tram fares, the more expensive shopping, and, above all, the loneliness of hygienic homes. Towns are built bit by bit with tradition behind them, with a vertical instead of a horizontal citizenship, and this tradition is one of the principles which must guide all rehousing effort if it is to satisfy the needs of the generation undergoing this sea-change.

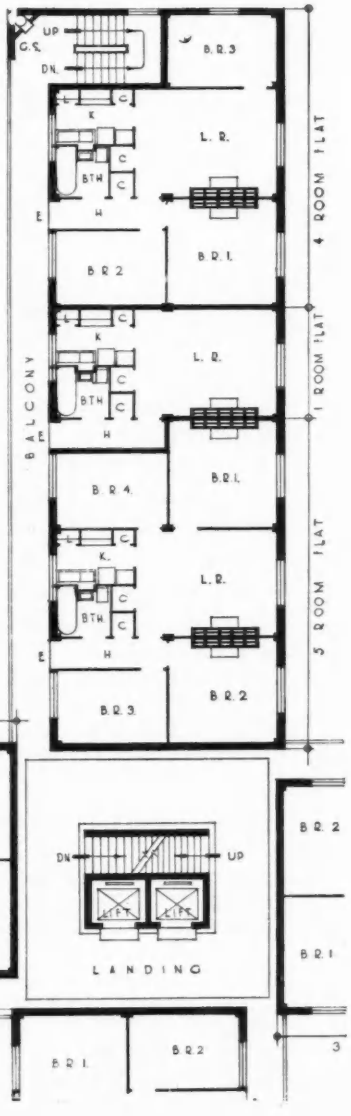
It may be said that the differential rent system which Leeds is adopting with such

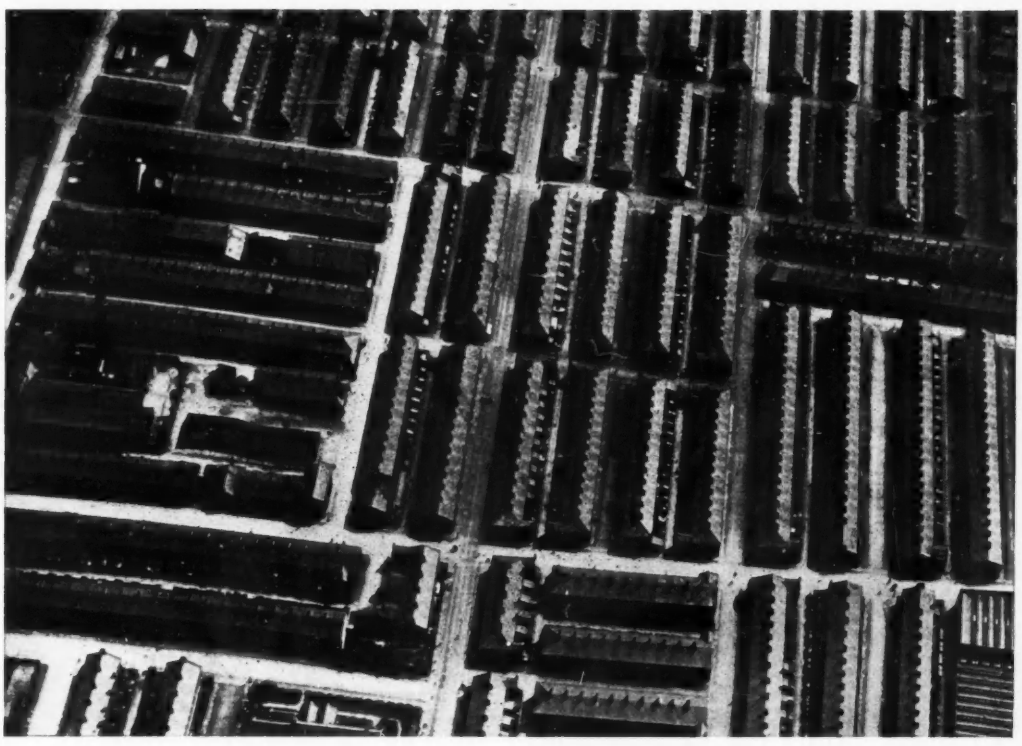


Left : A suggested lay-out for a block of 10-storey tenements, showing orientation and lighting angle.

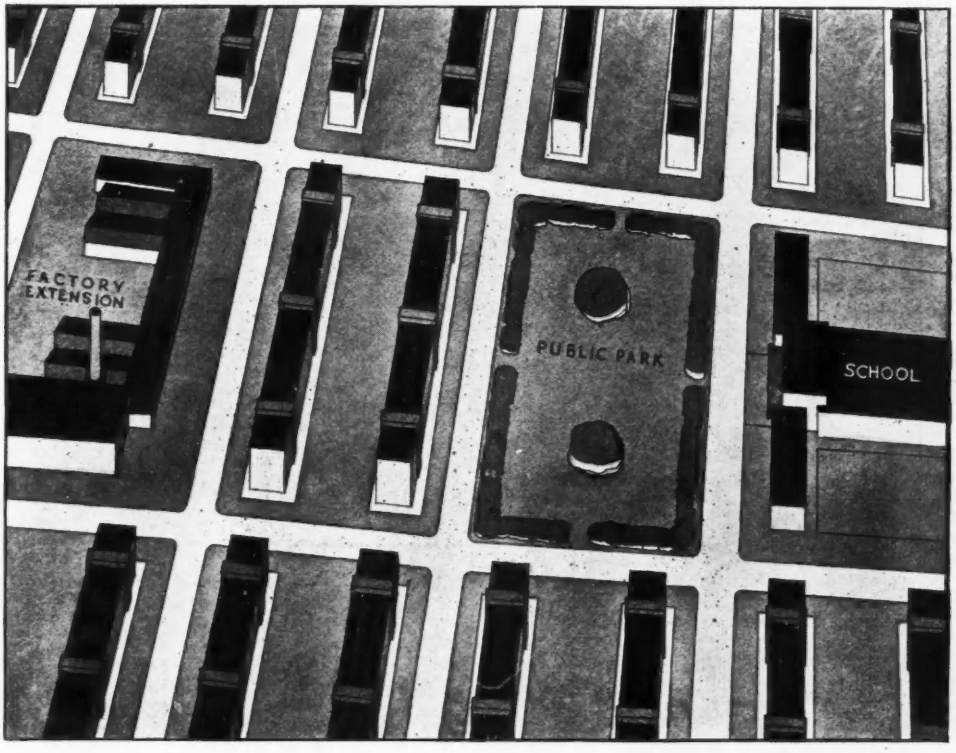
Below : Detail plan of two wings and central access hall of such a block ; the one printed horizontally giving the normal arrangement of 3 and 4 room flats, and the one printed vertically giving alternative arrangements to provide 1, 2 and 5 room flats, as required.







A Lancashire town ; one- and two-storey weavers' cottages.



The same area as above, drawn to the same scale and re-developed with five-storey tenements.

vigour allows for the housing of families with different incomes within the same area. The error in this argument is, I think, psychological. No family wishes to pay a higher price for an identical article which is being sold to some other family at half the cost. No amount of explanation will prevent him from feeling at heart that he is being done. Nor has the poorer family the satisfaction when times improve, of marking his rise in the social scale by moving into a more expensive dwelling in the next road. He can only have his rent raised to "an economic level." Even a slight difference in equipment—a hand-basin in a bedroom, a rather more attractive kind of balcony, built-in cupboards—an addition out of all relation to the increased rent, would, I am certain, be more in keeping with human nature and lead to harmony in the estate.

But, I repeat, supposing we take this opportunity of retrieving the disgrace of our industrial towns, what do we really want to achieve? What kind of life do we want ourselves and our children's children to inherit? I should like to see every city, every town, every village—each of which proposes to spend relatively vast sums on new building—to set itself this problem. It might then have a public competition for the replanning of the city: the results could be exhibited in the Town Hall, discussed and amended, the best points of the best plans amalgamated into a scheme, understood and approved by all the citizens. All rebuilding over a long period of years would be required to conform to the plan, and not only the bricks and mortar would be remoulded, but the whole outlook, the health and the happiness of its inhabitants.

Till then we could with advantage be helping slum dwellers to prepare for better conditions. For generations they have lived in surroundings which preclude any standard of values measured by civilized standards. The substitution of a new box for an old box is not going to be enough for this generation—we must stretch many hands to help them, not one hand only. Expenditure on the slum child would be the most fruitful investment, and would cut off the slum tradition at the root. If each slum child from the age of one year (and this is beginning to be done in Italy) had compulsorily to attend during the day an open-air nursery school, in which it would learn cleanliness, order, beauty; in which sleep, play and quiet were possible; the parents would co-operate more readily in maintaining the standard set in this way than by more direct admonition, and the elementary schools would be freed from the waste of repairing the damage caused during the gap between infant welfare and school age. I can think of no one item of expenditure better calculated to solve the problem of the "slum mind," unless it were the formation in each town of friendly classes in home-making, a knowledge of which has to be improvised by these thousands of families who have never had a home.

The Council for Research on Housing Construction foreshadows other reports. We may not always agree with every opinion they advance. In any case, they themselves put forward suggestions tentatively, as cases for further investigation. The most sluggish imagination has been stirred by the pictures of the slums. It is time that something constructive and of permanent value should be done, and the method of approach has been very clearly demonstrated by this remarkable team of collaborators.

Table 13 Allocation of Building Costs to Main Components (from contractor's estimates for Council's 5-storey and 10-storey designs)

	5-storey Block		10-storey Block		Extra (+) or saving (−) in 10-storey block as against 5-storey block
	% of total cost	£ per habitable room	% of total cost	£ per habitable room	£ per habitable room
Foundations and Frame	17·2	18·2	13·9	17·8	−0·4
Floors and Roof (*including* finishings)	19·7	20·9	15·8	20·3	−0·6
Stairways and Balconies (*including* lifts in 10-storey only)	7·3	7·6	10·2	13·1	+5·5
Walls, Partitions and Flues (*including* skirtings, picture rails, plastering and distempering) ..	23·3	24·8	19·0	24·3	−0·5
Windows, Doors, etc. (*including* painting) ..	13·2	14·0	12·2	15·7	+1·7
Sanitary Equipment (*including* fittings, drains, rainwater and refuse disposal)	9·3	9·9	8·5	10·8	+0·9
Heating, Hot-water and Cooking Equipment (*including* central system in 10-storey only)	7·9	8·4	14·2	18·1	+9·7
Lighting Equipment ..	2·1	2·2	1·5	1·9	−0·3
Unallocated Assembly Costs..	Nil	Nil	4·7	6·0	+6·0
	100	£106	100	£128	+£22

SUMMARY OF THE REPORT

Following is a summary of the findings of the Council, extracted from the Report.

NEW HOUSING AND REHOUSING

1. Present housing activity falls into two divisions: (*a*) new housing, left in the main to unsubsidized private enterprise, and (*b*) re-housing, following slum clearance, for which local authorities are made responsible and a subsidy is provided. The policy of thus concentrating public effort for a direct attack on slum conditions is basically sound, provided that any necessary steps are taken to ensure an adequate concurrent supply of new low-rented houses.

THE ABATEMENT OF OVERCROWDING

2. Unsatisfactory housing conditions, and especially overcrowding, are found in large areas of working-class dwellings which cannot be dealt with by the existing slum clearance powers. The lack of adequate powers for rebuilding or reconditioning such areas, and for the abatement of overcrowding, is a serious gap in policy, which should be filled by the new legislation which has been announced.

3. While an adequate reconditioning policy may be of great value, clearance and rebuilding, on a scale large enough to permit a thorough redevelopment of congested and ill-planned areas, will often be necessary.

STATISTICS AND STANDARDS

4. The determination of housing policy is seriously hindered, and the accurate estimation of national and local housing needs is made impossible, by the lack of adequate statistical information on housing conditions. More serious still is the lack of clearly defined and nationally accepted minimum standards for housing, without which mere statistics are not of much practical use. The determination of standards and the improvement of statistics are matters of urgent and vital importance.

5. The requisite standards fall into two classes, (*a*) of the fitness and (*b*) of the occupation of dwellings. A national slum survey, based on fitness standards, should be made in 1936, at the same time as a national overcrowding survey, based on occupation standards, for which the census provides the enumerative framework. The publication of the census and of all other surveys and statistics should be speeded up.

A HOUSING PROGRAMME

6. On the limited evidence available it is estimated that a total production of 250,000 dwellings annually for at least 5 years and probably 10 years is not incommensurate with the need, provided that at least 150,000 annually are built to let at rents within the rent-paying capacity of the lower-paid workers. Of the 250,000 approximately 100,000 annually would be in replacement of houses demolished under slum clearance programmes, etc.

7. While the capacity of the building industry as a whole should be sufficient for such a production, it is essential that so large a task should be executed with all possible economy and backed by a programme of research, on the widest possible scale, into every aspect.

CENTRAL AREA REHOUSING IN TENEMENT FLATS

8. Most slum and overcrowded areas are very densely populated, and it is impossible to remove more than a small proportion of their inhabitants unless their workplaces can also be removed. Much as progressive industrial decentralization is to be desired, there is no

prospect of its occurring sufficiently rapidly to have any large effect on the rehousing of the next 5 years. Moreover, suitable redevelopment of central areas is often more economic as well as more practicable than new development on the outskirts.

9. Rehousing must, therefore, to a large extent be done on the spot at existing densities. This is only made possible, on satisfactory standards of light, air and open space, by the use of multi-storey tenement flats.

HOUSING MANAGEMENT

10. It is not enough to regard the management of working-class dwellings, especially in low-rented tenement rehousing, as a mere system of rent-collection and business administration. In the hands of skilled officers, management should be developed as a form of social service, directed to the improvement of living conditions and to education in tenancy.

TENEMENT FLATS : STANDARDS, RENTS AND COSTS

11. All new tenement flats should satisfy certain minimum requirements as to sizes of rooms, etc., and their occupation should not exceed the rate of 2 persons per habitable room, subject to sex separation except for married couples and children under 10 (this corresponds closely to an overall standard of 1½ persons per room).

12. Weekly rents of about 10s. od. (inclusive of rates) are the highest which the lower-paid working-class should be required to pay for flats of 3-room average size, as required by the proposed standards.

13. After making allowance for rates (the variations in which are a very unsatisfactory factor in the housing situation) and running costs, it is calculated that a 10s. od. rent is sufficient to cover, at the current rate of interest on municipal loans, a capital expenditure per flat of £285 without subsidy, and of £591 to £719 with subsidy at the present rates.

DESIGN AND CONSTRUCTION OF TENEMENTS

14. The main reason why, in Britain, tenements flats have up to the present cost considerably more to build than cottages of corresponding type, is that their design and construction have been quite inadequately studied. The widespread use and popularity of tenements abroad has encouraged close study and steadily reduced costs.

15. The basis of progress and cost-reduction in tenement building is to be found in the application of modern and rationalized building technique, based on the principles of standardization, mass production, large-scale operation, organized assembly to strict time-schedules, a maximum working-face and a maximum speed of throughput. Of these principles standardization is the most fundamental, while the use of framed construction is the essential means whereby all may be applied.

BUILDING REGULATIONS

16. One of the principal hindrances to progress, and especially to increased standardization, in building technique has been, and still is, the diversity and obsolescence of building regulations. The system of regulations must be so amended and administered that it encourages rather than hinders rapid and economic rehousing. No departure from the Model Bye-laws of the Ministry of Health which seems likely to increase building costs should be permitted.

17. The London County Council, in reviewing the London Building Act, should seek powers to govern all technical details by the more flexible method of bye-laws.

18. All bye-laws should be periodically revised, in accord with all relevant British Standard Specifications. New and improved materials and methods which have passed suitable tests should be incorporated without delay.

DESIGNS FOR 5 AND 10-STOREY TENEMENTS

19. A range of designs for blocks of flats is described and illustrated as a practical embodiment of the application of modern and rationalized building technique to tenement rehousing.

20. It is an essential requirement in the design of tenements blocks in rehousing schemes that there should be a high degree of flexibility in the provision of different sizes of dwellings. The designs show that such flexibility is compatible with a strictly standardized framework and standardized working parts and equipment.

21. The designs are presented in 5 and 10 storey form, but they could equally well be built to any other desired number of storeys. To re-accommodate slum and overcrowded populations, at the existing densities and on reasonable standards of light, air, open space and amenities generally, 5-storey blocks may frequently be found insufficient : 10-storey blocks, equipped with lifts, should be used in such cases.

MATERIALS, EQUIPMENT AND SERVICES

22. It is important that standardization should provide for the use of a wide range of alternative materials, so as to minimize the risk of rising costs and delays through shortage of supplies. Only sound and durable materials should be used, so as to reduce repair costs to a minimum.

23. Standardization in the lay-out and equipment of sanitary services, on the simplified "one-pipe" or "one-stack" systems, is an especially valuable means of reducing costs.

24. A centralized system of hot-water supply and heating, appropriately designed, merits close consideration for all larger schemes of tenement rehousing.

25. The provision of lifts is essential in all blocks of more than 5 storeys. Lifts should be attendant-operated and blocks should be designed and, where possible, interconnected, so as to reduce the capital and running costs of lifts to a minimum.

BUILDING COSTS AND LAND COSTS

26. Estimates for blocks built to the designs illustrated show that 3-room tenement flats can be built under present conditions for approximately £318 in 5-storey blocks and £402 in 10-storey blocks, though in some areas the amendment of obsolete building regulations may be required to achieve these prices. A further reduction of costs by 10 per cent. should be attainable if standardization and rationalized technique are widely adopted in schemes of adequate size. It should be the object of local authorities to create in co-operation the necessary bulk demand for standardized parts and equipment.

27. The deduction of these estimated building costs, with allowances for sitework, fees, etc., from the maximum capital expenditure covered by a 10s. od. rent shows that, while unsubsidized tenement building is economically impossible, tenement building with the present subsidies can be carried out on land costing even as much as £15,000 to £20,000 an acre.

ACQUISITION OF LAND FOR REHOUSING

28. There is a considerable danger than the very generous subsidy may be absorbed by a rise in land values or by extravagant use of land. Any steps required to prevent such misuse should be taken promptly.

29. The fundamental difficulty of rehousing in central areas is to dispose of the slum and overcrowded populations, while their existing dwellings are replaced by new and better ones. A progression of cleared sites must be created by large-scale purchases of land, and by rebuilding in tenements at densities *greater* than those found to be existing, at any rate until an adequate pool of cleared land is available. The increased density made possible by 10-storey building will often be essential to make an effective start.

30. The already wide powers of local authorities for the purchase of land should be used to the full. The power of compulsory purchase should be extended to all working-class house property required for reconditioning and redevelopment, as well as immediate rehousing.

REHOUSING AND TOWN PLANNING

31. Statutory town planning powers should be put into operation in all "built-up" areas so as to co-ordinate rehousing schemes with the wider planning of all land uses. Residential areas, as redeveloped, should be protected by zoning against the invasion of other uses. The increased open space, made available by the greater height and wider spacing of buildings, should be fully utilized for parks, playgrounds and other amenity provisions. The replanning requirements of dense urban communities are in urgent need of detailed investigation and study.

HOUSING AUTHORITIES

32. No fundamental change is required in the system under which local authorities are responsible for public housing activity under the central supervision of the Ministry of Health and Department of Health for Scotland ; but the system needs to be strengthened for more rapid and efficient action and broadened in its scope.

33. In order that they may be able to operate with as much power and efficiency as the larger authorities, we propose that smaller authorities should be ecnouraged to set up, in co-operation with their County Councils, joint bodies for housing work. Such joint action has already been adopted in many cases for executive town planning.

34. The general supervision of housing in each area should be put in charge of a qualified Housing Director. The skill and experience of architects, surveyors and other specialists in private practice should be fully utilized to improve the design and reduce the costs of building.

35. The central direction of housing should be strengthened by the appointment, under the Minister of Health, of a permanent advisory council, charged with the investigation of all aspects of housing activity. A similar body, under the Secretary of State, is required for Scotland. These bodies should, *inter alia*, promote standardization, faciliate large-scale purchases of land and co-ordinate research into the technique of housing construction.

The report reviewed in this Supplement is published for the Council for Research on Housing Construction by Messrs. P. S. King & Sons, and is obtainable from them, price 10s. 6d. net.

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LEVERHULME SCHOLARSHIPS IN ARCHITECTURE

The second Leverhulme Scholarship in architecture (value £200 a year for five years) tenable at the Architectural Association School of Architecture, has been awarded to Mr. G. E. Magnay, of Jesmond, Newcastle-upon-Tyne.

The Trustees of the Leverhulme Research Fellowships have also awarded several grants to research workers to assist the completion of their programmes. The list of persons awarded grants include the following : Mr. W. A. Eden, B.ARCH., A.R.I.B.A. (Subject : The Making of the English Landscape) ; and Mr. K. A. C. Creswell, HON. A.R.I.B.A. (Assistant Professor of Muslim Art and Archæology, Egyptian University, Cairo, Egypt), (Subject : Completion of Researches on Early Muslim Art and Architecture).

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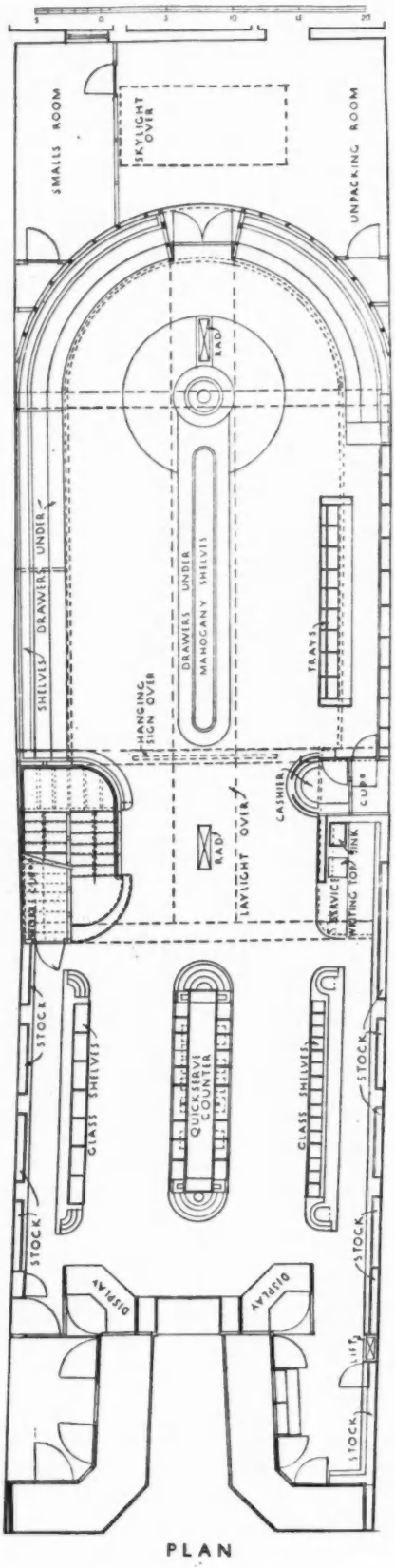
Sir Hilton Young, the Minister of Health, has appointed Mr. C. F. Roundell, C.B.E., of the Ministry of Health, to be a member (vice Mr. N. B. Batterbury) of the Departmental Committee appointed in July, 1933, on the cost of hospitals and other public buildings.

TIMOTHY WHITE'S SHOWROOMS, SOUTHSEA



PLAN

S. W. NEWBERY

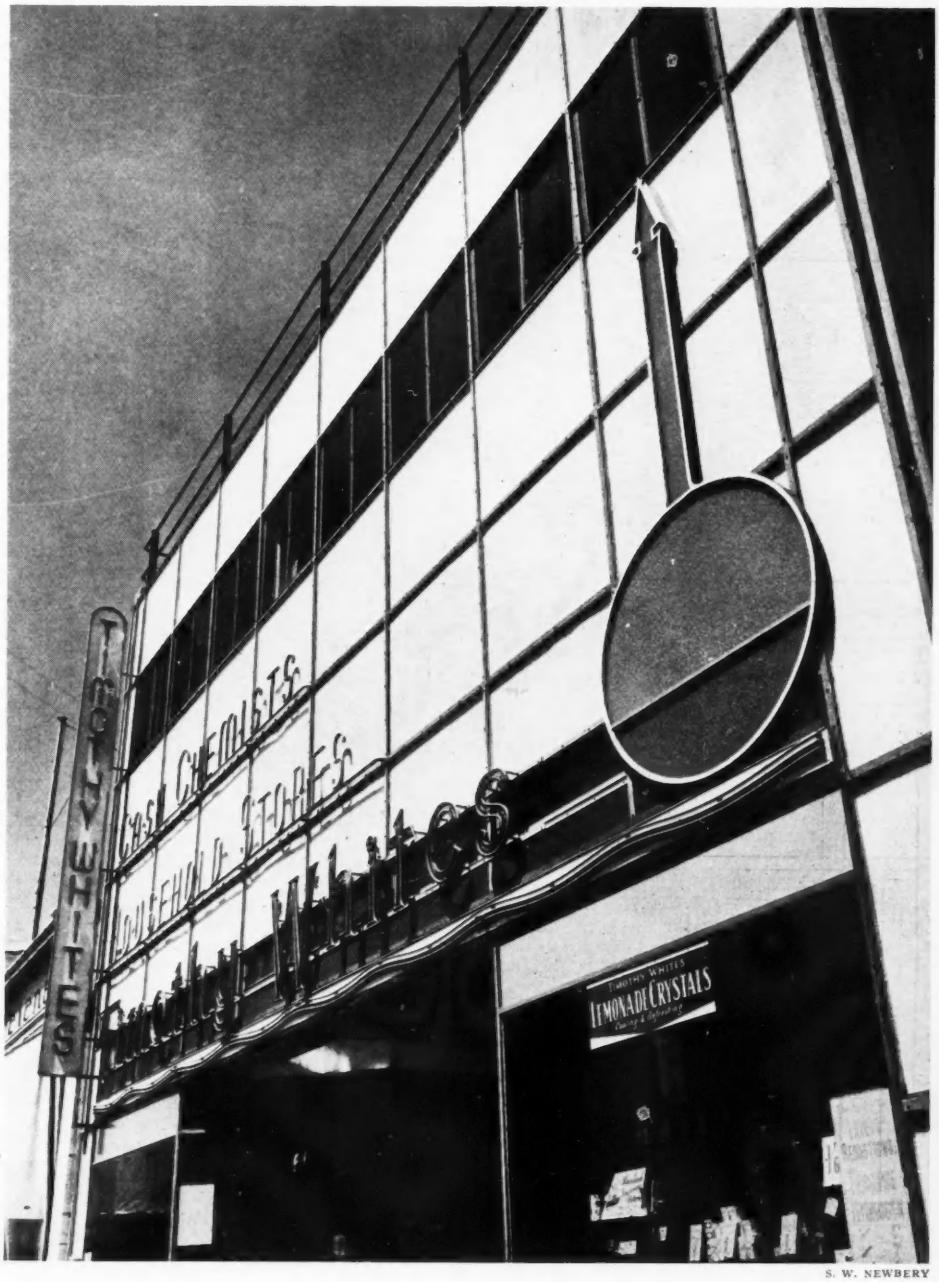
This shop, for a firm of "chain store" chemists, has little in common with the standardized shop-front to which one is now unfortunately accustomed; only the clients' standard lettering (modified to a certain extent) has been retained. The building is faced with double rolled rough-cast glass held in position by galvanized steel strips painted battleship grey: a form of finish which Mr. Emberton has already successfully employed at Universal House. The lettering has been carried out in bent steel tubing painted, the name-sign being in neon outlined in steel tube (see detail drawing, page 946).

Internally, the shop fittings are in gaboon mahogany, designed with some care to conform to the sizes of the goods displayed. The interior photographs, however, fail to reveal more than a small proportion of the design owing to the clients' eagerness to display the maximum amount of goods in the smallest possible area.

DESIGNED BY JOSEPH EMBERTON

WORKING DETAILS : 73

SHOP-FRONT • TIMOTHY WHITE'S, SOUTHSEA • JOSEPH EMBERTON

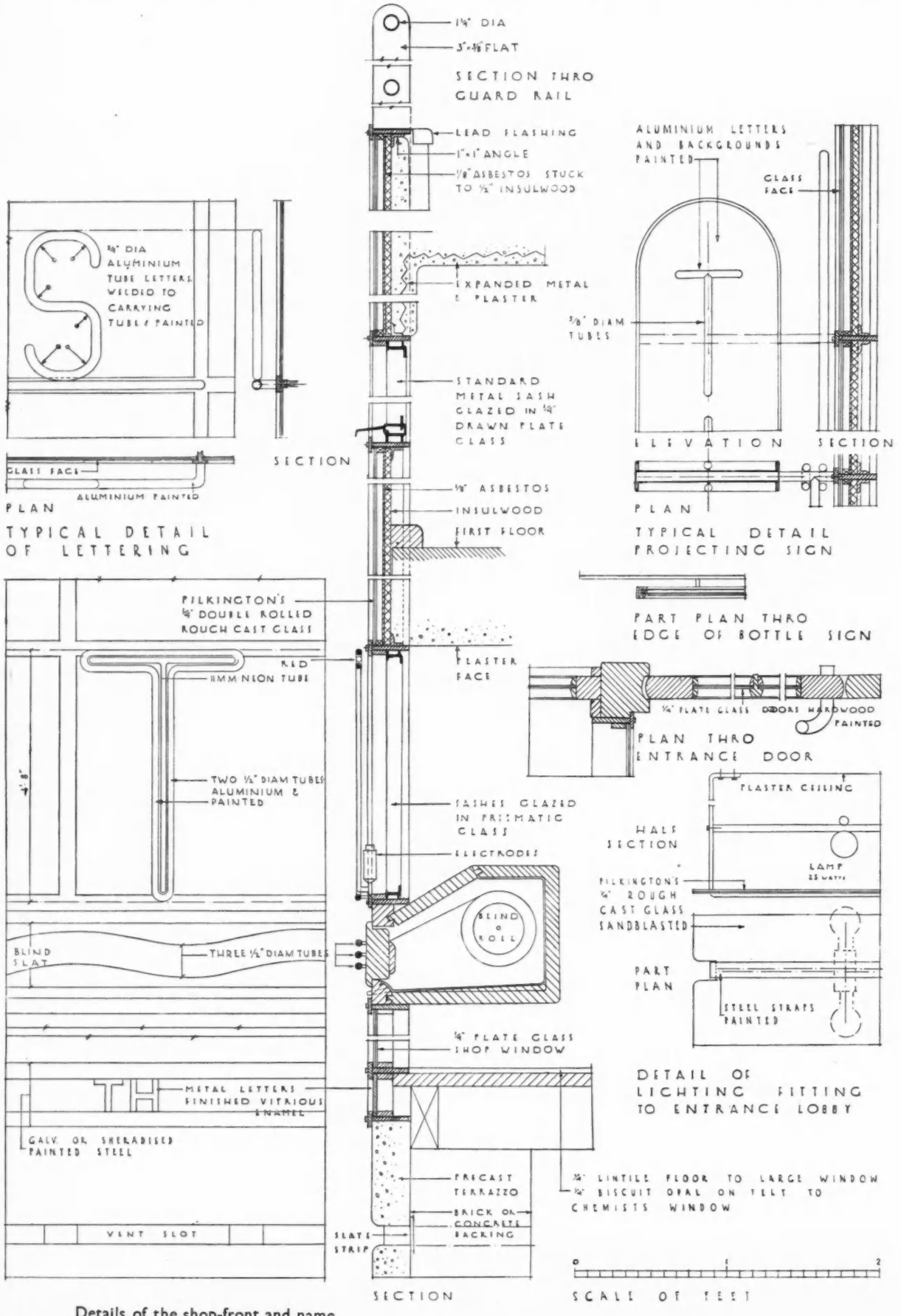


S. W. NEWBERY

The above illustration shows a detail of the shop-front. The building is faced with white double rolled rough cast glass, held in position by aluminium strips. The horizontal name sign is in neon, surrounded by aluminium tubes. Details of the front are given overleaf.

WORKING DETAILS : 74

SHOPFRONT • TIMOTHY WHITE'S, SOUTHSEA • JOSEPH EMBERTON



Details of the shop-front and name signs illustrated overleaf.

WORKING DETAILS : 75

DISPLAY SHELVING • TIMOTHY WHITE'S, SOUTHSEA • JOSEPH EMBERTON

S. W. NEWBERY

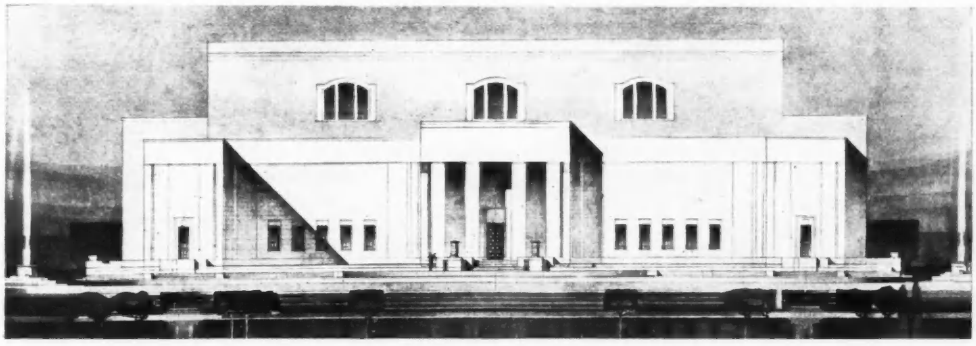
The display shelving here illustrated has been specially designed to take general hardware. The two bottom rows are stepped and an interesting point is the provision of the movable stepped fitting which can be seen to the right of the photograph. This fitting can be placed anywhere on the stepping and it helps to break up the somewhat confused display, at the same time drawing attention to any "special reductions." Details of these fittings are shown overleaf.

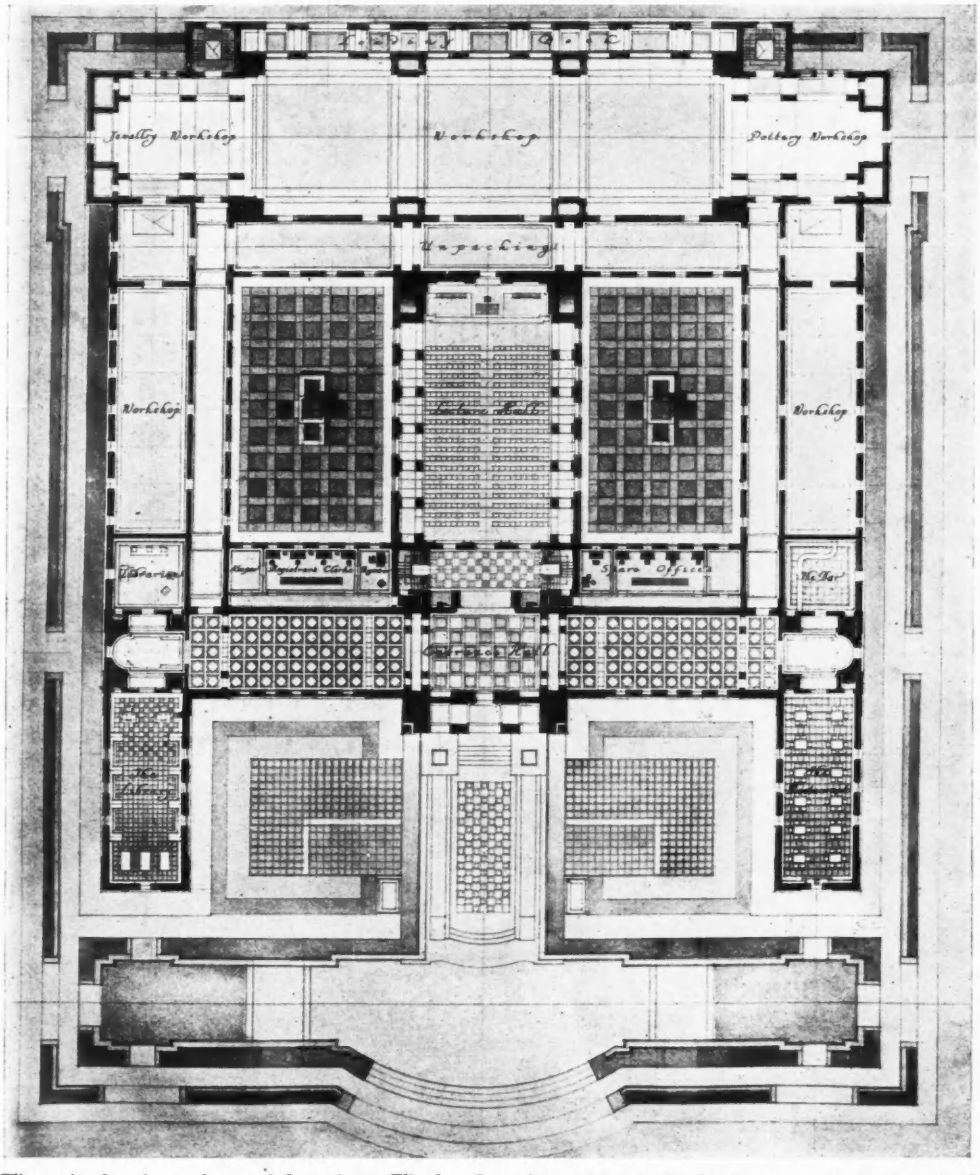
WORKING DETAILS : 76

DISPLAY SHELVING • TIMOTHY WHITE'S, SOUTHSEA • JOSEPH EMBERTON

Details of the display fittings illustrated overleaf.

THE ROME SCHOLARSHIP IN ARCHITECTURE

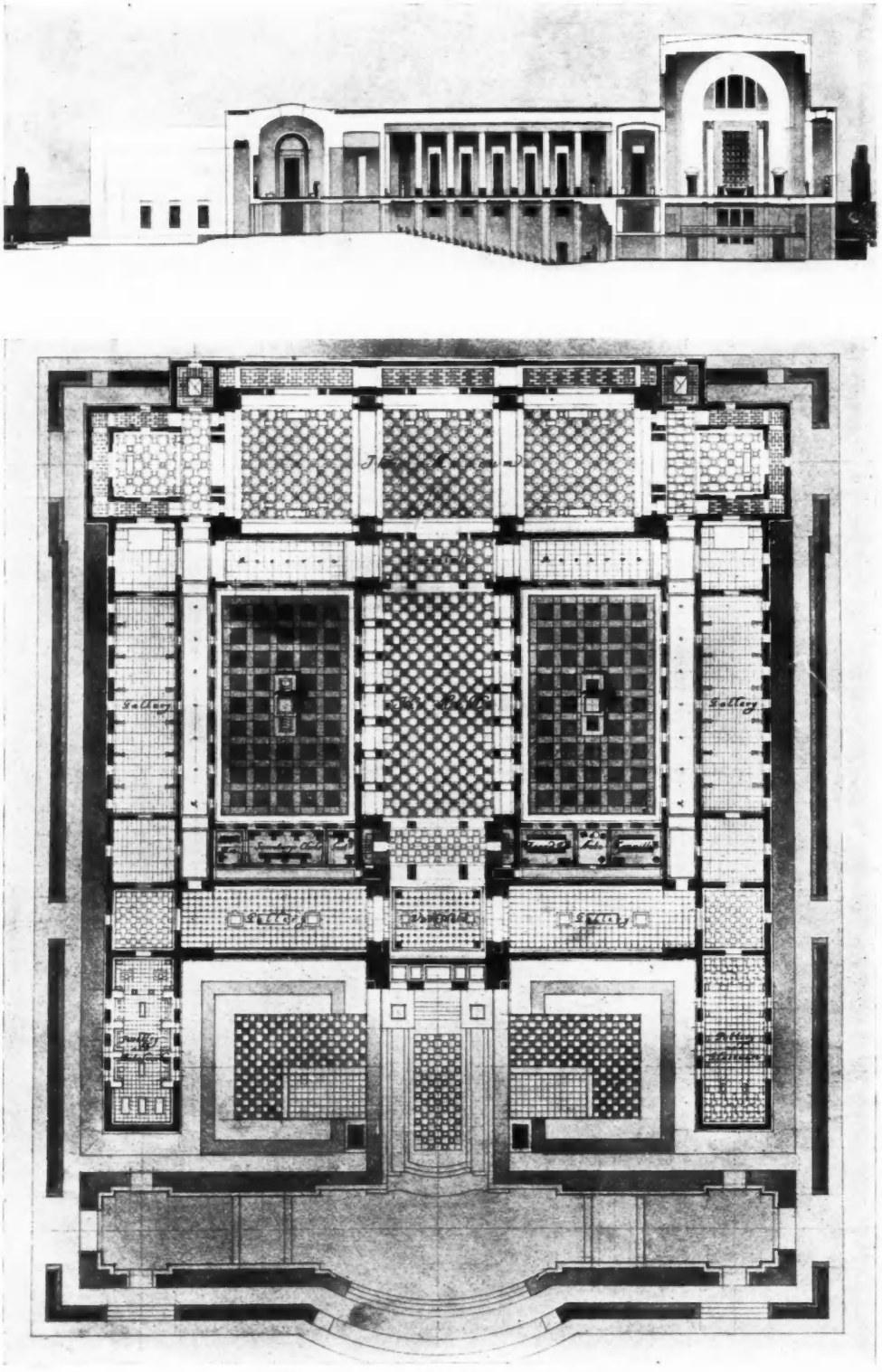




The main elevation and ground floor plan. The first floor plan and longitudinal section are reproduced overleaf.

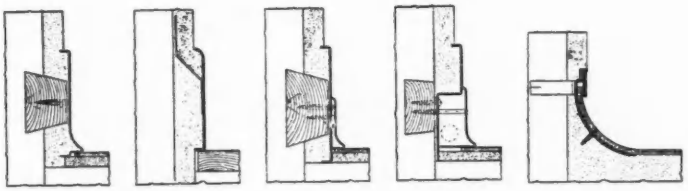
WINNING DESIGN : BY F. A. C. MAUNDER

THE ROME SCHOLARSHIP IN ARCHITECTURE



Longitudinal section (above) and first floor plan.

WINNING DESIGN: BY F. A. C. MAUNDER



TRADE NOTES

[BY F. R. S. YORKE, A.R.I.B.A.]

Sheet Steel

AT the International Congress for Steel Development, held at the Institution of Civil Engineers last week, Francis Lorne, F.R.I.B.A., delivered a lecture on the architectural use of sheet metal products, in the course of which he attributed the growing use of metal sheet in building construction to the fact that it is the strongest, cleanest, lightest, most durable and most constant non-combustible material known today. It is superseding wood in almost every department of building, for, with the increasing use of central heating systems, wood is subject to movement, shrinkage and splitting under heat, and expansion and creeping in moist atmosphere. It is subject to rot and decay and harbours vermin. Sheet metal, properly protected against moisture, is free from these disadvantages.

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Sheet metal is used for stairs, doors and door frames, skirtings, picture rails, partitions, ventilation ducts, floors, furniture, refrigerators, stoves and lighting fixtures.

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With the inception of the steel frame, the old manner of climbing by ladders from floor to floor was found inconvenient.

Stairs

Shortly after the steel frame was invented it was found that the old manner of climbing by ladders from floor to floor was inconvenient. It became necessary to find a stair strong enough to stand the rough usage of preliminary work in building, yet capable of serving the function of groundwork for the finished stairs. Sheet metal stairs solve the problem. They go up with the steel frame, are used for the period of building construction, and are finally clothed with various material finishes. We have not yet arrived at the final solution of this light steel stair because there is the prevailing tendency among architects to dress it up with stone, marble, terrazzo, etc., in fact, to make it look like the traditional stone stair of a dead period instead of treating it on its own merits. The error is twofold. It is first bad design to make it appear something which it is not, and secondly it merely loads the structure with unnecessary heavy materials which is uneconomical. For universal application the solution lies in the near future with the frank acceptance and intelligent design of the sheet metal product.

Metal Floors

Sheet steel floors are being used in increasing quantities in boiler and machine rooms. They are removable in panels for easy access to pipes and ducts. The floor sheets lie level with one another on small steel members, and are serrated to provide a non-skid surface.

Skirtings and Picture Mouldings

Flush metal skirtings and picture mouldings are used more extensively today, but they must be plain and flush, and not made to imitate wood mouldings. At the moment difficulty is experienced with the junctions at external and internal angles. The solution at present is to apply a specially prepared junction on the cover lap principle. This, Mr. Lorne considers, is not entirely satisfactory. It is possible that someone will produce a convenient, light apparatus for cutting and welding the junctions satisfactorily *in situ*. Should the metal partition be developed to more common use the skirting will disappear. Its function at present is to protect the plaster wall at or near the floor line, but when plaster goes it will or should go with it.

Wall Facings

Mr. Lorne concludes by discussing future developments, and having outlined the modern function of the wall as a non-supporting member he talks of its fabrication in sheet metal.

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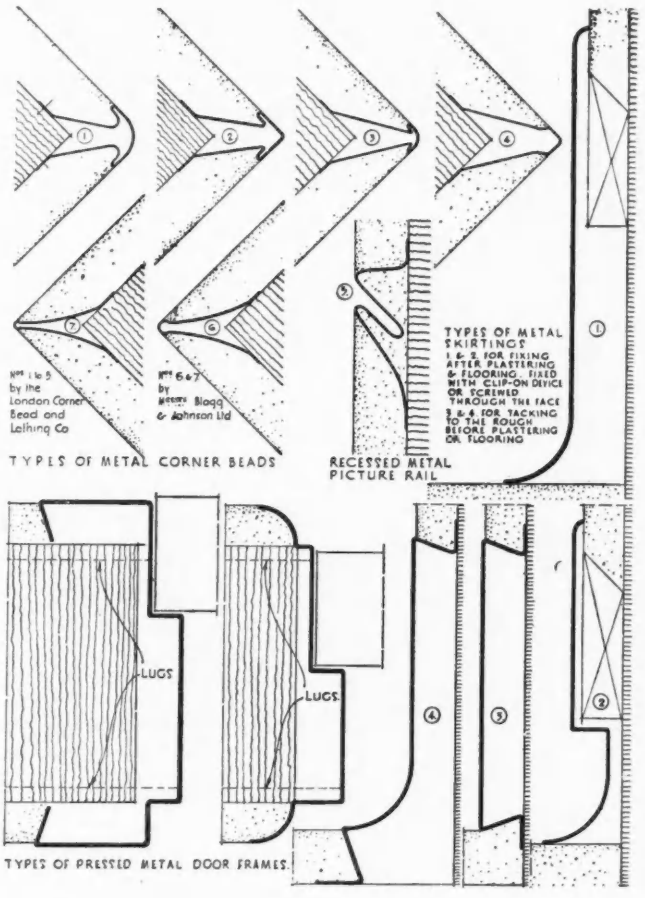
Provided we find a satisfactory permanent material of sheet metal for the exterior face of the building it will be necessary for us to produce on this surface a satisfactory finish which may be inherent in the material itself, or it must be capable of having a satisfactory finish applied. The finish inherent in the material itself may lie along the line of copper aluminium or stainless steel produced at market prices. It will not be necessary for it to be exactly



Some typical light steel sections for "interior trim."

comparable in cost with the present external walling because the new form will be light as the old form was heavy, and we shall be able to take advantage of the lightness of the wall in the new form to reduce the size of the steel frame and incidentally the whole weight and cost of the building. On the other hand, if the material in itself is not capable of a good finish it may be possible to apply a finish to it which may lie along the lines of cellulose as applied to the exterior of the modern motor car or coloured enamel as on the outside of refrigerators. It will be necessary for us to consider the transportation of the sheets of material, their size, convenience in handling and the fastening of them either by tap screws or welding to the steel frame. The insulation of these exterior walls may be done by either cork or aluminium foil similar to that of refrigerator walls, but whatever the form it must meet the exacting conditions of suitability for purpose and must be brought to a market value.

Electric Lighting

In a new brochure entitled *Scientific Lighting*, Allom Brothers point out that scientific lighting is rare and every day we see examples of wasteful methods. They then give examples of interiors efficiently illuminated by their system, which depends upon a number of key patents, and is claimed to be applicable to any lighting problem.

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In a note on the lighting of games courts the following intensities in foot candles at floor level and current consumption in units per hour are suggested :—

Tennis : 15 ft. c. at 8-9 units per hour.
Covered lawn tennis : 15 ft. c. at 8-9 units per hour.
Racquets : 25-30 ft. c. at 6 units per hour.
Squash racquets : 25-30 ft. c. at 1 unit per hour.
Badminton : 25-30 ft. c. at 1-1½ units per hour.

IN PARLIAMENT

[BY OUR SPECIAL REPRESENTATIVE]

Housing

An important statement of housing progress was made in the House of Commons last week by the Minister of Health.

Sir Hilton Young said that the year had been one of tremendous activity, particularly in regard to the slum clearance campaign. During 1933-34 some 2,250 slum areas had been declared, covering 37,000 houses and 172,000 people. They had multiplied the rate of progress of slum clearance in this initial stage of the campaign by five. That rate was increasing monthly, and with this rate of acceleration the Government should achieve the programme of the White Paper in the course of the five years. That was a bold thing to say, and it was quite true that the present rate of acceleration was not sufficient for the programme to be carried out in that time. They must speed it up more. But, with his knowledge of what was going on, he would be confident that unless there was any setback they had achieved a rate of progress now which encouraged him to say that the five years would see the programme substantially carried out.

It would take intensive work on the part of the local authorities and the Ministry, with the support of all forms of public opinion, to enable the pressure to be kept up, but he believed that it could be done. During the year he had reorganized the housing work of the Ministry to meet the new intensive burdens which were being put on it ; all the work had been put in a single department under a director of housing. Town planning was an important consideration here ; it was essential to put the right house in the right place ; and town planning and housing work had been put in the same department under the same director. It had involved an increase of staff, but they were doing a great deal of work.

The year had seen a tremendous boom in the building of small houses in general. They were now building them at the rate of 300,000 a year, and they had been building 155,000 a year for the lower-paid wage-earners. This astonishing activity in the production of houses had followed the Act of 1933, and was the result of the encouragement given to private enterprise. Critics would say that rents were not yet low enough, and it was true that rents showed an excess in comparison with the cost of other necessaries of life in relation to the standard of living. Means of solving that problem would have to be found.

What they were at present achieving was a rapid overtaking of the shortage of houses, and the full effect on rents could not be expected until that shortage was more fully overtaken. Help was given wherever there was a need for it in order to provide houses at rents which wage-earners could pay, leaving to private enterprise those fields where it could provide houses on an economic basis. Help had to be given in replacing the slum dweller and in re-housing the overcrowded population in the centres of our great towns.

The more he studied the housing problem the more he became persuaded that it could not be dealt with effectively without enlisting the help of the local government authorities in the towns and the rural districts. A wise distribution of power as between the local authorities and the central Government was the most effective way of tackling these problems, and the best way to make vital the discharge of the social services was to enlist to the full the intimate knowledge of local conditions and the keen personal interest in local conditions of the men on the spot.

LAW REPORT

USE OF SCAFFOLD POLES : LIABILITY

Arthur B. Wright, Ltd. v. Jenson and Sons, Ltd.—King's Bench Division. Before Mr. Justice Roche.

THIS was an action by Arthur B. Wright, Ltd., builders of Claskel Gate, Lincoln, to recover from Jenson and Sons, Ltd., timber importers and merchants, of St. Clements, Norwich, and damages for alleged breach of contract on the sale of scaffold poles.

The litigation arose over an accident which occurred at Lincoln in September last year, when a workman named John Nixon was killed and two other men were injured through the collapse of some scaffolding erected in the interior of the Hannah Memorial Methodist Church.

Mr. Cave, K.C., for the plaintiffs, said that four of the scaffold poles which were ordered by them from the defendants and which were afterwards delivered at the church for use by the plaintiffs were used in the erection of scaffolding. On September 14, last year, one of these poles snapped, causing part of the scaffolding to collapse when Nixon was injured, dying next day from his injuries, and two other workmen were injured.

As a result of the accident plaintiffs had had to pay to Nixon's widow and the two other men who were injured over £600 as compensation and this sum they now claimed to be indemnified by the defendants. There was, said Counsel, a rotten patch in the pole in question which was difficult to see and which nobody but an expert could have detected. The pole, he said, "snapped like a carrot."

The defence was a denial of liability. They (the defendants) contended they were under no duty either to test the poles or to inform the plaintiffs that they had not tested them for strength on soundness. They also contended that the scaffolding collapsed owing to the negligence of the plaintiffs in allowing the poles to be used, without removing the bark and by using an insufficient number of poles in the erection of the scaffolding.

After hearing the evidence his lordship gave judgment for the defendants. He said he came to the conclusion that the pole was perfectly sound and which to all appearance was composed of perfectly sound wood. He arrived at that conclusion because of the evidence given by the witnesses for the defence and because of the evidence of his own eyes. He accordingly gave judgment for the defendants with costs.

THE BUILDINGS ILLUSTRATED

Sub-Contractors' List

Following are the names of the general contractors and some of the sub-contractors for the buildings illustrated in this issue :—

Timothy White's Shop (pages 944-948). Sub-contractors : Starkie Gardner, Ltd., metal work to shop front ; James Clark and Son, Ltd., glazing to shop front ; Davis and Son, shopfitting, hardware dept., D. Burkle and Son, shopfitting in drug dept., General Electric Co., electric light fittings ; A. E. Porter & Co., structural work ; Inlaid Ruboleum Tile Co., Lintile flooring to showrooms ; Ionlite, Ltd., neon installation.

"Aulion," Coombe Park, Surrey (pages 932-933). General contractor, Frank J. Privett. Sub-contractors : W. Baxter Elliot, artificial stonework ; James Gibbons, Ltd., metal doors and casements and ironmongery ; James Bolding and Sons, Ltd., sanitary fittings ; W. Bainbridge Reynolds, Ltd., wrought iron gates, balustrading, etc. ; T. F. Lummus, electrical work ; Art Pavements and Decorations, Ltd., wall and floor tiling ; Ragusa Asphalte Paving Co., Ltd., asphalting.

The Cave Man, Cheddar Gorge (pages 822, 829-831). General contractors, C. A. Hayes and Sons. Mural paintings in restaurant carried out in Stic B. paint by Eliot Hodgkin. Sub-contractors : Siegwart Fireproof Floor Co., Ltd., floors and roof ; Cement Marketing Co., Ltd., external rendering ; Crittall Manufacturing Co., Ltd., windows ; Benham and Sons, Ltd., heating and kitchen utensils ; Marryat and Place, Ltd., electrical work ; Express Lift Co., Ltd., lifts ; Venesta, Ltd., doors and lavatory partitions ; Dryad Metal Works, door furniture ; Cellulin Flooring Co., Lintile flo orsin restaurant, kitchen and services ; Leeds Fireclay Co., Ltd., sanitary fittings ; Lockerbie and Wilkinson (Birmingham), Ltd., lavatory locks ; Turpin's Parquet Flooring Co., Joinery and Woodcarving Co., temporary dance floor ; Garrard Clocks, Ltd., clocks ; R. W. Brooke & Co., Ltd., wood block floor in manager's office ; Alfred Imhof, Ltd., radio gramophone ; National Cash Register Co., Ltd., loud speakers; Gordon Russell, Ltd., furniture ; Best and Lloyd, Ltd., Merchant Adventurers, Benjamin Electric, Ltd., lighting fittings.

THE WEEK'S BUILDING NEWS

LONDON & DISTRICTS (15-MILE RADIUS)

BRIXTON. *School.* The L.C.C. has approved preliminary plans for the erection of an elementary school at Vassell Road, at an estimated cost of £27,925.

CAMBERWELL. *Re-housing.* The L.C.C. is to clear the Nigel buildings area, and provide rehousing accommodation, at a cost of £26,000.

EALING. *Estate Development.* The Corporation has approved estate plans submitted by Messrs. Swannell and Sly, on behalf of the Hillingdon Estate Co., for the development of Northolt Park estate, Messrs. R. Lancaster and Sons, Ltd., for Perivale Park Estate West, and Messrs. Swannell and Sly, on behalf of the Hillingdon Estate Co., for Oldfield Park estate.

FULHAM. *Dwellings.* The B.C. is to purchase a site from Messrs. Meux's Brewery Co., Ltd., at Carnwath Road, and erect dwellings thereon for the rehousing of tenants displaced under clearance schemes, at an estimated total cost of £17,920.

ILFORD. *Houses.* Plans passed by the Corporation: Six shops, Green Lane, and 56 bungalows, Kelston Road, etc., for Mr. G. F. Seigerts; houses, Mossford Park estate, for New Ideal Homesteads, Ltd.; houses, Parkside estate, for Ilford Building Co., Ltd.; two houses, Roding Lane, for Mr. S. J. Clapp; three bungalows, Roding Lane, for Mr. P. G. Lees; 18 houses, Spearpoint Gardens, for Mr. J. Aldridge; 10 houses, Hastings Avenue, for Mr. T. Anders; development, Clayburn Park estate, for Messrs. Atkinson and Marler; eight shops and houses, Wangey Lane, for Mr. J. T. Perrin; six shops and houses, Cranbrook Road, for Messrs. Lewis Solomon and Son; five houses, Fairmead Gardens, for Messrs. P. G. Ashton and Sons; four houses, Emmott Avenue, for Mr. W. Wakeling.

LEWISHAM. *Houses.* Plans passed by the B.C.: Six houses, Le May Avenue, for Mr. C. G. Eaglen; 14 houses, Sydenham Park Road, for Messrs. Brett and Son; 10 houses, Sunderland Road, for Mr. J. C. Anderson; houses, Butterfield Street, Lee, for New Ideal Homesteads, Ltd.

LEWISHAM. *Clinic.* The B.C. has further considered the scheme for the erection of a maternity and child welfare clinic and tuberculosis dispensary on the Priory site, High Street, and has now approved the plans submitted in respect thereof, and is to obtain tenders for the necessary works. The cost is estimated at £14,247.

SHOREDITCH. *Dwellings.* The B.C. has approved plans for the erection of a block of dwellings at Clarissa Street, Haggerston, at an estimated cost of £12,500.

WATERLOO. The L.C.C. recommends the tender of Sir William Arrol & Co., Ltd., for the demolition of the existing Waterloo Bridge, and the maintenance of the temporary bridge during the period of demolition, on a "value-cost" basis.

WESTMINSTER. *Flats, etc.* The City Council reports that Associated London Properties, Ltd., proposes to proceed with the development of land bounded by Page Street, Thorney Street, the London Ice Club, and New Street, by the erection of a block of flats, and the erection of licensed premises.

WESTMINSTER. *Flats, etc.* Plans passed by the City Council: Shops and flats, 53-4 Brooks Mews, for Mr. G. Lacoste; lay-out of site, Page Street and Marsham Street, for Messrs. T. P. Bennett and Son; flats, Westminster Court, for Mr. W. Wylton Todd; flats, Curzon Court, for Messrs. Scott and Leicester.

SOUTH-WESTERN COUNTIES

PAIGNTON. *Houses, etc.* Plans passed by the U.D.C.: Two houses, Edenvale Road, for Mr. P. D. Cavanna; two bungalows, Pines Road, for Mr. J. Maunder; eight bungalows, Titchfield Gardens, for Mr. E. A. Jonas; 23 houses, Bay Mount estate, Blatchcombe Road, for Mr. A. Chippindake; four bungalows, Pines Road, for Mr. R. J. Yeo; two bungalows, Shorton Valley Road, for Mr. E. F. Stockman; 11 houses, Pines Road, for Mr. W. Thompson; two houses, Footlands Road, for Mr. F. Norman.

TORQUAY. *Houses.* Plans passed by the Corporation: Four houses, Windsor Road, for Mr. G. S. Harris; development, Town Park estate, Shiphay, for Messrs. A. S. and S. G. Haywood; two houses, Cadewell Lane, for Mr. E. Bowden; four houses, Marldon Road, for Mr. J. F. Maude; two houses, Caldwell Lane, for Mr. E. Gaunt; six houses, Burridge Road, for Sherwell Builders, Ltd.; development, Sherwell Valley estate, for Cockington Trust, Ltd.; six houses, Newton Road, for Messrs. H. Lloyd and Son; five houses, Ash Hill Road, for Mr. J. H. Chapple; two bungalows, Upper Cockington Lane, for Mr. R. Smalley; three houses, off Trumlands Road, for Mr. E. G. Milford.

SOUTHERN COUNTIES

HORSHAM. *School.* The West Sussex Education Committee is to extend the High School for Girls by the provision of an assembly hall, a domestic subjects room, laboratories, etc., at a total estimated cost of £11,350.

EASTERN COUNTIES

NORWICH. *Municipal Offices.* The Municipal Offices Committee of the Corporation has further considered the proposed scheme for the erection of new municipal and police offices, and reports receipt of a letter from the Ministry of Health stating that it has approved in principal the proposals of the Corporation, in respect of which sanction has been made to borrow £226,500, and that the Ministry now awaits the receipt of detailed drawings and lay-out plans. The Committee decided to arrange with the architects for the submission of the necessary plans to the Ministry and, on approval thereof, to invite tenders for the erection of the buildings.

MIDLAND COUNTIES

SEDGLEY. *Houses.* Plans passed by the U.D.C.: Two houses, Dudley Walk, for Mrs. Ray; two houses, High Street, for the Gerald Trust, Birmingham; house and shop, Summer Lane, for Mr. S. Brecknell; two houses, Summer Lane, for Mr. J. Davies; two houses, Honor Avenue, for Messrs. Washbourne Bros.; two houses, Tipton Road, for Mr. S. F. Pope; three houses, Bank Road, for Mr. T. Booth; two houses, Dudding Road, for Mr. S. Brookes; two houses, Rosemary Crescent, for Mr. A. I. Jones; two houses, Dudding Road, for Mr. L. C. Sutton. Plans submitted to the U.D.C.: New streets, Goldthorn estate, for Messrs. Himley Estates, Ltd.

WALSALL. *Workshops, etc.* The Corporation has approved amended plans for the erection of an institution and workshops for the blind, at Hatherton Road, at an estimated cost of £10,000.

WOLVERHAMPTON. *Houses, etc.* Plans passed by the Corporation: Cinema, Stafford Road, Bushbury, for Dunstall Picture House Co.; two bungalows, Church Road, for Mr. W. Sharratt; 30 houses, Marsh Lane, for Mr. L. T. Taylor; two houses, Rookery Lane, for Mr. W. Winsper; two houses, Woodland Road, for Messrs. R. and E. Goring; two houses, Bowker Street, for Mr. R. Main; four houses, Woodland Road, for Mr. J. R. Wooddisse; 48 houses, Dunstall Hill estate, for Mr. H. Grindley; six houses, Finchfield estate, for Messrs. R. and E. Goring; 30 houses, Church Road, Bradmore, for Mr. G. Wilkes; six houses, Green Lane, for Messrs. Lowe and Pagett; three houses, Coleman Street, for Mr. H. Edwards; four houses, Marsh Lane, for B. and E. Estates; two blocks of houses, Grosvenor Street, for Mr. H. Webberley; two shops, Hollybush Lane, for Mr. G. Wright; three houses, Stoney Lane, for Mr. W. G. Corfield; three houses, Penn Court estate, for Messrs. Shutt Bros.; two bungalows, Pond Lane, for Clifton Estate Co.; four shops, Whetstone Green, for Mrs. E. Watson; 98 houses, Aldersley Road, for Messrs. Blackburn and Crossland; four houses, Finchfield Lane, for Mr. J. J. Towers; 30 houses, Marsh Lane, Oxley, for Mr. L. T. Taylor.

NORTHERN COUNTIES

BLYTH. *Houses.* The Corporation is to erect 52 houses at Crawford Street by direct labour at an estimated cost of £13,862.

BOLTON. *Houses, etc.* Plans passed by the Corporation: Twelve houses, Thorncliffe Road for Messrs. F. and H. Douglas; two houses, Strawberry Hill Road, for Mr. J. Morris; two houses, Boscobel Road, for Messrs. E. and S. Street, Ltd.; six houses, Newport Road, for Mr. J. G. Holland; five houses, Hurst Street, for Mr. Joseph Flitcroft; 40 houses, Smithills Hall estate, for Messrs. Reddy and Southern; 12 houses, Forester Street, for Mr. William Astley; two houses, Junction Road, for Mr. A. Greenhalgh; two houses, Markland Hill Lane, for Messrs. J. H. Pearse and Son; six houses, off Withins Lane, for Messrs. W. and H. Brooks; six houses, Longfellow Avenue, for Mr. J. Hough.

CARLISLE. *Houses.* Plans passed by the Corporation: Six houses, Etterby Road, for Messrs. Benwell and Slack; eight houses, Bower Street, for Messrs. Benwell and Slack; four houses, Scotland Road, for Messrs. A. Blakeley and Sons; four houses, Upperby Road for Mr. R. I. Hoodless; two houses, Knowe Road, for Mr. S. Mann; 16 houses, Upperby, for Mr. S. W. B. Jack; two houses, Warwick Road, for Mr. F. Martindale; estate layout and 12 houses, Knowefield Estate, for Mr. I. Graham; two houses, Newtown Road, for Mr. H. E. Scarborough.

PENRITH. *Houses.* The U.D.C. is to prepare plans for the erection of 50 houses on a site being selected.

ROTHERHAM. *Swimming Bath.* The Corporation is to prepare estimates for the provision of a new swimming bath.

TUNSTALL. *Houses.* Plans passed: Two bungalows, Mellor Street, for Messrs. Bailey and Gibson; two houses, Barber Road, for Messrs. Ray and Son; 17 houses, High Street, Newfields, for Messrs. W. and P. Adams; two houses, Leek Road, for Mr. J. Slade.

WALLSEND. *Houses.* Plans passed by the Corporation: Ninety-four houses, Bewick School estate, and 84 houses, Archer Street, for Messrs. Ball, Thomas and Lister, Ltd.; two houses, King's Road, for Mr. H. Hunter; 50 houses, Westlands estate, for Northern Homes and Estates, Ltd.; two houses, King's Road, for Mr. J. Dixon.

YORK. *Houses.* Plans passed by the Corporation: Four houses, Campleshon Road, for Mr. C. W. Blackburn; 14 houses, Hob Moor estate, for Mr. J. Foster; two houses, Walney Road, for Messrs. T. and M. Caffrey; nine houses, Thirlmere Drive, for Mr. J. N. Dunn; 12 almshouses, Avenue Road, for York Charity Trustees; house, Heslington Lane, for Mr. E. Grainger; 16 houses, Green Dykes Lane, for Mr. H. Williamson; two houses, Leyerthorpe, for York Gas Co.; two houses, Abbey Street, for Mr. A. Leaper; four houses, The Broadway, for Mr. T. Gledhill.

SCOTLAND

GLASGOW. *Bank.* The Corporation has passed revised plans, on behalf of the Commercial Bank of Scotland, Ltd., for the erection of a bank at the corner of Bothwell Street and Wellington Street.

GLASGOW. *Houses.* Messrs. Lawrence have submitted plans to the Corporation for the erection of 31 houses at Clarkston. The Corporation has purchased land at Govan, for the erection of 126 houses. The Corporation has approved plans for the erection of 722 houses on the Blackhill estate and for 232 at Blochairn.

WALES

CARDIFF. *Houses.* The Corporation is to obtain tenders for the erection of 200 houses at the Tremorfa estate, and 162 at the Ely estate.

RATES OF WAGES

The initial letter opposite every entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; Column II for labourers. The rate for craftsmen working at trades in which a separate rate maintains is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I s. d.	II s. d.
A_1	ABERDARE ..	S. Wales & M.	1 5	1 0½
A_1	Abergavenny ..	S Wales & M.	1 5	1 0½
A_2	Abingdon ..	S. Counties	1 4	1 0
A	Accrington ..	N.W. Counties	1 5½	1 1½
A_3	Addlestone ..	S. Counties	1 4	1 0
A	Adlington ..	N.W. Counties	1 5½	1 1½
A	Airdrie ..	Scotland	*1 5½	1 1½
C	Aldeburgh ..	E. Counties	1 1½	10½
A	Altrincham ..	N.W. Counties	1 5½	1 1½
B_2	Appleby ..	N.W. Counties	1 2	10½
A	Ashton-under-Lyne	N.W. Counties	1 5½	1 1½
A_2	Atherstone ..	Mid. Counties	1 4	1 0
B_2	Aylesbury ..	S. Counties	1 2½	11
B_1	BANBURY ..	S. Counties	1 3	11½
B_1	Bangor ..	N.W. Counties	1 3	11½
A_2	Barnard Castle	N.E. Coast	1 4	1 0
A	Barnsley ..	Yorkshire	1 5½	1 1½
B	Barnstaple ..	S.W. Counties	1 3½	11½
A	Barrow ..	N.W. Counties	1 5½	1 1½
A	Barry ..	S. Wales & M.	1 5½	1 1½
B_1	Basingstoke ..	S.W. Counties	1 3	11½
A_2	Bath	S.W. Counties	1 4½	1 0½
A	Batley ..	Yorkshire	1 5½	1 1½
A_2	Bedford ..	E. Counties	1 4½	1 0½
A_2	Berwick-on-Tweed	N.E. Coast	1 4½	1 0½
A_2	Bewdley ..	Mid. Counties	1 4½	1 0½
B_2	Bicester ..	S. Counties	1 2	10½
	Birkenhead ..	N.W. Counties	*1 7	1 2½
A	Birmingham	Mid. Counties	1 5½	1 1½
A_1	Bishop Auckland	N.E. Coast	1 5	1 0½
A	Blackburn ..	N.W. Counties	1 5½	1 1½
A	Blackpool ..	N.W. Counties	1 5½	1 1½
A	Blyth ..	N.E. Coast	1 5½	1 1½
B_1	Bognor ..	S. Counties	1 3	11½
A	Bolton ..	N.W. Counties	1 5½	1 1½
A_2	Boston ..	Mid. Counties	1 4	1 0
A_2	Bournemouth ..	S. Counties	1 4	1 0
B_2	Bovey Tracey	S.W. Counties	1 2½	11
A	Bradford ..	Yorkshire	1 5½	1 1½
A_1	Brentwood ..	E. Counties	1 5	1 0½
A	Bridgend ..	S. Wales & M.	1 5½	1 1½
B_1	Bridgwater ..	S.W. Counties	1 3	11½
A_1	Bridlington ..	Yorkshire	1 5	1 0½
A	Brighouse ..	Yorkshire	1 5½	1 1½
A_2	Brighton ..	S. Counties	1 4	1 0
A	Bristol ..	S.W. Counties	1 5½	1 1½
B_1	Brixham ..	S.W. Counties	1 2½	11
A_2	Bromsgrove ..	Mid. Counties	1 4½	1 0½
B_2	Bromyard ..	Mid. Counties	1 2	10½
A	Burnley ..	N.W. Counties	1 5½	1 1½
A	Burslem ..	Mid. Counties	1 5½	1 1½
A	Burton-on-Trent	Mid. Counties	1 5½	1 1½
A	Bury ..	N.W. Counties	1 5½	1 1½
A_1	Buxton ..	N.W. Counties	1 5	1 0½
A_1	CAMBRIDGE	E. Counties	1 5	1 0½
B_1	Canterbury ..	S. Counties	1 3	11½
A	Cardiff ..	S. Wales & M.	1 5½	1 1½
A	Carlisle ..	N.W. Counties	1 5½	1 1½
B	Carmarthen ..	S. Wales & M.	1 3½	11½
B	Carnarvon ..	N.W. Counties	1 3½	11½
A	Carnforth ..	N.W. Counties	1 5½	1 1½
A	Castleford ..	Yorkshire	1 5½	1 1½
B	Chatham ..	S. Counties	1 3½	11½
A_2	Chelmsford ..	E. Counties	1 4	1 0
A_2	Cheltenham ..	S.W. Counties	1 4	1 0
A	Chester ..	N.W. Counties	1 5½	1 1½
A	Chesterfield ..	Mid. Counties	1 5½	1 1½
B_1	Chichester ..	S. Counties	1 3	11½
A	Chorley ..	N.W. Counties	1 5½	1 1½
B_1	Cirencester ..	S. Counties	1 3	11½
A	Clitheroe ..	N.W. Counties	1 5½	1 1½
A	Clydebank ..	Scotland	1 5½	1 1½
A	Coalville ..	Mid. Counties	1 5½	1 1½
A_2	Colchester ..	E. Counties	1 4	1 0
A	Colne ..	N.W. Counties	1 5½	1 1½
A_2	Colwyn Bay ..	N.W. Counties	1 4½	1 0½
A_1	Consett ..	N.E. Coast	1 5	1 0½
A_2	Conway ..	N.W. Counties	1 4½	1 0½
A	Coventry ..	Mid. Counties	1 5½	1 1½
A_2	Crewe	N.W. Counties	1 4½	1 0½
A	Cumberland ..	N.W. Counties	1 4	1 0
A	DARLINGTON	N.E. Coast	1 5½	1 1½
A	Darwen ..	N.W. Counties	1 5½	1 1½
B_1	Deal	S. Counties	1 3	11½
A_2	Denbigh ..	N.W. Counties	1 4	1 0
A	Derby ..	Mid. Counties	1 5½	1 1½
A	Dewsbury ..	Yorkshire	1 5½	1 1½
B	Didcot ..	S. Counties	1 3½	11½
A	Doncaster ..	Yorkshire	1 5½	1 1½
B_2	Dorchester ..	S.W. Counties	1 2½	11
A	Driffield ..	Yorkshire	1 4	1 0
A_2	Droitwich ..	Mid. Counties	1 4½	1 0½
A	Dudley ..	Mid. Counties	1 5½	1 1½
A	Dundee ..	Scotland	1 5½	1 1½
A	Durham ..	N.E. Coast	1 5½	1 1½
A_2	EASTBOURNE	S. Counties	1 4	1 0
A_1	Ebbw Vale ..	S. Wales & M.	1 5	1 0½
A	Edinburgh ..	Scotland	1 5½	1 1½
A_1	E. Glamorganshire, Rhondda Valley District	S. Wales & M.	1 5	1 0½
A_2	Exeter ..	S.W. Counties	*1 4½	1 0½
B	Exmouth ..	S.W. Counties	1 3½	11½
A_2	FELIXSTOWE	E. Counties	1 4	1 0
A_2	Filey	Yorkshire	1 4	1 0
A	Fleetwood ..	N.W. Counties	1 5½	1 1½
B_1	Folkestone ..	S. Counties	1 3	11½
A	Frodsham ..	N.W. Counties	1 5½	1 1½
B_2	Frome	S.W. Counties	1 2½	11
A	GATESHEAD	N.E. Coast	1 5½	1 1½
B	Gillingham ..	S. Counties	1 3½	11½
A_2	Gloucester ..	S.W. Counties	1 4½	1 0½
A_2	Goole	Yorkshire	1 4½	1 0½
A_2	Gosport ..	S. Counties	1 4½	1 0½
A_2	Grantham ..	Mid. Counties	1 4	1 0
A_1	Gravesend ..	S. Counties	1 5	1 0½
A	Greenock ..	Scotland	*1 5½	1 1½
A	Grimsby ..	Yorkshire	1 5½	1 1½
B	Guildford ..	S. Counties	1 3½	11½
A	HALIFAX ..	York-shire	1 5½	1 1½
A	Hanley ..	Mid. Counties	1 5½	1 1½
A	Harrogate ..	Yorkshire	1 5½	1 1½
A	Hartlepools ..	N.E. Coast	1 5½	1 1½
B	Harwich ..	E. Counties	1 3½	11½
B_1	Hastings ..	S. Counties	1 3	11½
A_2	Hatfield ..	S. Counties	1 4½	1 0½
B	Hereford ..	S.W. Counties	1 3½	11½
A_2	Hertford ..	E. Counties	1 4½	1 0½
A	Heysham ..	N.W. Counties	1 5½	1 1½
A	Howden ..	N.E. Coast	1 5½	1 1½
A	Huddersfield ..	Yorkshire	1 5½	1 1½
A	Hull	Yorkshire	1 5½	1 1½
A	ILKLEY ..	Yorkshire	1 5½	1 1½
A	Immingham ..	Mid. Counties	1 5½	1 1½
A_2	Ipswich ..	E. Counties	1 4½	1 0½
B_2	Isle of Wight ..	S. Counties	1 2	10½
A	JARROW ..	N.E. Coast	1 5½	1 1½
A	KEIGHLEY ..	Yorkshire	1 5½	1 1½
B	Kendal ..	N.W. Counties	1 3½	11½
B	Keswick ..	N.W. Counties	1 3½	11½
A_2	Kettering ..	Mid. Counties	1 4½	1 0½
A_2	Kidderminster	Mid. Counties	1 4½	1 0½
B_1	King's Lynn ..	E. Counties	1 3	11½
A	LANCASTER ..	N.W. Counties	1 5½	1 1½
A_1	Leamington ..	Mid. Counties	1 5	1 0½
A	Leeds	Yorkshire	1 5½	1 1½
A	Leek	Mid. Counties	1 5½	1 1½
A	Leicester ..	Mid. Counties	1 5½	1 1½
A	Leigh	N.W. Counties	1 5½	1 1½
B_2	Lewes	S. Counties	1 2	10½
A_2	Lichfield ..	Mid. Counties	1 4½	1 0½
A	Lincoln	Mid. Counties	1 5½	1 1½
	Liverpool ..	N.W. Counties	*1 7	1 2½
A_2	Llandudno ..	N.W. Counties	1 4½	1 0½
A	Llanelly ..	S. Wales & M.	1 5½	1 1½
	London (12-miles radius)		1 7	1 2½
	Do. (12-15 miles radius)		1 6½	1 2
A	Long Eaton ..	Mid. Counties	1 5½	1 1½
A	Loughborough	Mid. Counties	1 5½	1 1½
A_3	Luton	E. Counties	1 4	1 0
A	Lytham ..	N.W. Counties	1 5½	1 1½
A_1	MACCLESFIELD	N.W. Counties	1 5	1 0½
B	Maidstone ..	S. Counties	1 3½	11½
A_3	Malvern ..	Mid. Counties	1 4	1 0
A	Manchester ..	N.W. Counties	1 5½	1 1½
A	Mansfield ..	Mid. Counties	1 5½	1 1½
B_1	Margate ..	S. Counties	1 3	11½
A	Matlock ..	Mid. Counties	1 4	1 0
A_1	Merthyr ..	S. Wales & M.	1 5	1 0½
A	Middesbrough	N.E. Coast	1 5½	1 1½
A_2	Middlewich ..	N.W. Counties	1 4½	1 0½
B_2	Minehead ..	S.W. Counties	1 2½	11
B_2	Monmouth & S. and E. Glamorganshire	S. Wales & M.	1 2½	11
A	Morecambe ..	N.W. Counties	1 5½	1 1½
A_2	NANTWICH ..	N.W. Counties	1 4½	1 0½
A	Neath	S. Wales & M.	1 5½	1 1½
A	Nelson ..	N.W. Counties	1 5½	1 1½
A	Newcastle ..	N.E. Coast	1 5½	1 1½
A	Newport ..	S. Wales & M.	1 5½	1 1½
A	Normanton ..	Yorkshire	1 5½	1 1½
A	Northampton ..	Mid. Counties	1 5½	1 1½
A	North Staffs ..	Mid. Counties	1 5½	1 1½
A	North Shields ..	N.E. Coast	1 5½	1 1½
A_1	Norwich ..	E. Counties	1 5	1 0½
A	Nottingham ..	Mid. Counties	1 5½	1 1½
A	Nuneaton ..	Mid. Counties	1 5½	1 1½
A_2	OAKHAM ..	Mid. Counties	1 4	1 0
A	Oldham ..	N.W. Counties	1 5½	1 1½
A_2	Oswestry ..	N.W. Counties	1 4	1 0
A_2	Oxford ..	S. Counties	1 4½	1 0½
A	PAISLEY ..	Scotland	*1 5½	1 1½
B_2	Pembroke ..	S. Wales & M.	1 2	10½
A	Perth ..	Scotland	*1 5½	1 1½
A_2	Peterborough ..	E. Counties	1 4½	1 0½
A	Plymouth ..	S.W. Counties	*1 5½	1 1½
A	Pontefract ..	Yorkshire	1 5½	1 1½
A_1	Pontypridd ..	S. Wales & M.	1 5	1 0½
A_2	Portsmouth ..	S. Counties	1 4½	1 0½
A	Preston ..	N.W. Counties	1 5½	1 1½
A	QUEENSFERRY	N.W. Counties	1 5½	1 1½
A_2	READING ..	S. Counties	1 4½	1 0½
B	Reigate ..	S. Counties	1 3½	11½
A_2	Retford ..	Mid. Counties	1 4	1 0
A_1	Rhondda Valley	S. Wales & M.	1 5	1 0½
A_2	Ripon	Yorkshire	1 4	1 0
A	Rochdale ..	N.W. Counties	1 5½	1 1½
B	Rochester ..	S. Counties	1 3½	11½
A_1	Ruabon ..	N.W. Counties	1 5	1 0½
A	Rugby ..	Mid. Counties	1 5½	1 1½
A_2	Rugeley ..	Mid. Counties	1 4½	1 0½
A	Runcorn ..	N.W. Counties	1 5½	1 1½
A_1	ST. ALBANS ..	E. Counties	1 5	1 0½
A	St. Helens ..	N.W. Counties	1 5½	1 1½
B_2	Salisbury ..	S.W. Counties	1 2½	11
A_1	Scarborough ..	Yorkshire	1 5	1 0½
A	Scunthorpe ..	Mid. Counties	1 5½	1 1½
A	Sheffield ..	Yorkshire	1 5½	1 1½
A	Shipley ..	Yorkshire	1 5½	1 1½
A_2	Shrewsbury ..	Mid. Counties	1 4½	1 0½
A_2	Skipton ..	Yorkshire	1 4½	1 0½
A_2	Slough ..	S. Counties	1 4½	1 0½
A_1	Solihull ..	Mid. Counties	1 5	1 0½
A_2	Southampton ..	S. Counties	1 4½	1 0½
A_2	Southend-on-Sea	E. Counties	1 4½	1 0½
A	Southport ..	N.W. Counties	1 5½	1 1½
A	S. Shields ..	N.E. Coast	1 5½	1 1½
A_1	Stafford ..	Mid. Counties	1 5	1 0½
A	Stockport ..	N.W. Counties	1 5½	1 1½
A	Stockton-on-Tees	N.E. Coast	1 5½	1 1½
A	Stoke-on-Trent	Mid. Counties	1 5½	1 1½
B	Stroud ..	S.W. Counties	1 3½	11½
A	Sunderland ..	N.E. Coast	1 5½	1 1½
A	Swadlincote ..	Mid. Counties	1 5½	1 1½
A	Swansea ..	S. Wales & M.	1 5½	1 1½
A_3	Swindon ..	S.W. Counties	1 4	1 0
A_1	TAMWORTH ..	N.W. Counties	1 5	1 0½
B	Taunton ..	S.W. Counties	1 3½	11½
A	Teesside Dist. ..	N.E. Counties	1 5½	1 1½
A_3	Teignmouth ..	S.W. Coast	1 4	1 0
A	Todmorden ..	Yorkshire	1 5½	1 1½
A_1	Torquay ..	S.W. Counties	1 5	1 0½
B_2	Truro	S.W. Counties	1 2½	11
B	Tunbridge Wells	S. Counties	1 3½	11½
A	Tunstall ..	Mid. Counties	1 5½	1 1½
A	Tyne District ..	N.E. Coast	1 5½	1 1½
A	WAKEFIELD	Yorkshire	1 5½	1 1½
A	Walsall ..	Mid. Counties	1 5½	1 1½
A	Warrington ..	N.W. Counties	1 5½	1 1½
A_1	Warwick ..	Mid. Counties	1 5	1 0½
A_2	Wellingborough	Mid. Counties	1 4½	1 0½
A	West Bromwich	Mid. Counties	1 5½	1 1½
A_2	Weston-s.-Mare	W. Counties	1 4½	1 0½
A_2	Whitby ..	Yorkshire	1 4½	1 0½
A	Widnes ..	N.W. Counties	1 5½	1 1½
A	Wigan	N.W. Counties	1 5½	1 1½
B	Winchester ..	S. Counties	1 3½	11½
A_2	Windsor ..	S. Counties	1 4½	1 0½
A	Wolverhampton	Mid. Counties	1 5½	1 1½
A_2	Worcester ..	Mid. Counties	1 4½	1 0½
A_2	Worksop ..	Yorkshire	1 4	1 0
A_1	Wrexham ..	N.W. Counties	1 5	1 0½
A_2	Wycombe ..	S. Counties	1 4	1 0
B_1	YARMOUTH ..	E. Counties	1 3	11½
B_1	Yeovil	S.W. Counties	1 3	11½
A	York	Yorkshire	1 5½	11½

* In these areas the rates of wages for certain trades (usually painters and plasterers) vary slightly from those given.

The rates for every trade in any given area will be sent on request.

CURRENT PRICES

The wages are the standard Union rates of wages payable in London at the time of publication. The prices given below are for materials of good quality, and include delivery to site in Central London area, unless otherwise stated. For delivery outside this area, adjustment should be made for the cost of transport. Though every care has been taken in its compilation, it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry. The whole of the information given is copyright.

WAGES

	£ s. d.
Bricklayer . . . . . per hour	1 7
Carpenter . . . . . ,,	1 7
Joiner . . . . . ,,	1 7
Machinist . . . . . ,,	1 8
Mason (Banker) . . . . . ,,	1 7
,, (Fixer) . . . . . ,,	1 8
Plumber . . . . . ,,	1 7
Painter . . . . . ,,	1 6
Paperhanger . . . . . ,,	1 6
Glazier . . . . . ,,	1 7
Slater . . . . . ,,	1 7
Scaffolder . . . . . ,,	1 3
Timberman . . . . . ,,	1 3
Navvy . . . . . ,,	1 2½
General Labourer . . . . . ,,	1 2½
Lorryman . . . . . ,,	1 5
Crane Driver . . . . . ,,	1 6
Watchman . . . . . per week	2 10 0

MATERIALS

EXCAVATOR AND CONCRETOR

	£ s. d.
Grey Stone Lime . . . . . per ton	2 2 0
Blue Lias Lime . . . . . ,,	1 16 6
Hydrated Lime . . . . . ,,	3 0 9
Portland Cement, in 4 ton lots (d/d site, including Paper Bags) . . ,,	1 18 0
Rapid Hardening Cement, in 4 ton lots (d/d site, including Paper Bags) ,,	2 5 6
White Portland Cement, in 1 ton lots ,,	8 15 0
Thames Ballast . . . . . per Y.C.	6 3
¾" Crushed Ballast . . . . . ,,	6 9
Building Sand . . . . . ,,	7 3
Washed Sand . . . . . ,,	8 3
2" Broken Brick . . . . . ,,	8 0
¾" ,, ,, ... ,,	10 3
Pan Breeze . . . . . ,,	6 6
Coke Breeze . . . . . ,,	8 9

DRAINLAYER

BEST STONEWARE DRAIN PIPES AND FITTINGS

	4" s. d.	6" s. d.
Straight Pipes . .per F.R	0 9	1 1
Bends . . . . each	1 9	2 6
Taper Bends . . ,,	3 6	5 3
Rest Bends . . ,,	4 3	6 3
Single junctions . . ,,	3 6	5 3
Double . . . . ,,	4 9	6 6
Straight channels . .per F.R.	1 6	2 6
¾" Channel bends . . each	2 9	4 0
Channel junctions . . ,,	4 6	6 6
Channel tapers . . ,,	2 9	4 0
Yard gullies . . ,,	6 9	8 9
Interceptors . . ,,	16 0	19 6
IRON DRAINS:		
Iron drain pipe . . per F.R.	1 6	2 6
Bends . . . . each	5 0	10 6
Inspection bends . . ,,	9 0	15 0
Single junctions . . ,,	8 9	18 0
Double junctions . . ,,	13 6	30 0
Lead wool . . . lb.	6	—
Gaskin . . . ,,	5	—

BRICKLAYER

	£ s. d.
Flettons . . . . . per M.	2 18 0
Grooved do. . . . . ,,	3 0 0
Phorpres bricks . . . . . ,,	2 17 3
Phorpres Cellular bricks . . . ,,	2 17 3
Stocks, 1st quality . . . . ,,	4 11 0
,, 2nd ,, ... ,,	4 2 6
Blue Bricks, Pressed . . . ,,	8 17 6
,, Wirecuts . . . ,,	7 17 6
,, Bindles . . . ,,	7 0 0
,, Bullnose . . . ,,	9 0 0
Red Sand-faced Facings . . . ,,	6 18 6
Red Rubbers for Arches . . ,,	12 0 0
Multicoloured Facings . . . ,,	7 10 0
Luton Facings . . . . ,,	7 10 0
Phorpres White Facings . . . ,,	3 17 3
Phorpres Rustic Facings . . . ,,	3 12 3
Midhurst White Facings . . . ,,	5 0 0
Glazed Bricks, Ivory, White or Salt glazed, 1st quality:	
Stretchers . . . . . ,,	21 0 0
Headers . . . . . ,,	20 10 0
Bullnose . . . . . ,,	27 10 0
Double Stretchers . . . . ,,	29 10 0
Double Headers . . . . ,,	26 10 0
Glazed Second Quality, *Less* . ,,	1 0 0
,, Buffs and Creams, *Add* . ,,	2 0 0
,, Other Colours . . . ,,	5 10 0
2" Breeze Partition Blocks . . per Y.S.	1 7
2½" ,, ,, ,, . . . ,,	1 10
3" ,, ,, ,, . . .	2 1
4" ,, ,, ,, . . . ,,	2 6

MASON

	s. d.
The following d/d F.O.R. at Nine Elms:	
Portland stone, Whitbed . . F.C.	4 4½
,, ,, Basebed . . ,,	4 9
Bath stone . . . . . ,,	2 11
York stone . . . . . ,,	6 6
,, ,, Sawn templates . ,,	7 6
,, ,, Paving, 2" . . F.S.	1 8
,, ,, 3" . . ,,	2 6

SLATER AND TILER

First quality Bangor or Portmadoc slates d/d F.O.R. London station

	£ s. d.
24" × 12" Duchesses . . per M.	28 17 6
22" × 12" Marchionesses . . ,,	24 10 0
20" × 10" Countesses . . ,,	19 5 0
18" × 10" Viscountesses . . ,,	15 10 0
18" × 9" Ladies . . . . ,,	13 17 6
Westmorland green (random sizes) . per ton	8 10 0
Old Delabole slates d/d in full truck loads to Nine Elms Station:	
20" × 10" medium grey per 1,000 (actual)	21 11 6
,, green ,, ,,	24 7 4
Best machine roofing tiles . . ,,	4 10 0
Best hand-made do. . . . ,,	5 0 0
Hips and valleys . . . . each	9½
,, hand-made . . . . ,,	10
Nails, compo . . . . lb.	1 4
,, copper . . . . ,,	1 6

CARPENTER AND JOINER

	s. d.
Good carcassing timber . . F.C.	2 2
Birch . . . . as 1" F.S.	9
Deal, Joiner's . . . ,, ,,	5
,, ,, 2nds . . ,, ,,	4
Mahogany, Honduras . . ,, ,,	1 3
,, African . . ,, ,,	1 1
,, Cuban . . ,, ,,	2 6
Oak, plain American . . ,, ,,	1 0
,, Figured ,, . . ,, ,,	1 3
,, Plain Japanese . . ,, ,,	1 2
,, Figured ,, . . ,, ,,	1 5
,, Austrian wainscot . . ,, ,,	1 6
,, English . . . ,, ,,	1 11
Pine, Yellow . . . ,, ,,	1 0
,, Oregon . . . ,, ,,	4
,, British Columbian . . ,, ,,	4
Teak, Moulmein . . . ,, ,,	1 3
,, Burma . . . ,, ,,	1 2
Walnut, American . . . ,, ,,	2 3
,, French . . . ,, ,,	2 3
Whitewood, American . . ,, ,,	1 1
Deal floorings, ¾" . . . Sq.	18 6
,, 1" . . . ,,	1 1 6
,, 1¼" . . . ,,	1 2 0
,, 1½" . . . ,,	1 5 0
,, 1¾" . . . ,,	1 10 0
Deal matchings ¾" . . . ,,	14 0
,, 1" . . . ,,	15 6
,, 1" . . . ,,	1 4 0
Rough boarding ¾" . . . ,,	16 0
,, 1" . . . ,,	18 0
,, 1¼" . . . ,,	1 6 0

Plywood, per ft. sup.

Thickness	¼"			½"			¾"			1"		
Qualities	AA.	A.	B.	AA.	A.	B.	AA.	A.	B.	AA.	A.	B.
	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.
Birch	4	3	2	5	4	3	7½	6	4½	8½	7	6
Alder	3½	3	2	5	4	3	6½	5½	4½	8	7	6
Gaboon Mahogany	4	3	3	6½	5½	4½	9½	7½	-	1/0½	10	-
Figured Oak 1 side	8½	7	-	10	8	-	11½	-	-	1/6	-	-
Plain Oak 1 side	6½	6	-	7½	7	-	9½	-	-	1/-	-	-
Oregon Pine	5	4	-	5½	5	-	6	-	-	-	-	-

	d.
Scotch glue . . . . . lb.	8

SMITH AND FOUNDER

Tubes and Fittings:

(The following are the standard list prices, from which should be deducted the various percentages as set forth below.)

	¼"	½"	1"	1¼"	2"
Tubes, 2'-14' long, per ft. run	4	5½	9½	1/1	1/10
Pieces, 12"-23½" long each	10	1/1	1/11	2/8	4/9
,, 3"-11½" long ,,	7	9	1/3	1/8	3/-
Long screws, 12"-23½" long ,,	11	1/3	2/2	2/10	5/3
,, 3"M-½" long ,,	8	10	1/5	1/11	3/6
Bends . . . . ,,	8	11	1/7½	2/7½	5/2
Springs not socketed . ,,	5	7	1/1½	1/11½	3/11
Socket unions . . ,,	2/-	3/-	5/6	6/9	10/-
Elbows, square . . ,,	10	1/1	1/6	2/2	4/3
Tees . . . . ,,	1/-	1/3	1/10	2/6	5/1
Crosses . . . ,,	2/2	2/9	4/1	5/6	10/6
Plain Sockets and nipples ,,	3	4	6	8	1/3
Diminished sockets . ,,	4	6	9	1/-	2/-
Flanges . . . ,,	9	1/-	1/4	1/9	2/9
Caps . . . . ,,	3½	5	8	1/-	2/-
Backnuts . . . ,,	2	3	5	6	1/1
Iron main cocks . ,,	1/6	2/3	4/2	5/4	11/6
,, ,, with brass plugs ,,	—	4/-	7/6	10/-	21/-

Discounts:

TUBES.

	Per cent.		Per cent.
Gas . . .	65	Galvanized gas .	52½
Water . . .	61½	,, water	47½
Steam . . .	57½	,, steam	42½

FITTINGS.

Gas . . .	57½	Galvanized gas .	47½
Water . . .	52½	,, water	42½
Steam . . .	47½	,, steam	37½

SMITH AND FOUNDER—*continued*

	s. d.
Rolled steel joists cut to length . . cwt.	10 9
Mild steel reinforcing rods, ¼" . . ,,	8 6
,, ,, ⅜" . . ,,	8 3
,, ,, ½" . . ,,	8 0
,, ,, ⅝" . . ,,	7 6
,, ,, ¾" . . ,,	7 6
,, ,, 1" . . ,,	7 6
,, ,, 1¼" . . ,,	7 6
,, ,, 1½" . . ,,	7 6

Cast-iron rain-water pipes of	3" s. d.	4" s. d.
ordinary thickness metal . F.R	8	10
Shoes . . . . each	2 0	3 0
Anti-splash shoes . . ,,	4 6	8 0
Boots . . . . ,,	3 0	4 0
Bends . . . . ,,	2 7	3 9
,, with access door . ,,	—	6 3
Heads . . . . ,,	4 0	5 0
Swan-necks up to 9" offsets . ,,	3 9	6 0
Plinth bends, 4½" to 6" . ,,	3 9	5 3

Half-round rain-water gutters of	4" s. d.	6" s. d.
ordinary thickness metal . F.R.	5	6
Stop ends . . . . each	6	6
Angles . . . . ,,	1 7	1 11
Obtuse angles . . . ,,	2 0	2 6
Outlets . . . . ,,	1 9	2 3

PLUMBER

	£ s. d.
Lead, milled sheets . . . cwt.	18 6
,, drawn pipes . . . ,,	17 0
,, soil pipe . . . ,,	18 6
,, scrap . . . ,,	10 6
Solder, plumbers' . . . lb.	9½
,, fine do. . . . ,,	1 0
Copper, sheet . . . ,,	8½
,, tubes . . . ,,	11

L.C.C soil and waste pipes:	3"	4"	6"
Plain cast . . F.R.	1 0	1 2	2 6
Coated . . ,,	1 1	1 3	2 8
Galvanized ,,	2 0	2 6	4 6
Holderbats . . each	3 10	4 0	4 9
Bends . . ,,	3 9	5 3	10 3
Shoes . . ,,	2 10	4 4	9 6
Heads . . ,,	4 8	8 5	12 9

PLASTERER

	£ s. d.
Lime, chalk . . . per ton	2 5 0
Plaster, coarse . . . ,,	2 10 0
,, fine . . . ,,	4 15 0
Hydrated lime . . . ,,	3 0 9
Sirapite . . . ,,	3 6 0
Keene's cement . . . ,,	5 0 0
Sand, washed . . . Y.C.	11 6
Hair . . . . lb.	6
Laths, sawn . . . bundle	2 4
,, rent . . . ,,	3 9
Lath nails . . . lb.	3½

GLAZIER

	s. d.	s. d.
Sheet glass, 21 oz., squares n/e 2 ft.	s. F.S.	2½
,, ,, 26 oz. ,, ,, ,, ,,	,,	3½
Flemish, Arctic, Figured (white)*	,,	7
Blazoned glasses . . .	,,	2 6
Reeded; Cross Reeded	,,	11
Cathedrals: eleven varieties (white)*	,,	6½
Crown sheet glass (n/e 12 in. × 10 in),	,,	2 0
Flashed opals (white and coloured)	,, 1 0 and 2	0 7
¼" rough cast; rolled plate . .	,,	10
¼" wired cast; wired rolled . .	,,	11
¼" Georgian wired cast . .	,,	
¼" Polished plate, n/e 1 ft. . .	,, †10 to ‡1	1
,, ,, 2 . .	,, †1 2 ,, ‡1	4
,, ,, 4 . .	,, †2 3 ,, ‡2	6
,, ,, 8 . .	,, †2 9 ,, ‡3	2
,, ,, 20 . .	,, †3 7 ,, ‡4	2
,, ,, 45 . .	,, †3 11 ,, ‡4	7
,, ,, 100 . .	,, †5 0 ,, ‡5	7
Vita glass, sheet, n/e 2 ft. . .	,,	1 3
,, ,, over 2 . .	,,	1 9
,, ,, plate, n/e 2 ft. . .	,,	3 0
,, ,, ,, 7 . .	,,	5 0
,, ,, ,, 15 . .	,,	6 0
,, ,, ,, over 15 . .	,,	7 6
"Calorex" sheet 21 oz., and 32 oz.	,, 2 6 and 3	6
rough cast ¼" and ½"	,, 8½ ,, 1	0
Putty, linseed oil . . .	lb.	3

*Colours 1d. F.S. extra.

†*Ordinary glazing quality.* ‡*Selected glazing quality.*

PAINTER

	£ s. d.
White lead in 1 cwt. casks . .	cwt. 2 6 0
Linseed oil	gall. 2 2½
Boiled oil	,, 2 4½
Turpentine	,, 4 1½
Patent knotting	,, 14 0
Distemper, washable . . .	cwt. 2 6 0
,, ordinary . . .	,, 2 0 0
Whitening	,, 4 0
Size, double	firkin 3 0
Copal varnish	gall. 13 0
Flat varnish	,, 14 0
Outside varnish . . .	,, 16 0
White enamel	,, 1 15 0
Ready-mixed paint . . .	,, 13 6
Brunswick black . . .	,, 7 6

CURRENT PRICES FOR MEASURED WORK

The following prices are for work to new buildings of average size, executed under normal conditions in the London area. They include establishment charges and profit. While every care has been taken in its compilation, no responsibility can be accepted for the accuracy of the list. The whole of the information given is copyright.

EXCAVATOR AND CONCRETOR

		£ s. d.
Digging over surface n/e 12" deep and cart away	Y.S.	2 9
" to reduce levels n/e 5' 0" deep and cart away	Y.C.	8 6
" to form basement n/e 5' 0" deep and cart away	"	9 0
" " 10' 0" deep and cart away	"	9 6
" " 15' 0" deep and cart away	"	10 0
If in stiff clay	add "	2 6
If in underpinning	" "	4 0
Planking and strutting to sides of excavation	F.S.	1 0
" " to pier holes	"	5
" " to trenches	"	5
" " extra, only if left in	"	3
Hardcore, filled in and rammed	Y.C.	10 0
Portland cement concrete in foundations (6-1)	"	1 6 0
" " (4-2-1)	"	1 12 6
" " underpinning	"	1 16 0
Finishing surface of concrete, spade face	Y.S.	7

DRAINLAYER

		4" s. d.	6" s. d.
Stoneware drains, laid complete (digging and concrete to be priced separately)	F.R.	1 6	2 3
Extra, only for bends	Each	2 8	3 9
" junctions		3 9	4 6
Gullies and gratings	"	16 6	18 0
Cast iron drains, and laying and jointing	F.R.	4 9	6 9
Extra, only for bends	Each	10 6	15 6

BRICKLAYER

		£ s. d.
Brickwork, Flettons in lime mortar	Per Rod	27 10 0
" " in cement	"	28 15 0
" Stocks in cement	"	35 0 0
" Blues in cement	"	52 0 0
Extra only for circular on plan	"	2 0 0
" backing to masonry	"	1 10 0
" raising on old walls	"	2 0 0
" underpinning	"	5 10 0
Fair Face and pointing internally	F.S.	1½
Extra over fletton brickwork for picked stock facings and pointing	"	8½
" " " red brick facings and pointing	"	11
" " " blue brick facings and pointing	"	1 4
" " " glazed brick facings and pointing	"	3 6
Tuck pointing	"	7
Weather pointing in cement	"	3½
Slate dampcourse	"	10
Vertical dampcourse	"	1 1

ASPHALTER

		s. d.
½" Horizontal dampcourse	Y.S.	4 6
½" Vertical dampcourse	"	6 9
½" paving or flat	"	4 0
1" paving or flat	"	5 6
1" × 6" skirting	F.R.	1 0
Angle fillet	"	2
Rounded angle	"	2
Cesspools	Each	0

MASON

		s. d.
Portland stone, including all labours, hoisting, fixing and cleaning down, complete	F.C.	17 9
Bath stone and do., all as last	"	13 6
Artificial stone and do.	"	13 0
York stone templates, fixed complete	"	10 6
" thresholds	"	13 6
" sills	"	1 0 6

SLATER AND TILER

		£ s. d.
Slating, Bangor or equal, laid to a 3" lap, and fixing with compo nails, 20" × 10"	Sqr.	3 10 0
Do., 18" × 9"	"	3 7 0
Do., 24" × 12"	"	3 17 0
Westmorland slating, laid with diminished courses	"	6 0 0
Tiling, best hand-made sand-faced, laid to a 4" gauge, nailed every fourth course	"	3 0 0
Do., all as last, but of machine-made tiles	"	2 16 0
20" × 10" medium Old Delabole slating, laid to a 3" lap (grey)	"	4 6 0
" " " " " (green)	"	4 15 0

CARPENTER AND JOINER

		£ s. d.
Flat boarded centering to concrete floors, including all strutting	Sqr.	2 5 0
Shuttering to sides and soffits of beams	F.S.	8
" to stanchions	"	8
" to staircases	"	1 8
Fir and fixing in wall plates, lintols, etc.	F.C.	3 9
Fir framed in floors	"	4 6
" " roofs	"	6 6
" " trusses	"	7 6
" " partitions	"	8 6
⅞" deal sawn boarding and fixing to joists	Sqr.	1 14 6
1" " " " "	"	1 17 6
1½" " " " "	"	2 3 0
4" × 2" fir battening for Countess slating	"	9 6
Do. for 4" gauge tiling	"	12 0
Stout feather-edged tilting fillet	F.R.	4½
Patent inodorous felt, 1 ply	Y.S.	2 3
" " " 2 "	"	2 9
" " " 3 "	"	3 3
Stout herringbone strutting to 9" joists	F.R.	10½
1" deal gutter boards and bearers	F.S.	1 2
1½" " " "	"	1 6
2" deal wrought rounded roll	F.R.	8
1" deal grooved and tongued flooring, laid complete, including cleaning off	Sqr.	2 1 0
1¼" do.	"	2 10 0
1½" do.	"	2 17 0
1" deal moulded skirting, fixed on, and including grounds plugged to wall	F.S.	1 6
1¼" do	"	1 9

CARPENTER AND JOINER—*continued*

		s. d.
1½" deal moulded sashes of average size	F.S.	1 9½
2" " " " "	"	1 11½
1½" deal cased frames double hung, of 6" × 3" oak sills, 1¼" pulley stiles, 1¼" heads, 1" inside and outside linings, ½" parting beads, and with brass faced axle pulleys, etc., fixed complete	"	3 7
2" " " " "	"	3 10
Extra only for moulded horns	Each	6
1½" deal four-panel square, both sides, door	F.S.	2 0
2" " " " "	"	2 8
1½" " but moulded both sides	"	2 4
2" " " " "	"	3 0
4" × 3" deal, rebated and moulded frames	F.R.	1 0
4½" × 3½" " " "	"	1 4
1½" deal tongued and moulded window board, on and including deal bearers	F.S.	1 9
1¼" deal treads, 1" risers in staircases, and tongued and grooved together on and including strong fir carriages	"	2 6
1½" deal moulded wall strings	"	2 1
1½" " outer strings	"	2 4
Ends of treads and risers housed to string	Each	1 9
3" × 2" deal moulded handrail	F.R.	1 3
1" × 1" deal balusters and housing each end	Each	2 0
1½" × 1½" " " "	"	2 9
3" × 3" deal wrought framed newels	F.R.	1 3
Extra only for newel caps	Each	6 0
Do., pendants	"	6 0

SMITH AND FOUNDER

		£ s. d.
Rolled steel joists, cut to length, and hoisting and fixing in position	Per cwt.	15 6
Riveted plate or compound girders, and hoisting and fixing in position	"	19 6
Do. stanchions with riveted caps and bases and do.	"	19 0
Mild steel bar reinforcement, ½" and up, bent and fixed complete	"	17 6
Corrugated iron sheeting fixed to wood framing, including all bolts and nuts 20 g.	F.S.	11
Wrot-iron caulked and cambered chimney bars	Per cwt.	1 10 0

PLUMBER

		£ s.
Milled lead and labour in flats	cwt.	1 12
Do. in flashings	"	1 15 6
Do. in covering to turrets	"	2 3 0
Do. in soakers	"	1 7 6
Labour to welted edge	F.R.	3½
Open copper nailing	"	3
Close " "	"	4

		½" s. d.	¾" s. d.	1" s. d.	1¼" s. d.	2" s. d.	4" s. d.
Lead service pipe and fixing with pipe hooks	F.R.	10	1 0	1 3	2 0	2 10	—
Do. soil pipe and fixing with cast lead tacks		—	—	—	—	—	5 6
Extra, only to bends	Each	—	—	—	—	2 0	6 9
Do. to stop ends	"	6½	8	9	11	1 0	—
Boiler screws and unions	"	3 3	3 9	5 0	8 0	—	—
Lead traps	"	—	—	—	6 3	8 9	—
Screw down bib valves	"	6 9	9 6	11 0	—	—	—
Do. stop cocks	"	7 0	9 6	12 6	—	—	—
4" cast-iron ½-rd. gutter and fixing	F.R.					1 0	
Extra, only stop ends	Each					1 0	
Do. angles	"					1 6	
Do. outlets	"					2 9	
4" dia. cast-iron rain-water pipe and fixing with ears cast on	F.R.					1 2	
Extra, only for shoes	Each					1 3	
Do. for plain heads	"					5 6	

PLASTERER AND TILING

		s. d.
Expanded metal lathing, small mesh	Y.S.	2 0
Do. in n/w to beams, stanchions, etc.	"	2 9
Lathing with sawn laths to ceilings	"	1 3
½" screeding in Portland cement and sand for tiling, wood block floor, etc.	"	1 5
Do. vertical	"	1 7
Rough render on walls	"	1 2½
Render, float and set in lime and hair	"	1 9
Render and set in Sirapite	"	1 11
Render, backing in cement and sand, and set in Keene's cement	"	2 9
Extra, only if on lathing	"	4
Keene's cement, angle and arris	F.R.	6
Arris	"	1½
Rounded angle, small	"	3
Plain cornices in plaster, including dubbing out, per 1" girth	"	1½
1" granolithic pavings	Y.S.	3 6
1½" " "	"	4 6
6" × 6" white glazed wall tiling and fixing on prepared screed	"	17 6
9" × 3" " " " " "	"	1 2 6
Extra, only for small quadrant angle	F.R.	8

GLAZIER

		s. d
21 oz. sheet glass and glazing with putty	F.S.	7½
26 oz. do. and do.	"	8½
Flemish, Arctic, Figured (white) and glazing with putty	"	1 1
Cathedral glass and do.	"	1 2
Glazing only, British polished plate	"	7
Extra, only if in beads	"	2
Washleather	F.R.	4

PAINTER

		s. d.
Clearcolle and whiten ceilings	Y.S.	6
Do. and distemper walls	"	9
Do. with washable distemper	"	1 1
Knot, stop, prime and paint four coats of oil colour on plain surfaces	"	3 3
Do. on woodwork	"	3 6
Do. on steelwork	"	3 0
Do. and brush grain and twice varnish	"	5 6
Stain and twice varnish woodwork	"	1 11
Stain and wax-polish woodwork	"	4 6
French polishing	F.S.	1 2
Stripping off old paper	Piece	2 6
Hanging ordinary paper	from "	2 0

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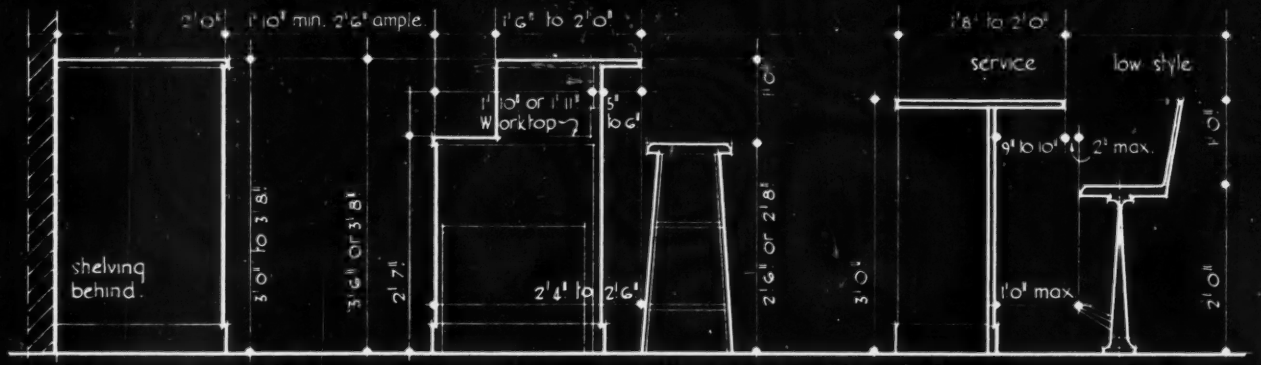
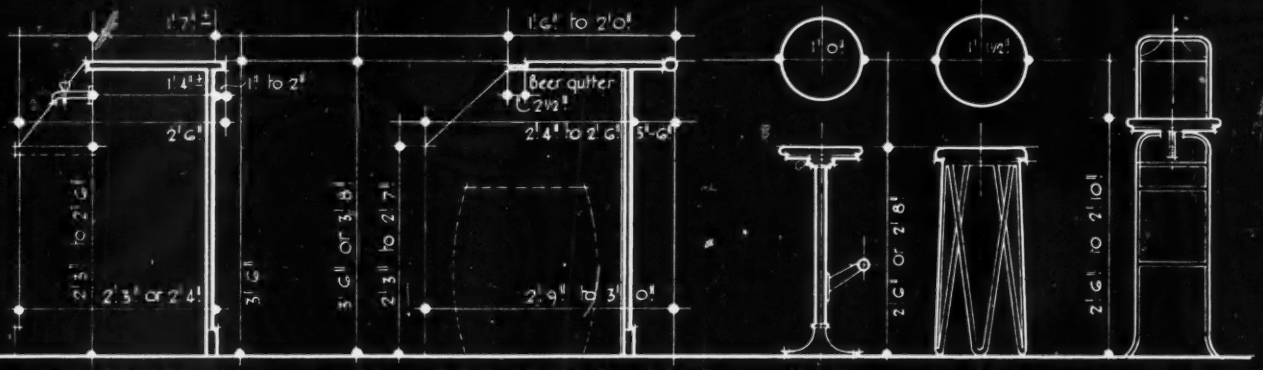
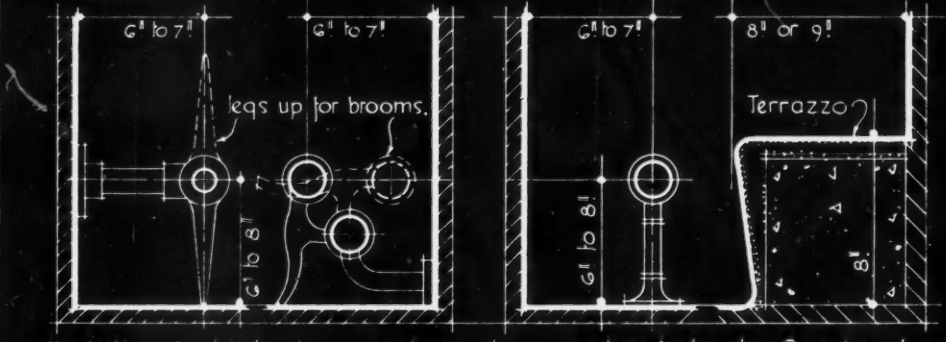


Back bar. Working space. Service bar. Floors shown level throughout. Section.
End Elevation of a complete Bar. Bar heights are standard, other dimensions may vary. Snack Counter.

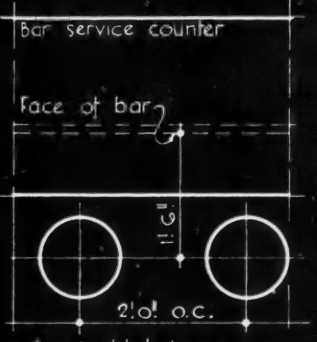


Beer bars: length for 2 taps, 1'6" to 3'0". Bar with 'kilderkin' beer cask, 1 tap & sink, minimum length 3'3".
3 taps, 2'6" to 3'0", 4 taps, 3'0" to 3'6".

Three common types of bar & counter stools.
C.1. Pedestal, swivel, Metal, fixed; & Metal, adjustable.

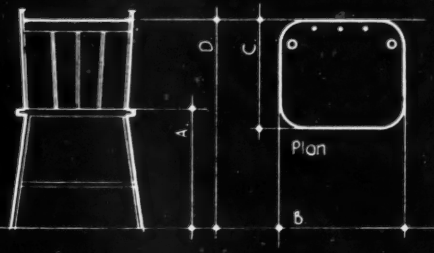


1½-inch scale details of various types of service-bar foot rails. Diameter of rails is generally about 1¾".



½" scale detail of minimum spacing for stools at bar.

Note:
Chair rail heights are determined by dimension 'D'.



Chair Dimensions				
Type.	A.	B.	C.	D.
Straight	1'3" to 1'6½"	1'2" to 1'4"	1'2" to 1'4"	2'8" to 3'0"
Windsor	1'5" or 1'6"	1'3" to 1'7"	1'3" to 1'6"	3'0"
Arm	1'5 or 1'6"	1'7" to 2'0"	1'3" to 2'0"	2'10" to 3'6"
Dining room	1'6"	1'6" to 1'9"	1'6" to 1'10"	2'10" to 3'3"
Tavern (illustrated)	1'5"	1'5" to 1'8"	1'3" to 1'6"	2'4" to 2'6"
Metal	1'6"	1'3" to 1'7"	1'2" to 1'6"	2'6"

INFORMATION SHEET: HOTELS: BARS, SNACK-COUNTERS, STOOLS & CHAIRS.
SIR JOHN BURNET, TAIT AND LORNE, ARCHITECTS, ONE MONTACUE PLACE, BEDFORD SQUARE, LONDON, WC1

INFORMATION SHEET • 121 • BARS AND SNACK COUNTERS

Supplement to THE ARCHITECTS' JOURNAL for June 28, 1934

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INFORMATION SHEET

• 121 •

BARS AND SNACK COUNTERS

THE planning of restaurant bars involves the following considerations: 1: Immediate accessibility to kitchen or service space. 2: Easy access to bulk storage space. 3: Close proximity to tables.

The traditional counter top is mahogany, but many other materials such as linoleum, rubber, glass, or stainless metal are now available. Marble if used should be dark enough to conceal possible stains. Bar surfaces should be smooth and with a minimum number of joints. Storage and handling facilities depend on the volume of sales, but the bar storage space should always be large enough to cover periods of peak loads without replenishments; service must not be interrupted at times of maximum demand.

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S. = Lateral or convex surface. V. = Volume.

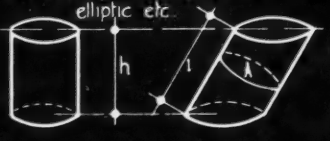
Parallelopiped.

S = perimeter, P, perp to sides x lat. length l: Pl.
V = area of base, B, x perpendicular height, h: Bh.
V = area of section, A, perp. to sides, x lat. length l: Al.

Prism right, or oblique, regular or irregular.

S = perimeter, P, perp to sides x lat. length l: Pl.
V = area of base, B, x perpendicular height, h: Bh.
V = area of section, A, perp. to sides x lat. length l: Al.

Cylinder, right or oblique, circular or elliptic etc.

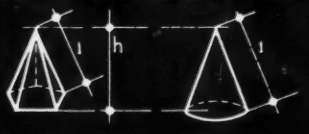


S = perimeter of base, P, x perp. height, h: Ph. S = perimeter, P, perp. x lat. length, l: Pl.
V = area of base, B, x perp. height h: Bh. V = area of section, A, perp to sides, x lat length: Al.

Frustum of any prism or cylinder.

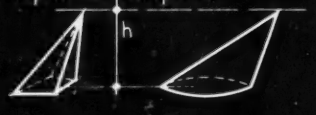
V = area of base, B, x perpendicular distance h, from base to centre of gravity of opposite face: Bh.
For cylinder, ½A (l_1 + l_2)

Pyramid or Cone, right & regular.



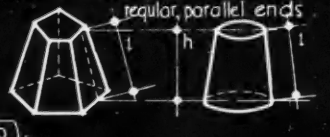
S = perimeter of base, P, x ½ slant height l: ½Pl
V = area of base, B x ⅓ perpendicular ht, h: ⅓Bh.

Pyramid or Cone, right or oblique, regular or irregular.



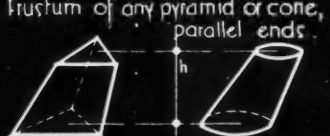
V = area of base, B, x ⅓ perp. height, h: ⅓Bh.
V = ⅓ vol. of prism or cylinder of same base & perp height.
V = ½ vol of hemisphere of same base & perp. height.

Frustum of pyramid or cone, right & regular, parallel ends.



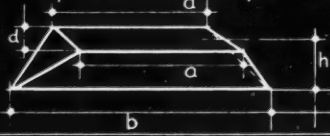
S = (sum of perimeter of base, P, and top, p) x ½ slant height l: ½l(P+p).
V = (sum of areas of base, B, and top, b + sq. root of their products) x ⅓ perp. height, h: $\frac{1}{3}h(B+b+\sqrt{Bb})$.

Frustum of any pyramid or cone, parallel ends.



V = (sum of areas of base, B, and top, b, + sq. root of their products x ⅓ perpendicular height, h: $\frac{1}{3}h(B+b+\sqrt{Bb})$.

Wedge, parallelogram face.

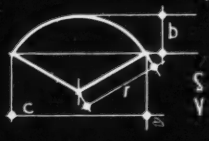


V = ⅙ (sum of three edges, a ba, x perpendicular height, h, x perpendicular width, d): ⅙ d h (2a + b).

Sphere.

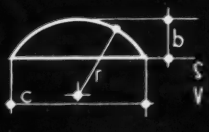
S = $4\pi r^2 = \pi d^2 = 3{\cdot}141592653\ d^2$.
V = $4/3\pi r^3 = \frac{1}{6}\pi d^3 = 0{\cdot}52359878\ d^3$.

Spherical Sector.



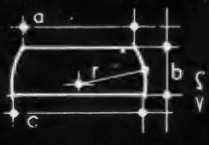
S = ½ π r (4b + c).
V = ⅔ π r² b.

Spherical Segment.



S = 2 π r b = ¼ π (4b² + c²).
V = ⅓π b² (3r − b) = 1/24 π b (3c² + 4b²).

Spherical Zone.



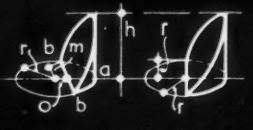
S = 2 π r b.
V = 1/24 π b (3a² + 3c² + 4b²).

Circular Ring.

S = $4\pi^2 Rr$.
V = $2\pi^2 Rr^2$.

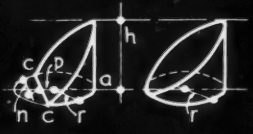
Unqula of right, regular cylinder.

1. Base = segment, bab. 2. Base = half circle.
S = (2rm − o x arc, bab) $\frac{h}{r-o}$. S = 2rh.
V = (⅔ m³ − o x area, bab) $\frac{h}{r-o}$. V = ⅔r²h.

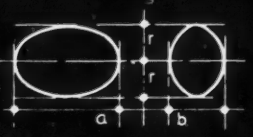


1. 2.

1. Base - segment cac. 2. Base = circle.
S = (2rn + p x arc, cac) $\frac{h}{r+p}$. S = πrh.
V = (⅓n³ + p x area, cac) $\frac{h}{r+o}$. V = ½r²πh.

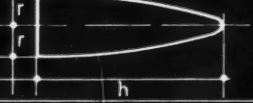


Ellipsoid.



V = ⅓ π rab.

Paraboloid.



V = ½ π r² h.
Ratio of corresponding volume of a Cone, Paraboloid, Sphere & Cylinder of equal height: ⅓, ½, ⅔, 1.

INFORMATION SHEET: THE SURFACE AND VOLUME OF SOLIDS.
SIR JOHN BURNET TAIT AND LORNE ARCHITECTS ONE MONTAGUE PLACE BEDFORD SQUARE LONDON WC1

Supplement to THE ARCHITECTS' JOURNAL for June 28, 1934

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INFORMATION SHEET

• 122 •

SURFACE AND VOLUME OF SOLIDS

THIS Sheet gives the formulæ for finding the surface area and volume of solids. The examples have been chosen as far as possible from those which the architect will need in everyday practice.